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Controlling the Forest Understory: Wild Mushroom Politics in Central Oregon

Rebecca Jean McLain

A dissertation submitted in partial fulfillment of the requirements for the degree of

Doctor of Philosophy

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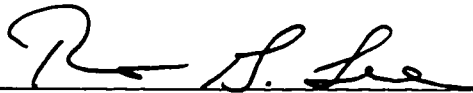
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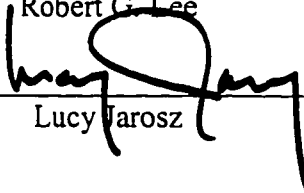
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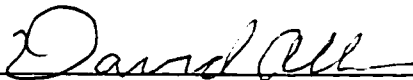


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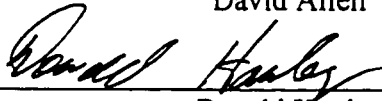


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Abstract

Controlling the Forest Understory: Wild Mushroom Politics in Central Oregon,
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In this dissertation, I illustrate how disciplinary power techniques are being used today to extend and solidify state control over forest understory products located on national forest lands in the Pacific Northwest. The spring wild mushroom harvest on the Sisters Ranger District in central Oregon serves as a case study for exploring this topic. I used a political ecology framework to analyze wild mushroom politics at Sisters. I relied upon ethnographic methods, including participant observation, semi-structured interviews, and archival analysis, to gather data.

My work indicates that the Sisters Ranger District is using five elements of disciplinary power noted by Foucault in efforts to solidify control over the activities of commercial wild mushroom harvesters. The elements in use include: 1) categorization of pickers; 2) separation of commercial pickers from other forest users; 3) development of a documenting apparatus in the form of a variety of permit requirements, 4) creation of a wild mushroom “panopticon” in the form of a heavily monitored wild mushroom

buying camp, and 5) a movement toward professionalization of the knowledge accepted as valid within the forest management decision-making process.

The application of these disciplinary power techniques has created considerable tension between wild mushroom pickers and buyers and the Forest Service. These tensions revolve in part around the Forest Service's failure to include pickers and buyers in key decisions affecting their lives, such as the establishment and siting of an industrial wild mushroom camp. The disciplinary apparatus also works by fixing people in place and time in order to facilitate monitoring and tracking of activities and individuals. Yet mobility and flexibility constitute the very core of pickers and buyers lives. Lastly, the disciplinary power apparatus has transformed what were once picker living spaces into industrial work places. Much of the current resistance to the Forest Service's wild mushroom policies stem from pickers and buyers' feelings of having lost control, not just over their work, but over their lives.

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Glossary

Acronyms

ATV	All Terrain Vehicle
BIA	Bureau of Indian Affairs
BLM	Bureau of Land Management
CCIH	California Commission of Immigration and Housing
CFR	Code of Federal Regulations
DNF	Deschutes National Forest
EA	Environmental Assessment
EIS	Environmental Impact Statement
EM	Ecosystem Management
ESA	Endangered Species Act
FEIS	Final Environmental Impact Statement
FOM	Friends of the Metolius
GIS	Geographic Information System
LRMP	Land and Resource Management Plan
LSR	Late Successional Reserve Analysis
MLSR	Metolius Late Successional Reserve
MLSRA	Metolius Late Successional Reserve Analysis
MWA	Metolius Watershed Analysis
NAMA	North American Mycological Association
NEPA	National Environmental Policy Act
NF	National Forest
NFMA	National Forest Management Act
NTFP	Non Timber forest product
NWFP	Northwest Forest Plan
NWSFPA	Northwest Special Forest Products Association

ODNRA	Oregon Dunes National Recreation Area
OMS	Oregon Mycological Society
ONRC	Oregon Natural Resources Council
PSMS	Puget Sound Mycological Society
ROD	Record of Decision
S&G	Standards and Guidelines
SFP	Special Forest Product
SOPA	Schedule of Projects and Activities
USDA	United States Department of Agriculture
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
WA	Watershed Analysis
WOSFPC	Western Oregon Special Forest Products Council

Forestry and Mushroom Terminology

black trumpets	type of chanterelle that fruits in the winter
blacks	black trumpets; gray morels
blondes	morels with a golden color
blows	boletes or matsutake that are overmature
burn morels	morels that fruit in burned areas the year after the fire
burns	areas burned by wild fire
buttons	younger, immature mushrooms
courtesy	not picking in areas where others are picking
driers	old or insect damaged mushrooms that are sold in dried form
farming	giving young mushrooms a chance to grow larger
fire morels	morels that fruit in burned areas the year following a fire
flowers	overmature mushrooms
flush	simultaneous fruiting of mushrooms over a large area

four wheeler	All terrain vehicle
fresh market	mushrooms destined to be sold fresh
goldens	morels that have a golden color
grays	morels that have a grayish color
matsis	matsutake mushrooms
to go over the hill	to travel over the pass to the Willamette Valley
raking	digging up an area to find mushrooms
rig	vehicle
the valley	the Willamette Valley
thinnings	forested areas where the trees have been thinned
to come on	to begin fruiting (mushrooms)
to kick	to begin fruiting (mushrooms)
to pop	to begin fruiting (mushrooms)
to shut down	to prohibit access
units	areas that have been logged or thinned or marked for harvest

Preface

In the end, the point is perhaps less to influence public policy than to map the contours of knowledge and ignorance, of those who speak and those who remain silent, of a terrain of power where knowledge and science, far from lacking influence, are so pervasive that they define our social practice and our political struggles (Pal 1990:156-157).

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The finished maps were created by Penelope Jennings Eckert.

Dedication

I dedicate this dissertation to Douglas Stienbarger, who made it possible for me to follow my dreams. May I one day be able to help him pursue a dream of his own.

PROLOGUE: STATE CONTROL OF WILD MUSHROOMS

The truth is hard, but clear. The rural West has become a playground, a colony the rest of us visit when we want to relax or indulge our fantasies. We camp, hike, swim, boat, bike, ski, hunt, fish and ATV throughout the rural West, making our living and our lives in its increasingly stretched out and stunningly dense cities. We may dream of a home on the range, but that dream is usually just a way to cope with the traffic on a freeway headed to or from the office.

The importance of the old rural West has ended and it's never coming back. The Microchip Revolution, which has made information transfer more important than the raw materials the West used to export and has turned experience and leisure into currency, is upon us. It's a little early to declare an end to the natural resources-based world economy, but at least in the U.S., natural resource extraction is approaching anachronism (Rothman 2000:17).

In an editorial published in April 2000 in the *High Country News*, Hal Rothman lumps together a diverse set of human-environmental interactions under the label "natural resource extraction" and then condemns those activities, as well as the people who engage in them, as anachronisms who have outlived their usefulness in American society. Rothman argues that in information age America, where "trees have more value as scenery than as timber," resource extraction activities and the cultures that have developed around their practice no longer deserve either government or popular sanction and support. In short, he argues that the landscapes and forests of the rural West have more value as playgrounds than they do as places for producing raw materials, and that, as a society, we would be better off acknowledging that transformation in the types of forest policies that we construct.

In the following account of wild mushroom politics in central Oregon, I question Rothman's contention that people who engage in natural resource extraction or harvesting activities to earn their living deserve unilateral consignment to cultural and economic oblivion. I also question his assumptions that all natural resource extractive

activities are ecologically undesirable, as well as his implicit conclusion that people who practice such activities are uniformly unresponsive or uncaring about the effects of their actions on the land, water and forests. I conclude that it may be ecologically, as well as culturally and economically sound, to develop natural resource policies and public involvement processes that actively encourage and support more socially and culturally diverse forms of natural resource extraction and harvesting rather than turning the rural West into a vast playground.

Since most people are unlikely to be familiar with either the Sisters area or the wild mushroom arena, I preface my story with a description and history of the Sisters area, followed by an overview of the wild mushroom industry and the factors that have contributed to the development of a state¹ wild mushroom management regime during the past twenty years. I end this introductory chapter with a summary of the key points explored in subsequent chapters.

Sisters: A Place for Work and Play

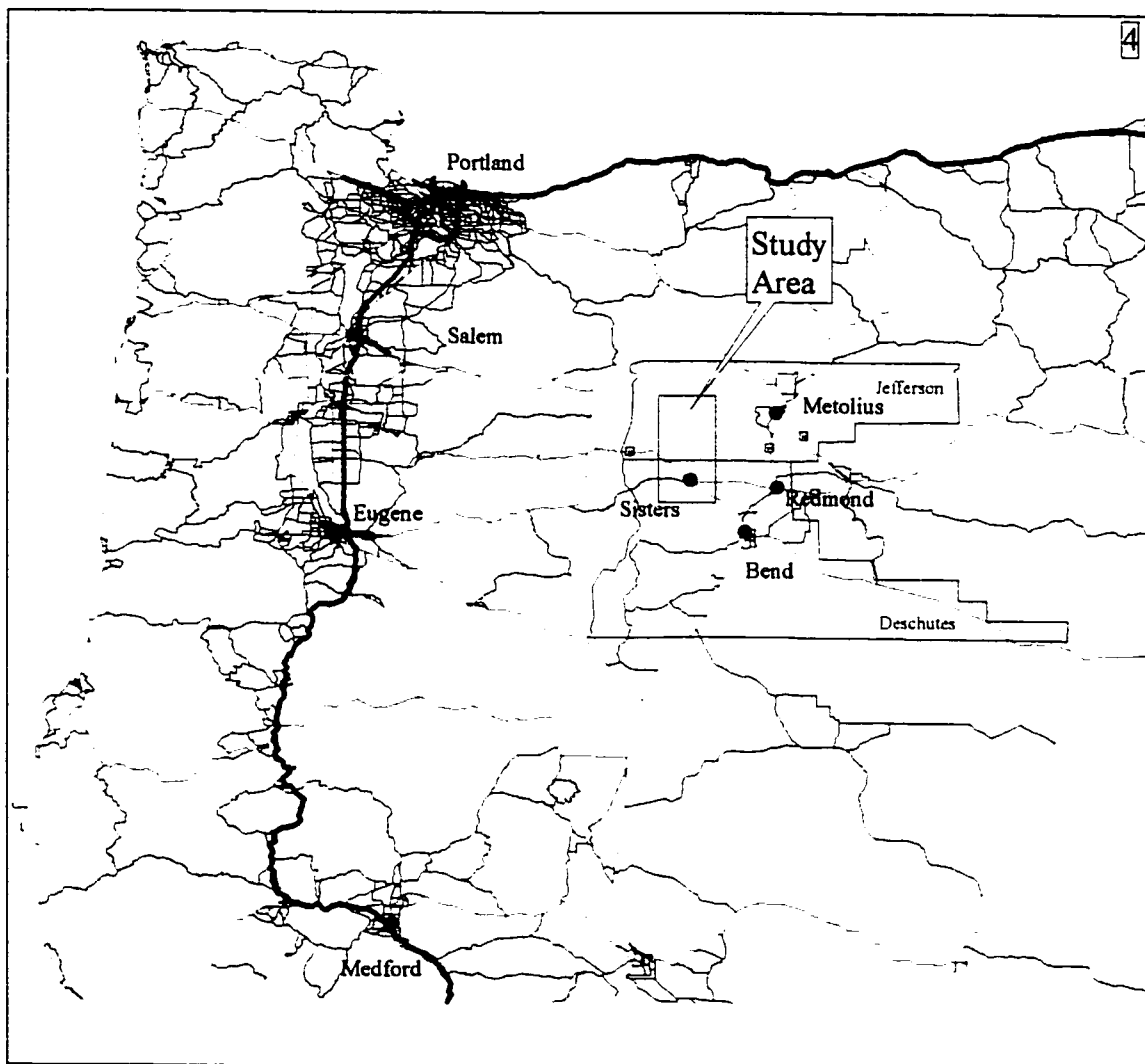
Rothman's editorial suggesting that America's forests have more value as playgrounds than as places for producing raw materials represents only one of three major forest management discourses that played, and continue to play, an important role in the construction and expansion of a nation-state forest management regime in the United States. One set of social actors, including many forest product companies, mining companies, livestock producers, the majority of professional foresters, and some hunting and fishing associations, speaks a discourse in which forests are portrayed as being primarily places for producing and extracting raw materials for human use (Williams, M.1992:393-424; Langston 1995:98; Cowley and Freemuth 1997:37; Hoberg 1997:48-51; Meine 1995:29). A second set of social actors, including some professional foresters, hunting and fishing associations, hiking and other outdoor

¹ Unless otherwise specified, I use the term "state" in the sense of "nation-state" throughout this dissertation.

recreation clubs and associations, and recreation professionals, businesses linked to tourism and recreational sports industries, speaks a discourse in which forests are cast primarily as the nation's playgrounds (Cronon 1995:78; Lacey 1989:5; Hays 1989:23; Coates 1998:127; Williams, M. 1992:456-458; Roth 1997:230-233). A third set of social actors, including some wilderness advocates, deep ecologists, and many mainstream ecologists and conservation biologists, speaks a discourse in which national forests are viewed primarily as protected spaces where humans are considered at best as temporary seekers of solitude and at worst as unwelcome and destructive intruders (Proctor 1995:282; Cronon 1995:82-85; Davis 1997:18; Meine 1995:30; Knight and George 1995:280-281; Katz 1998:47-49; Dunlap 1989:218-222).

These three distinct, but occasionally interwoven discourses figured prominently in the debates preceding and following the passage of the 1891 Organic Act, which authorized the President to create a system of national forest reserves (Steen 1976:26). A glance through current issues of popular and academic environmental and natural resource management journals in any major U.S. library reveals that these discourses continue to play an important role in shaping the contours of forest management and policy debates. As I will illustrate in the following narrative, debates over wild mushroom management in central Oregon's national forests also both influence and are influenced by the production, playground, and protection discourses that weave through the rhetoric and practice of national forest management in the Pacific Northwest.

Although my story focuses primarily on the part of the wild mushroom world that exists on the Sisters Ranger District west of the small city of Bend in central Oregon (see Figure 1), understanding that world requires understanding the global, national, and regional forces that have shaped and continue to shape what happens at Sisters. The following sections thus provide an overview of Sisters socio-economic history, a brief description of the Pacific Northwest's wild mushroom industry, and a summary of the major factors that converged in the 1980s to move wild mushrooms from obscurity to the foreground of regional national forest policy agendas.



50 0 50 100 150 200 Miles



Figure 1 Wild Mushroom Study Area
Sisters, Oregon

New West Town on An Old West Foundation

Sandwiched in between the snow-capped forested peaks of the central Cascade Range and the stark beauty of the lava plains of Oregon's high desert country, the town of Sisters epitomizes Rothman's "new West." The Black Butte Resort and country club 12 miles west of town attracts well-heeled vacationers and seasonal residents with its condominiums, well-groomed golf course, and extensive network of horse-riding and walking trails nestled in against the spectacular backdrop of the Three Sisters wilderness area. The surrounding forest, most of which is administered by the Sisters' Ranger District, a sub-unit of the Deschutes National Forest, provides both well-heeled and less well-heeled visitors from all over the nation with a wide variety of recreational opportunities: camping, snowmobiling, hiking, mountain climbing, skiing, snowshoeing, fishing, river rafting, boating, and huckleberry and wild mushroom picking. Below the "new West" glitter and activity, however, the Sisters area has deep roots in the natural resources-based world economies that Rothman labels "anachronistic."

Sisters came into existence during the late 1870s as a way station for graziers moving sheep between the summer pastures in central Oregon's dry montane forests to the ranches and gold mining camps in eastern Oregon (Hatton 1996:26-28). By the turn of the century, Sisters had become a thriving small rural community with an economy based largely on irrigated and dryland agriculture, sheep and cattle ranching, and small-scale logging (Hatton 1996:26-31; Eriksen 1953:38, 68, 95). In 1893, President Grover Cleveland changed the course of Sisters' economic development when he issued Executive Order 28 Statute 1240 creating the 4.9 million acre Cascade Forest Reserve, which indefinitely consigned most of the forested land west of Sisters to federal ownership and control (Williams, G. 1992:319). On July 1, 1908, the Cascade reserve was split into several smaller units, including land that now falls within the boundaries of today's Deschutes National Forest and the Sisters Ranger District (Brogan 1964:249). With the issuance of Cleveland's executive order, an area stretching along

the crest and eastern and western slopes of the Cascade Range from Mt. Hood to Crater Lake became part of a new national experiment in forest conservation (Williams 1992:319), an experiment that placed a large portion of the American West under the control of a nation-state resource management regime.

Sisters' Production Economy Roots

In 1911, James J. Hill pounded in a golden spike into a railroad tie in the small town of Bend, Oregon to mark the completion of the Oregon Trunk Line railway between the Dalles and Bend (Cogswell 1981:239-241). The spike-driving ceremony symbolized the opening up of central Oregon's park-like ponderosa pine and Douglas fir forests to industrial building materials markets in the metropolises of the west coast, Midwest, and eastern seaboard (Cogswell 1981:239-241). Four years later, in 1915, Shevlin-Hixon and Scanlon-Brooks, lumber companies headquartered in Minnesota, announced plans to build large saw mills in Bend to process the trees coming out of the Deschutes country from Sisters south to Klamath Falls into lumber (Cogswell 1981:241). The arrival of Shevlin-Hixon and Scanlon-Brooks to Bend heralded central Oregon's entry as a major player in the timber economy that dominated rural parts of the Pacific Northwest for much of the 20th century (Cogswell 1981:242; Dicken and Dicken 1979:134-170).

Sisters' economy became tightly linked to the boom and bust cycles of the timber industry (Hatton 1980:181; Hatton 1996:38-41 and 244-250). When the timber industry did well, jobs were plentiful and retail businesses catering to the timber workers prospered (Brogan 1964:256-257; Hatton 1996:244-250). When the timber industry suffered, the fallers, millworkers, and grocery store clerks in Sisters lost their jobs and small businesses dependent on timber dollars went out of business (Hatton 1996:244-250; Barnes 1996:65; Chandler 1981: 265).

From 1916 through the 1940s, timber from private landholdings in the area provided most of the raw materials for the area's mills (Hatton 1996: 38-41 and 244-250). By the 1950s, however, as the timber available on private holdings in the

Deschutes country dwindled rapidly, the Deschutes National Forest, and especially the Sisters Ranger District, became the most important source of timber for the region's lumber and plywood mills (Brogan 1964:256-257; Hatton 1996:244-250; Cogswell 1981:257-259).

Sisters' Leisure Economy Roots

The national forests around Sisters held other attractions besides timber and pasture land for the Euroamericans who came to the region at the turn of the 19th century. The park-like Metolius Basin, which forms the headwaters of the Metolius River at a point roughly twelve miles northwest of Sisters, rapidly acquired a reputation as a place where residents of eastern Oregon and the Willamette Valley could relax, fish, hike and ride (Hatton 1996:177-179; Brogan 1964). Responding to demands for recreational facilities on the Deschutes National Forest, the U.S. Forest Service began leasing land for summer homes and cabins in the Metolius Basin in 1916 (Hatton 1996:178). By the 1930s, the Metolius Basin and the high peaks that surround it, had become a popular destination for weekend visitors and year-round vacationers from around the nation (Hatton 1996:180-193; Hatton 1980: 192-211).

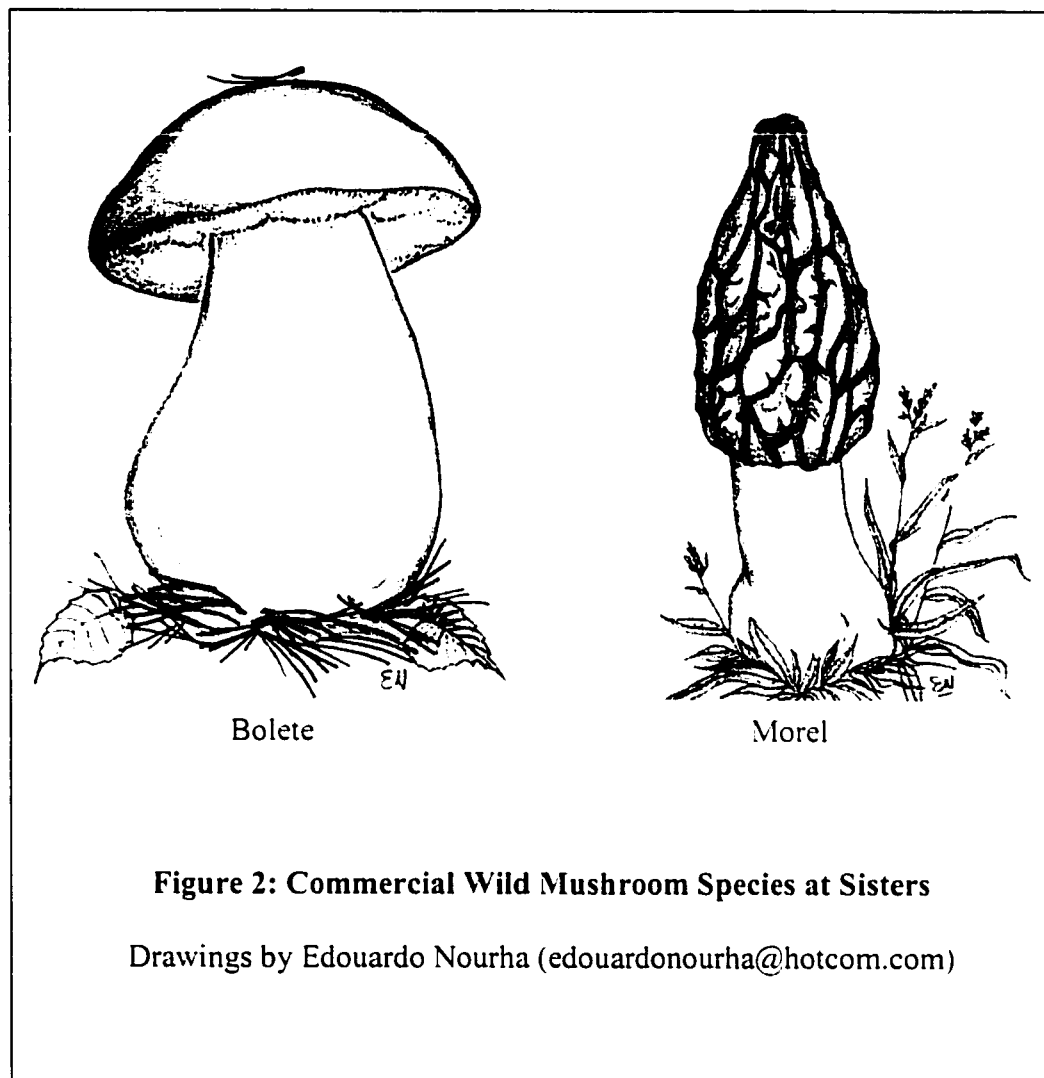
As the region's lumber mills gradually shut down in the 1960s and 1970s, the Sisters area continued to attract an ever-expanding variety of recreational users, including golfers, hikers, river-rafters, skiers, snowmobilers, hunters, fishers, and horseback riders (Hatton 1996:25-62; Chandler 1981:261-272). The spectacular backdrop of the snowcapped peaks of the central Oregon Cascades and the dry, sunny climate also drew information technology workers, well-off retirees, and seasonal second home owners to the area, as well as maids, nurses, restaurant workers, doctors, teachers, and grocery and hardware store clerks to provide basic services to both temporary and permanent newcomers (Chandler 1981:266-270; Barnes 1996:99-105).

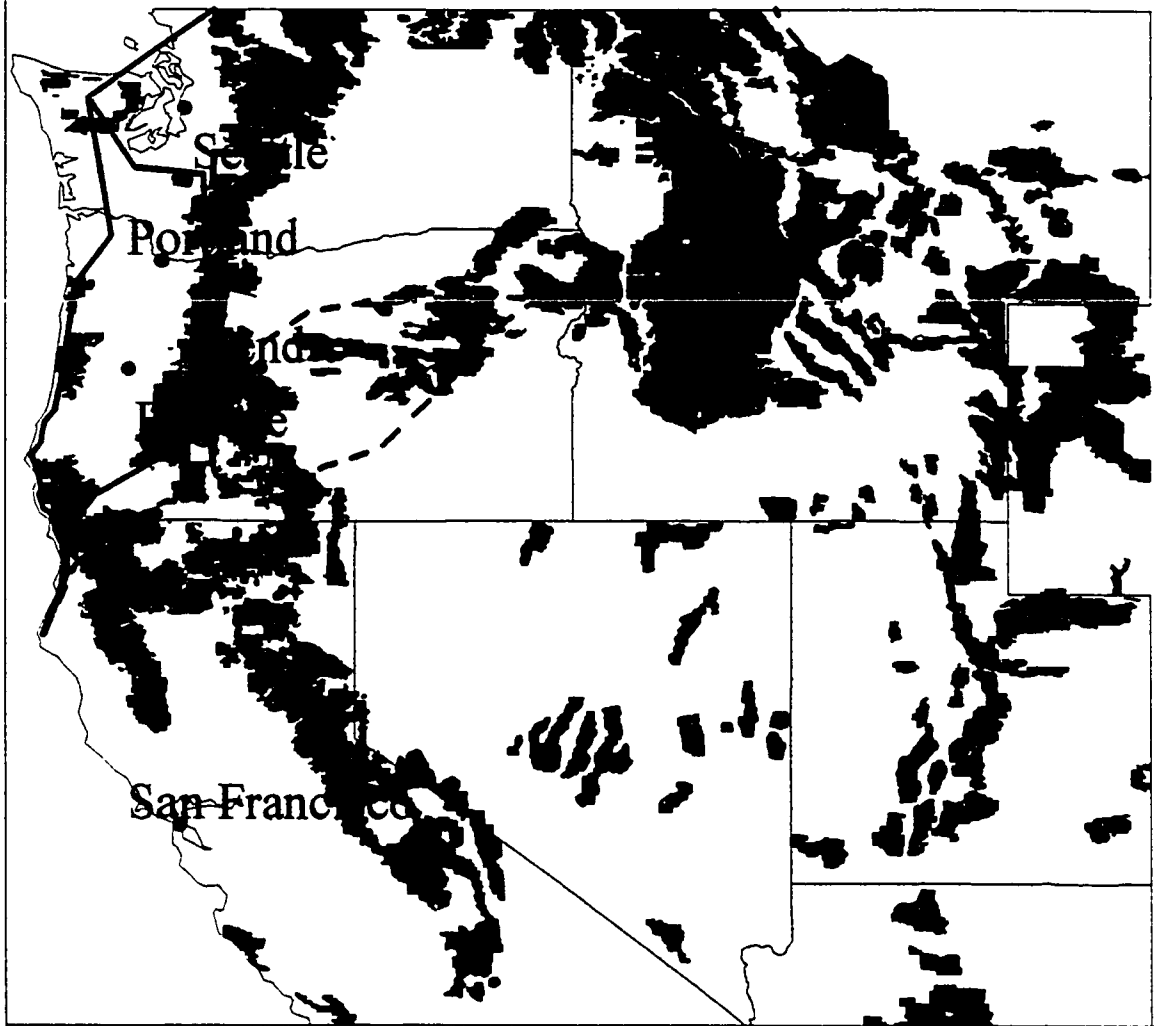
Between Work and Play: The World of Wild Mushrooms

Hidden in the current influx of forest users to central Oregon are a few hundred commercial wild mushroom pickers who roam the mountains near Sisters every spring in search of wild morel and bolete mushrooms (see Figure 2). Known by buyers and pickers as the Jack Creek or Sisters “pick,”² this early season site is just one of many wild mushroom harvesting sites along the circuits that thousands of commercial mushroom pickers travel each year from Alaska down to California and Mexico, and from the Pacific Coast to the northern Rockies (see Figure 3).³ Sisters’ contribution to the Pacific Northwest wild mushroom economy is relatively minor – a few mushrooms

²A pick can be roughly defined as a geographical area where commercially viable concentrations of a given species or set of species of wild mushrooms consistently fruit, and where a large number of harvesters congregate during the fruiting season. For example, spring season pickers distinguish between the “Sisters pick,” near Bend, Oregon; the “burns” in eastern Oregon; and the “Lakeview pick,” in south central Oregon.

³ The following articles provide useful accounts of the ecological, cultural, and management aspects of various segments of the wild mushroom industry in the Pacific Northwest: David Hosford, David Pilz, Randy Molina, and Michael Amaranthus. *Ecology and Management of the Commercially Harvested American Matsutake Mushroom*. U.S. Department of Agriculture-Forest Service General Technical Report No. 412. (November 1997): 20; Beverly Brown. “Voices from the Woods.” *American Forests* (1998):35-37. David Arora. “The Way of the Wild Mushroom.” *California Wild* (1999) 52(4): 8-19; Richard Hansis. “A Political Ecology of Picking: Non-Timber Forest Products in the Pacific Northwest.” *Human Ecology* (1998): 67-86; Rebecca T. Richards and Max Creasy. “Ethnic Diversity, Resource Values, and Ecosystem Management: Matsutake Mushroom Harvesting in the Klamath Bioregion.” *Society and Natural Resources* (1996):359-374; David Pilz, Randy Molina, and Leon Liegel. “Biological Productivity of Chanterelle Mushrooms in and near the Olympic Peninsula Biosphere Reserve.” *Ambio Special Report 9* (1998): 8-13; Thomas Love, Eric Jones, and Leon Liegel. “Valuing the Temperate Rainforest: Wild Mushrooming on the Olympic Peninsula Biosphere Reserve.” *Ambio Special Report 9* (1998): 16-25; Catherine G. Parks and Craig L. Schmitt. *Wild Edible Mushrooms in the Blue Mountains: Resource and Issues*. U.S. Department of Agriculture-Forest Service General Technical Report PNW-GTR-393. (1997).





200 0 200 400 Miles

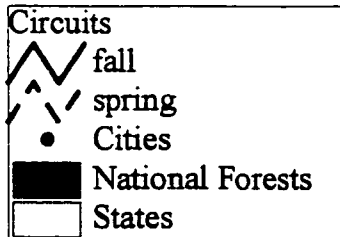


Figure 3 Wild Mushroom Circuits and National Forests in the Pacific Northwest

in a very large bucket. Nonetheless, as one of the region's earliest fruiting sites, the Sisters' pick attracts anywhere from two to five hundred pickers a year along with a handful of itinerant buyers.

The wild mushroom industry is one of the most culturally diverse forest products industries in the Pacific Northwest. A variety of ethnic groups, including Euroamericans, Southeast Asians (mostly Khmer, Lao, and Mien), Native Americans, and Latinos (mostly Mexican, Guatemalan, and Salvadoran) harvest wild mushrooms commercially (Arora 1999: 8-19; Hansis 1998: 73-78; Love et al. 1998: 17-18; Richards and Creasey 1996: 365).

Though no one harvesting site in the Pacific Northwest produces commercial quantities of wild mushrooms all year long, pickers and buyers can make a full-time living in mushrooms by moving around the various circuits (Arora 1999: 8-19). People unwilling or unable to follow the circuits alternate mushroom picking or buying with other occupations, such as farming, berry picking, moss harvesting, clerical work, sales, restaurant work, construction work, logging, or mill work to produce a year-round income (Hansis 1998:78-81; Love et al. 1998:22). Some pickers and buyers make good livings and can afford to buy homes and new vehicles (Arora 1999: 8-19); others exist on the margins of survival, wondering whether the day's harvest will cover the cost of their gas for their next trip to the woods (Hansis 1998: 78-81; Love et al. 1998:18).

Wild mushroom pickers and buyers often work in places some distance from where they live. Three-quarters of the commercial pickers at Sisters, for example, live outside of central Oregon.⁴ Most of the "outsiders" at Sisters come from rural towns and small cities in the Willamette Valley in western Oregon. A substantial minority, for the most part Southeast Asians, live in the region's large urban centers, such as Seattle, Tacoma, Portland, Sacramento and Redding. Regardless of their ethnic roots or where they live, commercial pickers at Sisters share one thing in common – their livelihoods depend on the ability to move with the mushroom crops. In the unpredictable business of wild

⁴ See Chapter 5 for additional details on mushroom picker demographics.

mushrooms, where micro-climatic changes in soil moisture and temperature drastically affect the location, quantity, and quality of mushroom fruitings (Weber 1995:99; Hosford et al. 1997: 31; Hall et al. 1998:49-51; Norvell 1996:14-16; Yun et al. 1997:318-321), a picker has to be ready to go where the mushrooms are if she wants to make a living.

The economic value of wild mushrooms is small relative to the value of other natural resources from the region, such as timber and salmon. Nonetheless, wild mushroom income is seasonally and locally important in many rural parts of the Pacific Northwest including the Olympic Peninsula (Love et al. 1998: 18, 22; eastern Oregon (Arora 1999:10; Parks and Schmitt 1997:3-7), the Willamette Valley; the Oregon Coast, central Oregon, and Northern California (Richards and Creasey 1996). In 1992, economists at Washington State University estimated that buyers in Washington, Oregon and Idaho purchased 3.9 million pounds of wild mushrooms at the point of first sale, paying out roughly 20 million dollars to harvesters in the region (Schlosser and Blatner 1995:32). The WSU economists also estimated that the wild mushroom industry in Washington, Oregon and Idaho employs approximately 10,400 harvesters and 520 permanent employees (i.e. buyers, processors, transporters, etc.) and adds at least 41 million dollars to the regional economy annually (Schlosser and Blatner 1995:35).

More than 25 species of wild edible mushroom species are gathered commercially in the region (Schlosser and Blatner 1995:31). However, chanterelles (*Cantharellus cibarius*), morels (*Morchella spp.*), matsutake (*Tricholoma magnivelare*) and boletes (*Boletus spp*) dominate the Pacific Northwest wild mushroom economy (Schlosser and Blatner 1995:31-32). The Pacific Northwest mushroom industry is very tightly integrated with global markets. Most of the region's matsutake are shipped to Japan, often by way of Canada (Schlosser and Blatner 1995:34). The main markets for the Northwest's morels, chanterelles, and boletes are located on the western and eastern seaboard of North America and in the cities of western Europe (Schlosser and Blatner 1995:34). Alternative sources for chanterelles, morels, matsutake, and boletes exist

throughout the world's temperate forest zones. Consequently, pickers and buyers in the Pacific Northwest compete not only with each other, but also with pickers and buyers in countries as far away as China, Korea, Turkey, Morocco, Poland and Russia, and as close as Canada and Mexico (Weigand 2000:6, 11; Blatner and Alexander 1998:32; Hall et al.1998; Yun et al.1997).

Extending State Control over Wild Mushrooms

Until the mid-1980s, wild mushroom pickers in the Pacific Northwest enjoyed unrestricted access to wild mushroom grounds on most federal, state, and private industrial timber lands (McLain et al. 1998). Access to national forest land has historically been important for many pickers (Love et al. 1998:21) since roughly 39 percent of the forested land in Washington and Oregon, the two states which form the core of the Northwest's mushroom circuits, is administered by the U.S. Forest Service (Jensen:105). The ability to retain access to wild mushroom grounds on national forests has become increasingly critical during the past two decades as more private landholders started to gate off their lands (Love et al. 1998:21). National forest management decisions that restrict wild mushroom harvesting activities or that disturb or enhance wild mushroom habitat and productivity thus can affect picker and buyer livelihoods (Hansis 1998:78-85; Love et al. 1998:21-25). At a place like Sisters, where the majority of the mushroom harvesting ground is located within the boundaries of the Deschutes National Forest, the impact of national forest policies and management practices on pickers and buyers is potentially quite large.

Although people have picked wild mushrooms commercially in the Pacific Northwest since at least the 1930s (Redhead 1997:25), for most of the 20th century the level of activity was too low to be of interest to Forest Service managers who were far more concerned with timber production, grazing, roadbuilding, fire protection, and recreational and wildlife management (Hirt 1994; Steen 1976). Wild mushrooms and the people who pick and buy them first surfaced in Pacific Northwest forest policy debates in the 1980s. A convergence of regional, national, and global market, socio-

economic, cultural, and political changes intertwined to enlarge and render visible the Pacific Northwest's wild mushroom industry (McLain et al. 1998; Arora 1999; Redhead 1997:25-30), precipitating the gradual and piece-meal development of a nation-state wild mushroom management regime in the Pacific Northwest's national forests. The following section outlines the major factors that played a role in shifting wild mushrooms into the public policy arena in the Pacific Northwest. These factors include 1) expanding market demands, 2) a ready supply of relatively cheap labor, 3) ecological conditions that favored the production of morel crops, creating a fairly reliable supply over a multi-year period, 4) ecological conditions that temporarily reduced the production of chanterelles, engendering concerns about possible overharvesting, and 5) a cultural transformation that enhanced the persuasiveness of the forest as playground and protected place discourses and thus provided support for social actors advocating the need for greater state control over wild mushrooms.

Market Expansion

Perhaps the most important factor contributing to the political visibility of wild mushrooms was the expansion in domestic and international demand for certain edible species during the 1970s and 1980s (McLain et al. 1998). In the late 1970s as American disposable incomes increased and wild foods gained popularity across the nation, wild mushrooms became an increasingly sought after commodity (Fabricant 1980:C1; Burros 1985:C1; Jenkins 1985:C1). Where wild mushrooms used to be difficult to find except in gourmet restaurants or natural food stores, by the early 1990s even local Safeway and Albertson grocery stores began selling multiple species of wild mushrooms, both dried and fresh. The rise in domestic demand coincided with expanding international demands for certain species of wild mushrooms, notably matsutake, chanterelles, morels, and boletes (Acker 1986:4-5; Ingle 1987:C3; Weigand 1997:16). In Asian mushroom markets, Japanese demand for North American matsutake mushrooms picked up strongly in the mid-1980s (Weigand 1997:19). The rise in Japanese demand followed a series of pine weevil epidemics that killed large

stands of Japanese red pine (*Pinus densiflora*), the primary host species for Japanese matsutake (*Tricholoma matsutake*) (Hosford et al. 1997:6). The burgeoning Asian economies of the 1980s, and the subsequent rise in disposable incomes among Japanese consumers contributed to a rise in demand for North American matsutake (Weigand 1997:17). Acid rain experienced in many industrial parts of Europe during the 1980s appears to have diminished local mushroom supplies, creating demand for North American mushrooms (Arnold 1995:S996)

New Labor Supplies

By chance, the increased domestic and international demand for Pacific Northwest wild mushrooms coincided with the development of a ready supply of labor in the region in the form of newly arrived Southeast Asian refugees and laid off (mostly Anglo) timber workers. Beginning in the late 1970s and early 1980s, a number of Southeast Asian immigrants fleeing war and persecution in their home countries began picking wild mushroom and floral greens in the Pacific Northwest. Many Southeast Asian pickers live in urban areas and commute to the woods on a daily basis or, in the case of Sisters and other sites in central Oregon that are somewhat remote, camp for several weeks or months at a time at harvest sites (Love et al. 1998; Hansis 1998). One attraction of wild mushroom picking for these immigrants is that pickers who have a poor command of spoken or written English or who lack technological workplace skills can still make a decent living (Hansis 1998). Since few Asians lived in the rural areas of the Pacific Northwest, the ethnic diversification of the harvester workforce likely was an important factor in making NTFP-related activities, such as harvesting, buying, and camping, literally more visible to the Forest Service and forest visitors unfamiliar with NTFP industries.

The second labor source that emerged in the early 1980s consisted of blue-collar workers in the timber industry and public and private sector forestry technicians who were laid off first during the 1981-1982 recession, and then again in the late 1980s and early 1990s as the harvesting of old-growth timber on federal lands in Washington,

Oregon and northern California ground to a halt. Mushroom picking, as well as the harvesting of other special forest products, provided a means for this largely Euroamerican workforce to continue working in the woods.

Drought and Fire

A third factor contributing toward the visibility of wild mushrooms was the prolonged drought that affected much of the Pacific Northwest at precisely the time when economic demand for wild mushrooms took off and when labor supplies became abundant. On the east side of the Cascades and in the northern Rockies, the drought years of the 1980s resulted in an unusually large number of extensive forest fires (Park and Schmitt 1997). The drought also weakened large stands of white fir in the eastern Cascades, making them more susceptible to the tussock moth, spruce budworm, and pine beetle infestations that had gained a foothold in the region in the 1970s (Metolius Watershed Analysis (MWA 1996); Metolius Late Successional Reserve Assessment (MLSRA 1995). “Fire” or “burn” morels, species which fruit extensively in the first year or two following a fire, fruited abundantly during these years, attracting thousands of new pickers to the mountains of eastern Oregon, Washington, Idaho, and Montana (Park and Schmitt 1997). At Sisters and other sites along the eastern Cascades, “natural” morels and boletes, also appeared in unusually large quantities in areas with heavily infected and dying white fir stands.⁵ By the time the drought had ended in the early 1990s, pickers and buyers had already established a tradition of following the burns, or alternatively, harvesting natural morel crops during years when no new burns were available.

On the west side of the Cascades, the drought contributed to a series of years of abnormally low chanterelle production in the early and mid-1980s (McLain et al. 1998). Many amateur mycologists, who harvest wild mushrooms primarily for their own

⁵ Information gathered through informal conversations with pickers during spring 1997 and 1998. See Chapter Five for additional details.

consumption, blamed the decline in chanterelle production on overharvesting by commercial pickers (Acker 1986; McLain et al. 1998). To combat what they perceived to be “overpicking,” the amateur mycological societies throughout Washington and Oregon engaged in a concerted lobbying effort between 1985 and 1995 at the level of the state legislature to prohibit or restrict commercial harvesting (McLain et al. 1998).⁶

Economic and Cultural Change

A fourth factor that contributed to the persuasiveness of arguments for state control over wild mushrooms was the socio-economic transformation that took place in the United States, including the Pacific Northwest, during the last half of the 20th century. During this period, the American economy gradually shifted from a natural resource extraction and processing based economy to a service-based economy linked to the development of information technologies and the buying and selling of information (Abbott 1999). As fewer and fewer people relied directly on natural resources for their livelihoods, the majority of the population’s views about whether and how the U.S. Forest Service should manage the region’s national forests underwent a substantial shift. Rather than seeing national forests primarily as sites for timber and other commodity production, a growing number of Americans began to see the national forests as more important for the amenities, such as trails, camping sites, and scenic beauty, that these vast forested landscapes had to offer (Lacey 1989:23). Americans also increasingly

⁶ In 1989, Washington State passed a wild mushroom act requiring buyers to keep track of who they bought mushrooms from, how much they purchased, and where the mushrooms were harvested from (RCW 15.90). This Act died under a sunset clause in 1994, but the Washington state legislature incorporated similar provisions in the special forest products act, which was modified in 1995. The new version of the special forest products act also added mushrooms to the list of products covered under its provisions (RCW 76.48). In 1995, Oregon also added wild mushrooms to the list of products for which a transportation permit was required under its special forest products act. Both the Oregon and Washington legislatures also incorporated provisions limiting the quantities of mushrooms that could be harvested for personal use (ORS 164.813; RCW 76.48).

came to value national forests for their environmental services, such as biodiversity reservoirs, water storage, carbon cycling, and wildlife and fish habitat (Lacey 1989:26). In 1992, this shift in American values surfaced in the rhetoric of the U.S. Forest Service as well, when the agency adopted ecosystem management as its guiding management principle (Robertson 1992). Pressure from environmental groups and the U.S. Federal Court forced the agency to shift its management focus from timber production to forest ecosystem restoration and protection. By drawing the agency's attention to the importance of biodiversity and species protection, the rise of ecosystem management contributed to the pressure placed on the Forest Service to regulate wild mushrooms (McLain et al. 1998:615-626).

The convergence of the above factors – market demand, labor supplies, ecological conditions, and socio-economic transformation – created a climate conducive to a significant shift in the socio-political status of wild mushrooms. In the space of twenty years, these forest understory resources moved from being virtually invisible to most social actors, to resources with sufficient socio-political value that a complex system of regulations now shapes who has access to wild mushrooms on national forest lands, as well as when, where and how they can be harvested. Tables 1 and 2, which encapsulate some of the key rules that now govern wild mushroom harvesting and related activities on national forests in Oregon, illustrate the complex nature of the newly established state wild mushroom management regime.

To understand the effects these regulatory changes have had on pickers' lives, a small example suffices. In 1980, from a regulatory standpoint, someone wishing to pick wild mushrooms at Sisters had only to park her car, pick up her bucket, and walk out into the woods to the nearest mushroom patch. Now that same picker must first drive to the Sisters Ranger District office, pay a fee, fill out a harvesting permit form (assuming that she can produce the requisite driver's license or state identification card), and fill out a camping permit. At that point our picker is still not yet ready to go into the woods if she wishes to avoid the possibility of having to pay a fine for breaking the rules on the

TABLE 1: WILD MUSHROOM REGULATORY FRAMEWORK

Forest	Main commercial species	Multiple Forest Permit?	Research Programs?	Picking on LSRs Permitted?	Require Buying Permits	Industrial Camping Permits	NEPA Mushroom Related Documents
Mt Hood	Chanterelle Matsutake Morel	No (forest-wide)	Yes – chanterelle	No	Yes but not an issue	Yes – free	?
Siuslaw	Matsutake Chanterelle	No (forest-wide)	Yes – matsutake	In some cases	Buy stations not permitted on forest	No – 14 day limit on regular camp grounds	EA
Willamette	Morel Matsutake Chanterelle	Yes (4)	Yes Chanterelle Matsutake	No	Not an issue	Not an issue	EA (SFPs)
Umpquah	Matsutake Chanterelle	Yes (4)	Yes – matsutake	Yes	Not an issue	Not an issue	None
Deschutes	Matsutake Morel Bolete	Yes (4)	No	No on Crescent District; Yes on Sisters District	Yes	Yes Crescent-fee Sisters-free	EA
Winema	Matsutake	Yes (4)	Yes – matsutake	No	Yes	Yes-Fee	EA
Siskiyou	Matsutake Chanterelle Morel	No	Yes – matsutake	In some cases	Not an issue	Yes – Fee	?
Rogue River	Morels Chanterelle Matsutake	No	No	Yes	Not an issue	Yes – in regular camp grounds	Planned for one LSR. EA on Prospect District
Fremont	Morel Matsutake	No		N/A	Yes	Yes-free	EA (joint with Winema and Deschutes)
Ochoco	Morel Bolete	No	No	N/A	Yes, not an issue	Not an issue	Categorical Exclusion 1998
Wallow-Whitman	Morel Bolete	Yes (3)	Yes-morels	N/A	Yes	Yes-free	Biological Analysis
Umatilla	Morel Bolete	Yes (3)	?	N/A	Yes	Yes – fee	?
Malheur	Morels Boletes	Yes (3)	Yes – morels	N/A	Yes	Yes – free	None

TABLE 2: WILD MUSHROOM REGULATIONS

Forest	Personal Use and Incidental Use Conditions	Commercial Use	Fee Structures
Mt Hood	Personal Use: Permit required (no fee), 10 day limit; non-consecutive days possible, must cut matsutake in half Off-limits: wilderness, botanical areas, research natural areas, summer home areas	Matsutake: Digging tools limited to hand trowels/prying sticks All Species: Valid forest-wide Minimum cap size 2 inches for gilled mushrooms No raking Unlimited quantities Off-Limits: Wilderness, botanical areas, research natural areas; summer home areas	Matsutake and General: Daily: \$10/day, consecutive days, 1-day minimum Semi-Annual (1/1-6/30 and 7/1-12/31): \$200 General: Daily: \$2/day, consecutive days, 5-day minimum Semi-Annual (1/1-6/30 and 7/1-12/31): \$75
Siuslaw	Personal Use: Forest wide permit 2 gallons/day limit for total of 10 (non-consecutive) days; No personal use permits issued for matsutake Incidental Use 1 gallon/day limit No more than 6 matsutake, matsutake must have stems cut off immediately after picking Personal use off-limits: Research Natural Areas, Botanical Areas, Cape Perpetual Scenic Area, in developed campgrounds	Matsutake: Oregon Dunes and Mapleton RD: sealed bid permits (100 issued per year) Hebo, Waldport and Alsea Districts: 6 month permits Picking time: one hour before sunset to one hour after sunset Other Species: District-wide permits only All species: Unlimited quantities No raking or surface disturbance of moss or duff Off-limits: Wilderness, Botanical Areas, Research Natural Areas, Cape Perpetual Scenic Area, developed campgrounds	Matsutake 100 6-month permits sold at sealed bid auction Other 6-month permits: \$250 Other Species: 15-day permit: \$30 6-month permit: \$100
Willamette Umpquah Deschutes Winema	Personal Use Matsutake: Permit required, no fee, 10 days/calendar year, 15 matsutake per day from designated areas; must be cut in half length-wise Other species: Permit required, no fee, 10 days/calendar year, 2 gallon limit per day Off-limits: Crater Lake National Park, Newberry National Volcanic Monument, H.J. Andrews Experimental Forest, Research Natural Areas, Wilderness Areas, Developed Recreation Areas, Willamette NF Late Successional Reserves, Willamette NF Wild and Scenic River Corridors	Matsutake: 1.5 inch cap minimum All species: Unlimited Quantities Off-limits: Crater Lake National Park, Newberry National Volcanic Monument, H.J. Andrews Experimental Forest, Research Natural Areas, Wilderness Areas, Developed Recreation Areas, Late Successional Reserves in Willamette NF, Deschutes NF (matsutake only), and Winema NF (matsutake only), Wild and Scenic River Corridors	Matsutake Daily: \$10/day 5-day minimum; can be non-consecutive Seasonal (9/8-11/7 – varies by year): \$200 Other Species: Daily: \$2/day, 5-day minimum; can be non-consecutive Annual: \$10/day

permit. First she must read through the permit and look at the attached map to find out what species she is allowed to pick, whether there are any limitations on size, how long the season lasts, and what areas she is authorized to pick in and under what conditions. Once our picker reaches the woods, she must pay close attention to where she is on the forest, to make certain that she doesn't accidentally end up in mushroom patches in the areas that the District has declared off-limits to commercial harvesting. If our picker moves on to another forest where the mushrooms are more productive, she must start the same process all over again unless she is lucky enough to pick in two forests that have agreed to coordinate their permit processes.

Whether these restrictions are good or bad, as well as for whom and for what they are good or bad, are topics that continue to be debated among the major social actors involved in wild mushroom policy discussions, and topics that I will touch on in more detail later in this dissertation. But one thing is clear: The existence of these rules has fundamentally changed the degree to which the nation-state shapes the every day lives of pickers and buyers.

Contours of the Wild Mushroom Debate

In the following paragraphs, I briefly describe the major social actors who have taken part in the debates over wild mushrooms in the Pacific Northwest, as well as the different agendas that each has pursued. Chief among the social actors involved in wild mushroom debates are the state (primarily through the agency of the U.S. Forest Service but also including state and county law enforcement agencies); scientists (including amateur mycological associations, as well as individual professional scientists); Native American tribes; wild mushroom pickers and buyers; environmental organizations; and residents in and adjacent to national forest lands.

Within the Pacific Northwest, the Forest Service's arguments in favor of regulation have centered around four concerns:

The periodic but sometimes very large temporary influxes of pickers on national forest lands, often at times when other forest users, such as hunters or campers are

using the same areas, are difficult for Ranger Districts to deal with administratively⁷ and create tension between different types of forest users (Hosford et al. 1997:41-47; Richards and Creasey 1996:362; Parks and Schmitt 1997:1-7);

Fears that unregulated picking could lead to violent confrontations between pickers competing for access to wild mushroom grounds (Deschutes and Winema NF Matsutake Management EA 1994, ODNRA Mushroom Harvesting EA 1993, Willamette SFP EA 1993, Siuslaw SFP EA 1995, Klamath NF Wild Mushroom EA 1993);

Concerns about the negative environmental consequences of large-scale harvesting and associated activities (Deschutes and Winema NF Matsutake Management EA 1994, ODNRA Mushroom Harvesting EA 1993, Willamette SFP EA 1993, Siuslaw SFP EA 1995, Klamath NF Wild Mushroom EA 1993); and

Concerns regarding the need for the agency to capture a part of the economic value of products harvested commercially on national forest lands and the importance for the agency to develop alternative sources of revenue in a declining timber economy (Malheur NF Mushroom Enforcement Action Plan 1991; WOSFPC 1994; Stewart 1998).

However, support for increased regulation among Forest Service employees is by no means uniform. Botanists and ecologists tend to favor a “do no harm” and “risk averse” approach that would be more restrictive than current regulations (NWSFPA 1994), but employees who have worked in small sales and special use administration for a number

⁷ For example, the Klamath NF Mushroom EA, the Deschutes and Winema NF Matsutake EA, and the ODNRA Mushroom EA all mention the difficulties the Forest Service encounters with making sure that pickers follow rules and norms governing littering, forest fire prevention, campground cleanliness, and campground noise.

of years tend to take a more laissez-faire approach, arguing that too much regulation could jeopardize the economic viability of local communities and the mushroom industry as a whole (NWSFPA 1994). Law enforcement officers, both within the Forest Service and at the state-level, focus less on the need for more regulations and more on the importance for the Forest Service to develop rules that are consistent across jurisdictions (Shrader and Andrade 1991). Many law enforcement officers, as well as SFP program administrators, also argue for the development of regulations only if they are clear and enforceable given current levels of funding and administrative support (WOSFPC 1995; Four Forest Mushroom Meeting 1997).

Among the most politically active and influential social actors in the move toward greater state control over wild mushrooms are amateur and professional scientists. Amateur mycologists, in particular, took a very visible, proactive role in pushing for state and federal regulation of wild mushrooms during the mid and late 1980s, arguing that large-scale commercial harvesting was potentially destructive of mushroom beds (McLain et al. 1998:615-626). Again, however, support for regulation among amateur mycologists is mixed. Like many commercial pickers, many amateur pickers object to the idea of obtaining a personal use permit, even at no charge, in order to pick a few gallons of wild mushrooms in the spring and fall (Egger 1994:59-66). Some amateur pickers occasionally sell their mushrooms⁸ and many give away at least a portion of their harvest (Love et al. 1998:18), both practices that violate the regulations that the Forest Service has developed for personal use permits. Some amateur mycologists are also suspicious of the Forest Service's recent attempts to involve amateur mycological societies in their new wild mushroom inventory and monitoring efforts, which the amateur mycologists see as a strategy by which the agency will gain the information it needs to justify even stricter controls on personal use pickers (Pencall 1994/95:4,34).

⁸ Amateur pickers also barter their mushrooms for gourmet meals at expensively priced restaurants (NAMA Foray Field Notes February 14-17, 1998).

Professional mycologists and ecologists have also played a key role in advocating for the development of more restrictive wild mushroom regulations, though many deny that their activities are political. Mycologists and ecologists, for example, contributed extensively to the development of the Standards and Guidelines regarding wild mushroom harvesting in the 1994 Northwest Forest Plan.⁹ These standards and guidelines specify that the Forest Service should take a cautious approach to allowing wild mushroom harvesting in late successional reserves, which cover a large portion of Oregon and Washington's westside forests. Mycologists and ecologists also have served as the main consultants on mycological and ecosystem health and productivity issues in the Forest Service's development of wild mushroom and special forest products environmental assessments, watershed analyses, and late successional reserve assessments. Over the past decade, professional mycologists have also set up a number of studies throughout the Pacific Northwest to examine the effects of wild mushroom harvesting techniques on wild mushroom productivity (Hosford et al. 1997; Norvell 1996). Given the exploratory and very preliminary nature of the study results, these studies, which constitute the sole source of scientifically acceptable data, play an inordinately influential role in influencing Forest Service management decisions.

Native Americans, particularly in southern Oregon and northern California, also have played a pivotal role in supporting moves toward greater state control over wild mushrooms (Deschutes and Winema NF Matsutake EA 1994, Klamath NF Wild Mushroom EA 1993). Wild matsutake constitute a traditional fall season food and have important spiritual and cultural values for the Karuk, who inhabit the northwestern corner of California (Richards and Creasey 1996:ix). A large influx of commercial pickers to the Klamath National Forest during the late 1980s and early 1990s prompted

⁹ The Northwest Forest Plan is an inter-agency planning document developed by the US Forest Service, the Bureau of Land Management, and the US Fish and Wildlife Service to establish forest management guidelines for the northern spotted owl zone in the Pacific Northwest (FEIS 1994 Volumes I and II). Details on the Plan are provided in Chapters 3 and 4.

the tribe to demand that the Forest Service take steps to protect their access to traditional gathering grounds (Richards and Creasey 1994:x). The Klamath Tribes (Klamath, Modoc, and Yahooskin) whose ancestral lands include the Winema National Forest (Zucker et al. 1983:107-111), also have contested the Forest Service's lack of regulation of the commercial matsutake harvest (Klamath Tribes 1994; Lowe 1995; USFS and Klamath Tribe Meeting Minutes 1994). Ironically, groups such as the Karuk and the Klamath Tribes are advocating for stronger nation-state control as part of an effort to reassert their long-standing tribal claims over lands in southern and central Oregon and northern California. Tribal support for stricter commercial harvest regulation on national forest lands, however, is mixed since a number of tribal members among the Karuk and Klamath Tribes also harvest commercially as well as for subsistence use.¹⁰

Most environmentalist groups have taken a low-key stance in wild mushroom debates. A major exception is the Oregon Natural Resources Council (ONRC), also a key participant in the Pacific Northwest old-growth debates, and a strong advocate of restricting additional timber harvesting in late successional forests. The ONRC's stance on commercial wild mushroom harvesting has been ambivalent. On the one hand, the group advocated strongly in favor of shutting down commercial harvesting on the Oregon Dunes National Recreation Area, a prime site for wild matsutake (ODNRA EA 1993). They also played a key role in pressuring the Siuslaw National Forest to conduct a full-scale environmental assessment on the impacts of SFP harvesting forest-wide in 1993 (ONRC Request for Stay 1992; Siuslaw National Forest ODNRA Decision Reversal:1993):

In addition to the administrative need to proceed with an environmental assessment, there are other compelling reasons to take a close look at the

¹⁰ The woman I bought wild mushrooms with during the spring of 1998 also buys wild mushrooms in areas where Karuk and Klamath tribal pickers harvest, and frequently purchases mushrooms brought in by tribal members.

activity of mushroom picking. Many of these reasons were articulated in the appeal by Oregon Natural Resources Council (ONRC) of the September 30, 1992 decision to proceed with “sales of miscellaneous forest products from lands administered by the Oregon Dunes National Recreation Area....Areas of concern include: a dramatic increase in mushroom pickers, documented habitat destruction through poor picking practices (such as raking), poor control of the permit system (enforcement problems), lack of an educational program, no monitoring system, and a need to ensure the sustainability of the mushroom resource.

However, in both the Siuslaw National Forest Special Forest Products EA (1995) and during the course of the development of a wild matsutake program EA for the Winema and Deschutes National Forests (1994), the ONRC articulated support for continued commercial SFP harvesting. Their position is an anomaly among the calls for greater state control over wild mushroom harvesting in that they advocate not just for regulation of wild mushroom harvesting, but they also point out the need for the agency to address “how other Forest Service management activities (particularly road building and logging) are negatively affecting the future production and potential for collection of mushrooms as one of the National Forests’ multiple uses” (ONRC 1994). This position – focusing on the effects of forest management activities and uses on wild mushrooms – is largely ignored in Forest Service discussions and documents, which frame commercial mushroom harvesting as a problem and center almost entirely around the potential impacts of wild mushroom activities on other forest uses and management activities. Even when agency documents acknowledge the benefits of commercial harvesting, they tend to focus primarily on the economic benefits rather than on possible ecological benefits of facilitating or encouraging commercial harvesting (cf. Siuslaw NF SFP Program EA 1995; ODNRA Mushroom Harvesting EA 1993; Klamath NF Wild Mushroom EA 1993; Deschutes and Winema NF Matsutake Mushroom Management EA 1994; Willamette NF SFP EA 1993).

Like the social actors discussed above, wild mushroom pickers and buyers exhibit a mixed set of positions on whether the Forest Service should exercise greater control over the wild mushroom domain and if so, what mechanisms it should use to achieve greater control. Although many pickers strongly resisted the Forest Service's efforts to put into place wild mushroom permit systems in the late 1980s and early 1990s, over time some pickers and buyers have begun to voice a desire for even stricter regulations, such as placing quotas on the number of permits issued, excluding non-citizens from buying and picking, providing preferential access for Oregon state residents, and requiring certification for pickers, with one of the qualifications being the ability to read, write, and speak English (Washington DNR Mushroom Issues Meeting 1993; Deschutes and Winema NF Matsutake Mushroom Management EA 1994:9; Cobb 1995; Burdett 1995; USDA-FS Region 6 SFP Meeting 1995). Not surprisingly, many of the latter demands are from Euroamerican pickers living in Oregon who became involved in the mushroom industry before commercial demand attracted large numbers of Asians and Hispanics into the industry. Similarly some buyers oppose recent restrictions on matsutake buying locations and operating hours in central Oregon, arguing that such regulations interfere with their ability to make a profit (Four-Forest Mushroom Meeting 1998). Pickers, however, note that having all the buyers in one place helps them keep better track of what the range of prices is at any given time (Four-Forest Mushroom Meeting 1998). Some buyers also welcome the curtailment in business hours at the Crescent Lake harvest site because it provides them a legitimate reason for shutting up shop at 10 in the evening, and makes their lives more bearable during the busy times of the year (Four-Forest Mushroom Meeting 1998).

People who reside near national forests where very productive mushroom grounds are located also have been vocal participants in the debates over wild mushroom regulations. In some instances, such as near the Oregon Dunes National Recreation Area, where local people have a long history of picking mushrooms, residents have argued hard to convince the local national forests to minimize the restrictions on

commercial and personal use picking (ODNRA 1993). In other cases, such as at Crescent Lake, where mushroom picking among the locals is a relatively recent and not very widespread phenomenon, many residents have pushed for strict regulations, limited seasons, and high permit fees in order to reduce the number of pickers and the length of time they spend in the area (Cruz 1993; Weekly 1994; Willamette Pass Mushroom Meeting 1994; Chemult Mushroom Policy Public Meeting 1994). Again, however, no one “local position” exists. For example, local merchants at Crescent have largely opposed policies that they feel will discourage too many pickers from taking part in the harvest, and thus will reduce the income they make from sales to pickers during the short, but profitable mushroom season (Four-Forest Mushroom Meeting 1997).

In summary, the emerging state wild mushroom management regime in the Pacific Northwest is the product of interactions among a set of very diverse actors, some with considerable political influence and others with very little economic or political power. Even within the different categories of actors, however, views about whether and how the state should regulate wild mushrooms vary considerably and in some cases, have changed substantially over the twenty years during which those debates have occurred.

Key Research Questions

All of the widely commercialized wild mushroom species are abundant, none appear on international, federal, or state threatened and endangered species list, and no scientific evidence exists to suggest that current levels of commercial harvesting are ecologically damaging. Nonetheless, in the space of twenty years, commercial wild mushrooms have moved from being very nearly invisible to Forest Service managers and most of the American people to objects of considerable concern within a labor-intensive and expensive state scientific management regime. At the same time, the Forest Service, one of the key state actors involved in the construction and application of a nation-state wild mushroom management regime in the Pacific Northwest, has experienced tremendous downsizing in its budgets and personnel. Many ranger districts

in the Northwest operating with less than half the number of employees they had on their payrolls in the mid-1980s, and on a fraction of the budgets that they operated on when timber was king. With an ever-shrinking number of employees and funds the Forest Service has nevertheless sought to incorporate wild mushroom regulation into an already extensive set of administrative responsibilities over nearly 15 million acres of forested land in Washington and Oregon (Jensen 1993:105). Not only must the agency cover a large land area with a very small staff, but the task of regulating wild mushrooms is further complicated by the biology and ecology of wild mushrooms themselves. Unlike tree crops, whose location and value can be determined fairly accurately well in advance of their harvest, commercially viable crops of wild mushrooms, and the people who harvest them shift, often rapidly over time and across the landscape.

Given this situation, my dissertation seeks to shed light on the following three questions: 1) By what processes has the American nation-state managed to attain a considerable degree of control over wild mushrooms and the people who harvest and buy them? 2) How have the people whose livelihoods depend on wild mushrooms contributed to or resisted the efforts to construct a nation-state wild mushroom management regime, and 3) What are the implications of this story of wild mushroom politics for political ecologists, Forest Service managers, and wild mushroom pickers and buyers?

To answer these questions, I chose to begin with an in-depth look at the politics of wild mushrooms on the Sisters Ranger District in central Oregon. I selected Sisters as a point of entry into the wild mushroom world primarily because I had the opportunity to work there as an apprentice wild mushroom buyer, and thus was able to gain access to a world that otherwise would have been difficult to study. My account of wild mushroom politics at Sisters is based upon events and interactions that I observed, as well as interviews I conducted with pickers, buyers, and Forest Service employees while working as a wild mushroom buyer in spring 1997 and 1998. I supplement this account

with observational, archival and interview data gathered from various Forest Service offices and meetings between 1993-2000.

Dissertation Overview

My narrative is divided into six chapters. Chapter One lays out the analytical framework that structures my interpretation of the dynamics of wild mushroom politics at Sisters. In the first section of Chapter One, I describe the elements of political ecology, the analytical approach that I use to understand wild mushroom politics at Sisters. This approach emphasizes the importance of trying to understand the interactions between social, ecological, and economic change. I also identify several gaps in that literature that my work seeks to fill. In the second section of Chapter One, I contrast two distinct schools of thought that currently dominate theoretical discussions of power – the sovereign power model as exemplified in the writings of Locke, Hobbes, Bachrach and Baratz, and Lukes and the disciplinary model of power as exemplified in the writings of Michel Foucault. In section three I examine two empirical examples of the use of the disciplinary power model to analyze land and labor conflicts in North America.

I conclude Chapter one with an explanation of how integrating disciplinary power theory into a political ecology analytical framework has the potential to serve as a powerful tool for analyzing how state control expands and is maintained over various natural resource domains. On the basis of using this combined approach I am able to make the following theoretical claims about resource conflicts involving the expansion of scientific state management regimes into new domains: 1) The multi-dimensional, heterogeneous nature of the state creates fissures in its apparent solidity. These fissures can serve as points on which other social actors can mount resistance to state control, or negotiate the terms under which state control takes place; and 2) Non-state actors play an important role in facilitating the intensification of state control over their own lives. Just as state actors are not heterogeneous, neither are other social actors. The fissures that are created from the tensions inherent in heterogeneous populations serve as points

where the state (or other social actors) can develop an informant network that allows for more effective surveillance.

The conclusions I arrive at from applying this combined approach to the wild mushroom case also call into question how we conceptualize public participation in natural resource management. If disciplinary power is as ubiquitous in other domains as it is in the wild mushroom domain, then we need to fundamentally rethink what processes we consider an integral part of forest management decision making processes, and seek to expand participation in areas, such as scientific knowledge production, that have typically been defined as existing outside of the political realm.

Chapter Two describes the methodology I used to gather and analyze data for constructing my narrative of wild mushroom politics at Sisters. In addition, I provide a summary of some of the ethical and methodological difficulties I encountered as well as some of the limitations of this study.

Chapter Three provides an overview of the forest policy context in which wild mushroom conflicts on the Sisters Ranger District are embedded. This overview begins with the establishment of the federal forest reserve system in 1891, and then tracks the evolution of the scientific state forest management regime in the United States, and particularly the Pacific Northwest. I note that three discourses of forest management – forests as production places, forests as playgrounds, and forests as protected places – have played important roles in the debates that have shaped national forest management over the 20th century. For much of that time, the forests as production places dominated both the U.S. Forest Service and the general public's view of the national forests. Beginning in the 1950s, as the American economy started to shift toward a more services-based economy, the discourses of forests as playgrounds and protected places gained strength both among many American citizens and Forest Service employees. By the 1990s, the Forest Service adopted a new management philosophy – ecosystem management – which rhetorically at least gives greater voice to the forests as protected places than to either of the other forest management discourses. The chapter ends with a

description of the key elements of the 1994 Northwest Forest Plan, an administratively derived ecosystem management planning document that lacks a legal mandate, yet which currently exerts considerable influence over how forests in the Pacific Northwest are managed. The NWFP and associated analysis activities have played an instrumental role in shifting how forest managers treat wild mushrooms and the people who harvest and buy them on national forest lands.

Chapter Four takes a closer look at the Northwest Forest Plan and how it functions as an embryonic framework for state control over forest ecosystems located within the northern spotted owl range. The plan is imbued with four of the five key elements of disciplinary power frameworks, including categorization, separation and enclosure, documenting apparatus, and professionalization of knowledge and management activities. It lacks only a panopticon structure for monitoring and enforcement to strengthen state control over all terrestrial and aquatic species contained within the northern spotted owl zone. Chapter Four ends with a discussion of how the Northwest Forest Plan has re-shaped forest management on the Sisters Ranger District, literally from the ground up.

Chapter Five depicts some of the key aspects of everyday life in the wild mushroom world at Sisters. My narrative of the wild mushroom world illustrates the constraints that the biological and ecological characteristics of wild morels and boletes place on commercial wild mushroom harvesting at Sisters. It also demonstrates the proactive role that pickers and buyers take to carve out viable livelihoods through the development of the strategies that allow them to adapt to variability in resource productivity and to minimize the negative consequences of and to take advantage of market, political, and ecological uncertainty.

Chapter Six describes and analyzes the process by which the American nation-state has extended its control over the previously “untamed” world of wild mushrooms at Sisters during the past decade, focusing in particular upon the roles that the U.S. Forest Service and a variety of wild mushroom pickers and buyers have played in that process.

As my narrative demonstrates, bringing discipline to the world of wild mushrooms has met with considerable local resistance, if not outright opposition on the part of many of the pickers and buyers involved. At the same time, however, pickers and buyers have also played a key role in making the application of disciplinary power over wild mushrooms possible.

Chapter Seven provides a discussion of my findings and a summary of the theoretical and policy implications of my study. In brief, my work indicates that wild mushroom politics at Sisters are embedded within and heavily shaped by national and regional struggles as to how the country's national forest lands should be managed. This struggle is characterized by the existence of three major positions: national forests should be primarily used to produce commodities, national forests should be primarily used for recreation, and national forests are critical ecosystems and should be protected as much as possible from human intervention. The recent shift toward the protection and recreation focus has played a major role in moving wild mushrooms from being treated as open access resources to being treated as resources worthy of state control.

Five key elements of disciplinary power have been instrumental in the process of shifting wild mushrooms into the state's sphere of control. These include the social construction of wild mushroom pickers at Sisters as industrial workers, separation and enclosure of pickers and buyers from other forest users, establishment of a documenting apparatus to fix people in space and time, construction of a panopticon to facilitate surveillance, and the professionalization of wild mushroom knowledge and activities. In developing wild mushroom policies at Sisters, the Forest Service has consistently left pickers and buyers out of its decisions. The resentment and often open resistance of pickers and buyers to the rules governing wild mushroom activities stem in large part from their feelings of having lost control over their living spaces, as well as over their work spaces.

CHAPTER 1: AN ANALYTICAL FRAMEWORK

Introduction

I drew upon two sets of literature – political ecology and political theory -- to develop an analytical framework that would allow me to answer the three research questions posed in the previous chapter. In this chapter I summarize the main points articulated in both sets of literature, and explain how together they provide a useful framework for studying the political dynamics of wild mushroom conflicts at Sisters.

In Section One, I review the political ecology literature, much of which deals with resource conflicts within the context of scientific state resource management regimes. This literature provides a guide for determining what units and scales of analysis are important in trying to understand the links between social, economic, and ecological change. In addition, the political ecology literature points out the importance of understanding social actors as complex, multi-dimensional, and culturally embedded actors rather than as unidimensional, purely economic actors. Lastly, political ecologists increasingly stress the importance for focusing on the importance of human agency in shaping the social and economic structures that constrain and facilitate human action.

A weakness of political ecology, however, is its lack of an adequate theory of power. In Section Two I thus review the literature on power, contrasting the two models most commonly used by western social scientists – sovereign and disciplinary power. I conclude that Foucault's model of disciplinary power is a much more useful model for addressing my three research questions than sovereign power models.

In Section Three, I explore in detail two case examples of how geographers have applied Foucault's disciplinary model to the study of land and labor conflicts in North America. These cases suggest that a similar type of analysis might be usefully applied to the study of wild mushroom politics at Sisters.

I conclude this chapter with a discussion in Section 4 of the points of agreement between the ideas of political ecology and Foucault's disciplinary power model. I

provide an argument for how integrating the two bodies of thought more explicitly can be useful for studying environmental politics. I then lay out two theoretical claims that my work supports, namely that the heterogeneity of the state provides points for mounting resistance, but at the same time, the heterogeneity of other social actors provides avenues for the state to develop the informant networks that constitute a critical part of disciplinary power. I end with the observation that my work on the operation of disciplinary power in the wild mushroom domain suggests the need for public participation policies that recognize the existence and importance of disciplinary power in scientific state management regimes.

Section 1 - Political Ecology

"The ecology of any human community is political in the sense that is shaped and constrained by other human groups. The exploitation, distribution, and control of natural resources is always mediated by differential relationships of power within and among societies. At the same time, however, the resources being exploited impose certain constraints as well -- constraints that modify the political force fields emanating from outside the community in question (Sheridan 1988: xvii)."

I use a political ecology framework to answer the three research questions raised in the previous chapter:

1. By what processes has the American nation-state managed to attain a considerable degree of control over wild mushrooms on the Sisters Ranger District and the people who harvest and buy them?
2. How have the people whose livelihoods include participating in the wild mushroom harvest at Sisters contributed to or resisted the efforts to construct a nation-state wild mushroom management regime,

3. What are the implications of this story of wild mushroom politics at Sisters for political ecologists, Forest Service managers, and wild mushroom pickers and buyers?

Political ecology is a relatively new, but promising analytical framework for studying struggles over land and natural resources. Scholars currently use the term "political ecology" to refer to two rather distinct approaches to the study of environmental politics.¹ Geographers and anthropologists studying resource use behavior and environmental change use it to refer to a set of approaches that allow us to understand the social, economic, and political dynamics that contribute to specific resource use and management behaviors (Blaikie and Brookfield 1987; Bryant and Bailey 1997; Burwell 1995; Grossman 1993; Moore 1993; Peet and Watts 1996). With

¹ In a recent search of articles and books labeled "political ecology," a colleague and I identified four strands of literature that contribute to the field of political ecology. One strand, dominated by development geographers and economic anthropologists, sees political ecology as a means for incorporating micro-level power dynamics and environmental change at multiple scales into macro-level political economy analyses (c.f. Blaikie and Brookfield 1987; Bryant 1997; Castree 1997; Moore 1993; Peet and Watts 1993; Rocheleau et al. 1996; Watts and Peet 1996). A second strand, dominated by cultural ecologists working in Third World settings, sees political ecology as a means for a more explicit incorporation of national, regional, and global socio-political dynamics into locale-specific analyses of environmental change (c.f. Burwell 1995; Grossman 1993; Johnson 1991). A third strand emanates from medical ecology, is much smaller in scope and draws from both political economy and cultural ecology to examine the public health consequences of medical and health policies, primarily in Third World contexts (Baer 1996; Gruenbaum 1996; Leatherman 1996; Mayer 1996). A fourth strand, dominated by sociologists and political scientists with links to new left schools of thought, focuses on the role of environmental movements in national and international politics and the degree to which environmentalist and Green political movements in post-industrial societies cut across class boundaries (c.f. Gorz 1993; Martinez-Alier 1995). The cultural ecology, political economy, and medical ecology strands overlap considerably in terms of the questions they address and approaches they use to analyze those questions and thus collectively can be viewed as constituting one major strand.

a handful of exceptions (Tisdale 1997; Hansis 1998; Emery 1998), these types of political ecology studies address environmental degradation, natural resource use and management, or environmental conflicts in Third World settings. A second branch of political ecology has developed within the fields of environmental history, environmental sociology, and political science among scholars working predominately on environmental issues in post-industrial societies. These scholars use the term "political ecology" more narrowly to refer to the transformative possibilities of environmental movement involvement in national, regional, and global politics (Gorz 1993; Martinez-Alier 1995).² Currently these two sets of literature remain fairly distinct, but there is a growing area of overlap centered around a common interest in environmental movements and discourses about nature, biodiversity, and sustainability (Escobar 1999; Castree 1997). I use the term political ecology here in the sense employed by scholars and practitioners in the fields of development geography and anthropology. This meaning of political ecology is broad enough to encompass both the struggles between the U.S. Forest Service and wild mushroom pickers and buyers and the political role of the environmental movement in defining and supporting the ecosystem management concept as a guiding principle for managing the country's national forests.

² The overlap that exists between the approaches and questions emanating from the political ecology literatures rooted in political economy, cultural ecology, and medical ecology traditions, is perhaps due to the primarily international development focus that all three share. By contrast, much less overlap exists between these three strands and the political ecology works focusing on environmentalism and Green politics in post-industrial societies. However, political ecologists working in predominately Third World settings, such as Escobar (1999) and Peet and Watts (1996), have started to draw upon the works of political ecologists working in post-industrial settings. Interestingly, however, political ecologists studying post-industrial environmental issues rarely cite the political ecology literature that has Third World environmental issues as its focus.

In the following section, I begin by exploring the historical roots of political ecology in the disciplines of geography and anthropology. I follow this discussion with a summary of political ecology's major themes and analytical strategies. Three issues – questions regarding scales of analysis, the nature of social actors, and the relationship between social structure and human agency – constitute the primary analytical preoccupation of many political ecologists. I thus briefly outline the ways in which political ecologists seek to address these questions. I end the section with a summary of some of the major gaps in the political ecology literature, and a brief statement as to which of those gaps my work seeks to fill.

The Roots of Political Ecology

Political ecology, in the sense that most geographers and anthropologists use it, is a fusion of the concerns and approaches of political economy and cultural ecology (Burwell 1995; Grossmann 1993; Leatherman 1996; Mayer 1996; Pickles and Watts 1992; Peet and Watts 1996; Rocheleau et al. 1996). Cultural ecology focuses on the role of culture in mediating human interactions with environments; political economy focuses on uneven patterns of development and capital accumulation with an emphasis on the social relations of production "that provide the realms of possibility and constraint for managing environmental resources" (Pickles and Watt 1992:310).

In the field of cultural ecology, political ecology emerged as a response to critiques that cultural ecology analyses were flawed because they focused on human-environmental interactions at very localized levels and rarely addressed the larger social, economic, and political forces that influence local resource use and management decisions (Burwell 1995; Leatherman 1996; Grossmann 1993; Peet and Watts 1996). In addition, cultural ecologists were criticized for emphasizing biophysical factors in human uses of local environments and neglecting the role of political and economic factors in resource use and decision making (Grossmann 1993; Peet and Watts 1996; Leatherman 1996; Burwell 1995; Sheridan 1988). Grossmann argues, for example, that:

[H]uman-environment relations at local, regional, and global scales can be understood only by analyzing the relationship of patterns of resource use to political-economic forces. Thus it is relevant to inquire how patterns of resource-use are influenced by state policy, penetration of the market, and patterns of surplus extraction, accumulation, and differentiation (Grossmann 1993: 348).

Critics of traditional cultural ecology studies contend that by ignoring the important role of non-local political and economic factors in local resource user decision-making such studies tend to support a "blame the victim" syndrome (Grossmann 1993; Leatherman 1996). Environmental degradation is thus often incorrectly attributed to overpopulation, ignorance, or irrationality on the part of resource users (Grossmann 1993). By expanding the scale of analysis to national, regional, and global scales and by focusing more explicitly on the interplay between resource use and power differentials within and between societies, political ecologists have been able to demonstrate that environmentally damaging resource management behaviors are often products of larger-scale political, social, economic, and environmental factors over which resource users may have very little control (Black 1990; Burwell 1995; Grossmann 1993; Leatherman 1996).

At the same time that cultural ecologists were struggling to develop approaches that would allow them to situate localized resource use in wider contexts, political economists were looking for ways to incorporate local resource politics into their traditionally macro-level accounts of the determinants of resource use patterns and social change (Blaikie and Brookfield 1987; Bryant 1992; Peet and Watts 1996). In addition, they also were seeking an analytical framework that would allow them to explore more fully the interplay between social and economic structures and social actors, such as the state, businesses, associations, and resource users, who shape and are shaped by those structures (Moore 1993; Rocheleau et al. 1996; Peet and Watts 1996).

Blaikie and Brookfield's (1987) book, *Land Degradation and Society*, was one of the earliest efforts by political economists to explicitly specify the elements of a

political ecology approach. Blaikie and Brookfield were concerned with answering two questions: "Why do land management failures occur and how are those failures perceived by different segments of society?" The authors had tried to answer these questions using a political economy approach, in which they focused on demonstrating the connections between environmental degradation and national and international distributions of access and control to land, labor and capital. However, they found that political economy's preoccupation with macro-level relationships and socio-economic structures was inadequate for explaining locale-specific variations in land manager responses and environmental change. In Blaikie and Brookfield's (1987:17) view what was needed was an approach that "combines the concerns of ecology and a broadly defined political economy" so that it could better capture "the constantly shifting dialectic between society and land-based resources, and also within classes and groups within society itself." They labeled this approach "regional political ecology."

In the decade since Blaikie and Brookfield's foundational work on political ecology was published, a wide variety of works calling themselves political ecologies have been published. In a recent critique of an article written by Arturo Escobar on the importance for political ecologists to recognize nature as a social construction, Brosius (1999: 16-17) notes the emergence of a newer form political ecology that is heavily influenced by poststructuralist theory:

Broadly, however, it is possible to recognize two primary forms [of political ecology]. The first...represents a fusion of human ecology with political economy. It takes as its point of departure the existence of an unproblematic material/ecological base and a series of actors, differentially empowered but with clear interests, contesting the claims of others to resources in a particular ecological context. Opposed to this is a form of political ecology informed by poststructuralist social theory and represented by the work of Watts, Rocheleau, and others. What most characterizes this perspective is that it takes "nature," as well as the identities and interests of various agents, to be both contingent and problematic.

My work on the political ecology of wild mushrooms falls into Brosius' second category -- not only do I point out the different ways in which different social actors involved in wild mushroom politics construct nature, but I also illustrate the multi-dimensional nature of the two major social actors – wild mushroom pickers/buyers and the “state” (acting primarily through the U.S. Forest Service) – multi-dimensionality that simultaneously enhance the ability of “the state” to extend its control over the wild mushroom world, while opening up fault lines that provide potential points for pickers and buyers to re-negotiate the terms of state control over the wild mushroom domain.

Themes of Political Ecology

The power of the various political ecology approaches is demonstrated by the increasing number of scholars who use them to study a variety of topics dealing with human-environmental interactions in places as disparate as Indonesia (Peluso 1992); Madagascar (Jarosz 1996); the Caribbean (Rocheleau and Ross 1995); Columbia (Escobar 1996); Portugal (Black 1990); and the United States (Emery 1998; Hansis 1997; Tisdale 1997). Bryant and Bailey (1997) categorize the work of political ecologists into five major thematic categories: 1) identifying the social, economic, and political causes of specific environmental problems, such as soil erosion or deforestation; 2) analyzing the role of ideas and discourses in the development and implementation of environmental policy; 3) exploring the links between political and ecological problems at a regional level; 4) examining the relationship between socio-economic characteristics, such as class, gender, or ethnicity, and environmental conflict or management behavior; and 5) developing an understanding of the ways in which the interactions between and among social actors, such as resource users, the state, corporate firms, affect environmental policy, management, and conflict. Many political ecologists address more than one of these themes simultaneously.

Given the varied intellectual roots and thematic topics that comprise political ecology, what, if anything, do these studies have in common? Stonich (1999:24) sums up the commonalities in this diverse body of literature as follows (my italics):

Although efforts to define the evolving field of political ecology are far from complete, anthropologists, geographers, political scientists, and other *scholars generally use the political ecology framework to understand how environmental and political forces interact to affect social and environmental changes through the actions of various social actors operating at different scales (levels of analysis)*. Recently, political ecologists have expanded their domain to include considerations of history, gender, social movements, and discursive formations. *Much of the analysis centers on the role of power in mediating the relations among diverse interest groups and/or social/cultural actors*. Such power is manifest in the relative abilities of actors to control access to and use of environmental resources, to transfer environmental risk to other actors, and to affect certain policies and projects (often partly through the control of public discourse).

Thus the main task of the political ecologist is to reveal how power relations operating at multiple scales shape environmental use and management behavior (Mayer 1996; Moore 1993; Peluso 1992; Grossman 1993; Bryant 1997). To do this, political ecologists commonly make use of many of the following analytical strategies:

- 1) Focusing first on the land user or household level and working up to national, regional, and global scales through the construction of chains of explanations of the factors that influence site-specific resource use and management patterns (Blaikie and Brookfield 1987; Black 1990; Grossman 1993);
- 2) Demonstrating linkages between social, economic, political, and environmental factors that affect site-specific resource use and management patterns (Grossman 1993; Bryant and Bailey 1997; Peet and Watts 1996; Rocheleau et al. 1996);
- 3) Incorporating historical depth to demonstrate the dynamic nature of the links between power relations and resource use and management (Neumann 1998; Bryant and Bailey 1997; Peet and Watts 1996);
- 4) Deconstructing categories of social actors, such as "the state," "peasants," and "businesses" as a way to demonstrate the complexities of

social interactions involved in resource use and management (Bryant and Bailey 1997; Moore 1993; Neumann 1998; Peet and Watts 1996).

- 5) Focusing attention on an interactive, two-way relationship between social and economic structures and human agency (Rocheleau et al. 1996; Peet and Watts 1996; Bryant and Bailey 1997).

In the next two sections, I briefly examine the ways in which each of the above strategies contribute to political ecology analyses. Points 1-3, which are concerned with issues of scale, are discussed first. Points 4 and 5, which concern the nature of social actors and the relationship between social structure and human agency, are discussed second.

Linking Scales and Units of Analysis

One of the strong points of political ecology is its insistence that locale matters in terms of furthering our understandings of human-environmental interactions. Political ecology's major analytical task, therefore, is to demonstrate *how* it matters. It does this by examining the ways in which socio-ecological processes and structures at a variety of spatial and temporal scales link together,³ and by exploring how different

³ In this respect political ecology bears a strong resemblance to environmental history, which historians are increasingly using to examine the intersection between culture and ecological change (c.f. Cronon 1983; Cronon 1991; White 1995; McEvoy 1992 etc.). Political ecology differs, however, from environmental history in its foregrounding of current power relations and environmental use and management. It also differs from environmental history in that political ecologists tend to rely much more heavily upon ethnographic methods, such as participant observation and interviews, for gathering data than is typically (although not always) the case with environmental historians. The distinction between the fields of environmental history and political ecology, however, is increasingly blurred as many political ecologists incorporate historical data into their work (c.f. Bryant 1997; Jarosz 1996; Neumann 1998; Peluso 1992). Similarly, environmental historians are increasingly beginning to incorporate ethnographic methods to incorporate on-going processes of environmental change into their analyses.

articulations of social, economic, environmental, and political factors affect land use management and socio-economic conditions (and vice versa).

To understand these interactions, Blaikie and Brookfield advocate constructing "chains of explanation" that begin with the land manager and move out to progressively larger political, economic, and environmental scales:

[Analysis] starts with the land managers and their direct relations to the land...Then the next link concerns their relations with each other, other land users, and groups in the wider society who affect them in any way, which in turn determines land management. The state and the world economy constitute the last links in the chain (Blaikie and Brookfield 1987:27).

This approach bears a strong resemblance to Vayda's 'progressive contextualization' approach (Vayda 1983), a research technique developed by cultural ecologists to "explain why people use the environment in particular ways" (Peluso 1992:51). However, Peluso (1992) argues that political ecology differs from progressive contextualization in that it assumes that local resource users are always affected by larger structures and processes, and in its foregrounding of socially situated actors rather than human collectivities.

The chain of explanation approach is useful in that it forces one out of a simplistic micro-macro dualism, and thus highlights the multiplicity of scales at which human-environment interactions occur. To use a film metaphor, instead of being limited to the two fields of view made possible by interchanging a regular and a telephoto lens, the chain of explanation provides greater flexibility by functioning as a zoom lens. With this lens one can focus in on the details of an individual and then gradually widen the field of view to provide a sense of where that individual is situated relative to other social actors and the biophysical environment. The time dimension of political ecology is captured in another metaphor - instead of depicting the world as either a still-life or landscape painting, political ecology accounts bear a closer resemblance to historical movie dramas, which capture the dynamic nature of individuals and societies. As in

photography, the representation one provides of actors and events using this zoom lens approach will vary depending upon the focal lengths one chooses. What political ecology accounts share, however, is a concern for situating land conflicts historically, and for linking seemingly localized conflicts to wider economic, political, and environmental processes (Mayer 1996).

Structure and Agency

Another potential, but as yet only partially realized, strength of political ecology is its assumption that social structures and human agency exist in an interactive, two-way relationship and that an understanding of both is important to understanding environmental and social change. Many political ecologists claim to be moving away from political economy's emphasis on structural explanations. In Moore's view, however, "much of the political ecology literature continues to employ macrostructural frameworks" (Moore 1993:381). Writing several years later, Bryant and Bailey (1997:25) reiterate the need for political ecologists to take a more actor-oriented approach to their work:

It seems to us that there are two things that are at the heart of any meaningful understanding of politics: (1) an appreciation that politics is about the interaction of actors over environmental (or other) resources; (2) a recognition that even weak actors possess some power to act in the pursuit of their interests. The former point suggests that politics is a process in which actors partake and play a central role; indeed, that the interaction of actors is the very stuff of politics...The second point elaborates this suggestion by signaling our belief that Third World political ecology must continue its movement away from 1980s structuralism and towards a full appreciation of the role of agency in human affairs.

Feminist political ecologists, most of whom draw strongly from poststructural social theory, are in the forefront of the movement to incorporate human agency into political ecology analyses. Speaking of the case examples included in their book, *Feminist Political Ecology*, Rocheleau et al. (1996:289) note that:

All the cases draw attention to both local agency and local creativity, as well as issues of scale and the interconnections among local, regional, national, international, and global phenomena. They demonstrate ways in which women on the periphery of state or local power are defining and redefining their situations, albeit under formidable constraints. They portray women actively engaged in protesting, interpreting, and reinterpreting their needs, their environmental concerns, and the issues pertaining to the security and well-being of their families, households, and communities.

Such analyses are useful, because they illustrate the interactive, two-way relationship between structure and agency: agency may be constrained and shaped by economic and political structure, but as Moore (1993:383) notes, "dominant meanings are always contested, never totalizing, and always unstable."

To develop a more complex understanding of structure and agency, Moore (1993:381) advocates focusing on "the micropolitics of peasant struggles" and "the symbolic contestations that *constitute* those struggles." By doing so, scholars can begin deconstructing structures and social actors (i.e. "the state," "farmers," "TNCs") that have typically been treated as if they were monolithic entities. For example, Moore's (1993) analysis of land conflicts in Zimbabwe as struggles over meanings (in addition to being struggles over access rights to productive resources) provides a convincing argument that the state is not monolithic but rather is made up of socially situated actors whose implementation of state policies can be influenced by appeals to symbolic cultural meanings.

Attempts to apply a political ecology framework to studies of human-land use interactions have broadened notions of which social actors ought to be included in such studies. Clearly the roles of states (in their new multi-faceted versions) and capitalist economic structures (also multi-faceted) are important (Bryant:1992). But as Bebbington's (1993) study of agricultural development in Ecuador and Adams' (1990) discussion of the "greening of development" illustrate, elements of civil society, such as NGOs, religious associations, and political associations, are also important political

players and need to be incorporated more fully into analyses of environmental and social interactions.

This new concern with the role of civil society, coupled with a focus on micropolitics and struggles over meaning, shifts attention to the ways in which cultural norms and values are created, maintained, and re-negotiated through discourse and through the knowledge-power networks that create and disseminate ideas and symbolic meanings (Yapa 1993). The structures that make up these networks, and the processes by which they expand and contract are thus important objects of investigation for political ecologists (Escobar 1999; Peet and Watts 1996; Rocheleau et al. 1996; Braun and Castree 1998). Through paying attention to the ways in which social actors employ discourse, and use their positions within knowledge systems to further desired cultural norms, values and constructions of nature, political ecologists are able to provide a richer understanding of the micropolitics of resource management and conflicts.

Gaps in the Political Ecology Literature

The most obvious gap in the political ecology literature is that very few analyses have been done of power relations and environmental use and management in post-industrial societies. Although political ecology originated out of concerns about poverty and environmental degradation in Third World societies, political ecological analyses are open as to which scales, structures, social agents, and power relations are important for any given time and situation. Theoretically it is thus perfectly feasible to use this framework to explore similar concerns in post-industrial societies. To date, only a handful of such studies have been done (Black 1990; Emery 1998; Hansis 1996; Tisdale 1997).

A second aspect of political ecology that requires more in-depth development is its treatment of politics (Bryant and Bailey 1997; Moore 1993; Peet and Watts 1996; Rocheleau 1996). In the words of Peet and Watts, "particularly striking is the fact that *political* ecology has very little *politics* in it. There is no serious attempt at treating the means by which control and access of resources or property rights are defined,

negotiated, and contested within the political arenas of the household, the workplace, and the state" (Peet and Watts 1996:8-9). Although an increasing number of scholars are attempting to fill this gap, considerable more work needs to be done.

By the same token, other scholars argue that political *ecology* often has little *ecology* in it. Vayda (1999), for example, argues that political ecology is mostly about natural resource politics. Most political ecologists, in his view, do an inadequate job of considering non-political and economic factors in their analyses of environmental change. Although less extreme in her criticism than Vayda, Stonich expresses concern that "an overemphasis on constructivist discourse analysis may diminish the concern for the material issues that first provoked the emergence of political ecology" (Stonich 1999:24). She also critiques constructivist political ecologists for failing to incorporate new notions of ecology, such as disequilibrium and chaos theory, into their analyses (Stonich 1999:24).

In applying a political ecology framework to analyze the process of how state control over wild mushrooms is being extended and contested in central Oregon I seek to address the above gaps in the political ecology literature in three ways. First, my work expands the empirical literature in political ecology by adding an additional case to the small list of cases in which political ecologists examine resource conflicts in a post industrial economic context. Second, my work contributes theoretically to the politics aspect of political ecology by formally integrating Foucault's theory of disciplinary power into political ecology analysis. Third, my analysis incorporates dynamic equilibrium ecology into a political ecology framework, and thereby illustrates how the dynamic nature of ecological systems influences (and is shaped by) environmental politics.

Section 2 - Disciplinary Power

Power is about politics, not just in the formal sense but more broadly, about the politics of everyday life (Clegg 1989:149).

While political ecology provides a useful framework for thinking on a broad level about what kind of data, and what scales and units of analysis need to be included to understand the dynamics of wild mushroom politics at Sisters, the political ecology literature lacks a coherent view about the specific mechanisms of power and how they work to shape the fields of power in which resource systems are embedded. I thus turned to the literature on power and state control to identify a theoretical framework that would be useful in analyzing the specific mechanisms and processes by which the American nation-state, acting primarily through the agency of the U.S. Forest Service, has been able to expand and consolidate its control over wild mushrooms in the Pacific Northwest.

During the past three centuries, Western political theorists have relied primarily upon models of power based on the concept of sovereignty and the theory of right to analyze questions related to politics (Ransom 1997:11-13; Clegg 1989:4). The focus on sovereignty and the laws that emanate from sovereign institutions has led many scholars of politics and power in the United States to foreground formal political structures and institutions, as well as formal laws and legal structures, in their analyses.

To analyze the everyday and informal politics and power operating in the wild mushroom world, I needed a model of power that theorizes how everyday politics and power work. I thus turned to the work of Michel Foucault, in which he examines how the exercise of disciplinary power enabled the 19th century French state to gain widespread influence over people's everyday lives in the domains of medicine, education, criminal justice, and health.

According to Foucault, disciplinary power operates through the use of disciplinary technologies aimed at remolding and reshaping individuals to behave in certain ways of

their own volition (Foucault 1980:39). He identifies five primary disciplinary technologies, which have to be applied simultaneously in order for disciplinary power to have the desired effects (Foucault 1979; Foucault 1980:95-108):

- Categorization of the population into distinct groups,
- Separation of groups and enclosure of each group into a distinct area;
- Establishment of a documenting apparatus for keeping track of individuals within groups,
- Construction of a panopticon surveillance system to facilitate monitoring and enforcement of the rules governing individual behavior,
- Professionalization, through certification of individuals and through the development and application of scientific knowledge aimed at facilitating categorization of individuals and groups and at monitoring and tracking their behavior.

The categorization and separation process ensures that each individual has an assigned task or place, while the development of monitoring and tracking systems creates the possibility that individuals can be held accountable for their actions. The use of a panopticon surveillance system, in which individual and group behavior is monitored on a constant and regular basis, encourages individuals to conform to the required rules of their own volition, since they never know when they will be a specific target for monitoring. As I will illustrate in subsequent chapters, disciplinary power has played an important role in bringing the wild mushroom world at Sisters and elsewhere in the Pacific Northwest under state control.

In this section, I first summarize the main elements of the three models of democratic power -- the classical liberalist/pluralist, two-dimensional, and three-dimensional models -- that underlie most analyses of natural resource politics in the United States. Although the three models posit somewhat different forms of public involvement in policy-making, all three models are based upon the concept of power as

something invested in a sovereign ruler. I include a discussion of these models because they serve as the source of the primary assumptions that shape prevailing forest management and public participation discourse and practices. Yet, as I will explore further in this section, the utility of these models for understanding the dynamics of power within the prevailing state natural resource management regime in the United States is questionable.

I contrast these models with Foucault's strategic model of power, which he asserts began to displace sovereign power in the 17th and 18th century (Foucault 1980:105; Foucault 1979:170-194). Foucault used this model to analyze how disciplinary power gradually extended into and "colonized" a variety of social realms, ranging from education to prisons to health and medicine.

I then examine the work of two geographers, Michael Hannah (1993) and Don Mitchell (1996), who have applied Foucault's disciplinary power model to the study of land and labor conflicts in North America. Hannah uses the model to understand the process by which the American nation-state gained control over the Oglala Lakota in the 1870s; Mitchell uses it to study the American nation-state's efforts to control migrant farmworkers in California prior to World War II. I conclude that Foucault's strategic model of power is applicable to the domain of forest management in North America, and in particular, is extremely useful for helping us understand the process by which access to forest understory products, including wild mushrooms, in the Pacific Northwest has increasingly come under the control of the American state.

Sovereignty Models of Power

1. Classical Liberal/Pluralist Model of Power

The classical liberal model of power draws heavily from the writings of Thomas Hobbes and his contemporaries (Clegg 1989:21-38). In this model, humanity is conceived as having originally lived in a state of nature with no collective structures to restrict individual behavior. Governments emerged when individuals got together and

agreed to submit to the authority of a sovereign entity in return for protection of their lives and property (Ransom 1997:12). In feudal times, sovereign authority was vested in the person of a king, queen or other ruling figure (Clegg 1989:26-27). From the Enlightenment onward, the locus of sovereignty in much of the western world gradually shifted from monarchies to representative democratic state governments.

Robert Dahl, a 20th century American political theorist whose pluralist theory of politics draws heavily on the classical liberal tradition, states that “A has power over B to the extent that he can get B to do something that B would otherwise not do.” (Dahl in Clegg 1989:69). According to the tenets of classical liberal political theory, power is legitimate when it originates in the consent of the governed and when its objectives are visible and understood to all (Ransom 1997:13). Consequently, proponents of this model of politics stress the importance of fair elections open to all citizens and formal decision-making processes that are open to public view, and ideally, accessible to broad public participation. In the environmental policy arena, classical liberals and pluralists focus attention on opening up administrative decision-making processes to public view and participation. For example, classical liberalist views of power are reflected in the National Environmental Policy Act, which requires public comment on proposed federal actions and the National Forest Management Act which requires public involvement in forest planning. Classical liberalists also support laws that “level the playing field,” such as the Federal Advisory Committee Act, or that make information more accessible, such as the Freedom of Information Act.

2. Two-Dimensional Model of Power

From the 19th century onwards, political theorists have critiqued the classical liberal model, noting the existence and importance of an informal and non-visible dimension of power (Schattschneider 1960; Bachrach and Baratz 1970; Kingdon 1984). Bachrach and Baratz (1970), for example, assert that the ability to prevent others, whether consciously or unconsciously, from participating in policy debates and thus limiting the scope of the debate, is an important form of power. In other words, power is

not limited to having the ability to make policy decisions in formal political arenas that constrain the behavior of others, it also consists of having the ability to limit the issues allowed to appear on formal policy agendas (Bachrach and Baratz 1970). Groups or individuals with access to informal and formal policy forums and with recognized claims to expertise that allow them to influence what items end up on policy agendas (and which do not), are thus able to exert more control over society than those who lack such access or claims to expertise. Power thus consists of A's ability to limit the scope of B's participation in public political processes, as well as A's ability to get B to do something B would otherwise not do (Dyrberg 1997:54). We thus have "two faces of power." The first is the pluralist assertion that 'power is exercised when A participates in the making of decisions that affect B.' The second, which enlarges the scope of power, emerges 'when A devotes his energies to creating or reinforcing social and political values and institutional practices that limit the scope of the political process to public consideration of only those issues which are comparatively innocuous to A.

According to Dyrberg (1997:54), the key distinction between these dimensions of power is that in the 2nd dimension, "the political comes 'before' the differentiation between events and nonevents, rather than being the 'result' of the differentiation, where events are located in the political and nonevents in the social."

Subsequent work by Kingdon (1984) provides empirical examples of how various groups, such as the media, administrative officials, academic researchers, and Congressional staffers, are able to shape the substance and direction of many policy agendas in the United States. In the natural resource management domain, Gaventa's (1980) analysis of power and decision-making in Appalachia provides a classic example of how a corporation was able to head off threats to its economic domination of Tennessee's coal-mining district for decades by limiting the kinds of issues that were brought into the polling booth or public decision-making forums.

Environmental policy reforms based on the two-dimensional model of power typically seek to broaden the scope of participation in informal decision-making and

pre-decision making processes. Such reforms include requirements for agencies to hold scoping meetings prior to launching environmental assessment and planning processes. the creation of ad-hoc councils with representatives from a broad range of interest groups, and measures to increase workforce diversity within government agencies. Thus, like classical liberals and pluralists, adherents of the two-dimensional model of power seek to level the playing field. The difference, however, is that the playing field under the two-dimensional model view is conceived of more broadly than under the classical liberal/pluralist model in that it includes both formal and informal decision-making and pre-decision making processes.

3. Three-Dimensional Model of Power

In his essay, *Power: A Radical View*, Steven Lukes (1974) takes Bachrach and Baratz' critique of the classic liberal model of power one step further. He proposes a radical model of power in which there are three dimensions to power: a formal and visible dimension as reflected in laws, regulations, and the public debates in which those are developed; an informal and invisible dimension in which elites act deliberately to keep certain items out of the public arena; and an ideological dimension in which power consists of the ability of a ruling class to shape people's thoughts and views as well as their decisions and behaviors. Power in this model thus includes A's ability to shape B's thoughts through the "production of myths, information control, [and] ideologies" (Clegg 1989:110).

Gaventa (1980:90-96) picks up this ideological domination theme in *Power and Powerlessness: Quiescence and Rebellion in an Appalachian Valley*, when he illustrates how the socio-cultural conditions of the area he studied created a culture in which the very idea that one could rebel against the working conditions imposed by the coal company had become literally "unthinkable." In a similar vein, McEvoy (1986) illustrates how during the early 20th century, scientific ideological commitment to the idea that the key to fish protection consisted of controlling the interaction between

harvesters and prey led to virtual silence about policy options that would have limited land use activities such as mining and marshland reclamation.

Political solutions proposed by analysts of this third dimension of power focus on creating societies or decision-making forums in which power is exercised equally by all. These solutions range from supporting revolutionary movements that seek to replace existing stratified societies with a politically unstratified society (i.e. the Marxist solution) to advocating the establishment of political dialogue forums where communication can take place among equals and thus real interests can emerge through deliberative reasoning (c.f. Kemmis' (1990) *Community and the Politics of Place*; Reich's (1988) *The Power of Public Ideas*; Habermas' (1989) *The Structural Transformation of the Public Sphere: An Inquiry into A Category of Bourgeois Society*. Consensus group forest management groups, such as the Applegate Partnership and the Quincy Library Group, constitute examples of third-dimensional power solutions in action in late 20th century forest management in North America.

Assumptions of Sovereignty Models of Power

Despite the differences between these three models of power, all are predicated upon an understanding of power as something that stems from a sovereign, whether the sovereign is a monarch, a pluralistic democratic state, or a ruling class:

[Power is seen]... as a locus of will, as a supreme agency to which other wills would bend, as prohibitory; the classic conception of power as zero-sum; in short, power as negation of the power of others. At its most subtle, with the hegemonic and three dimensional approaches, this was to unravel into conceptions of power which penetrated into the very thoughts and consciousness of others. A form of supremely sovereign will was thus constituted from which there could seem to be no escape (Clegg 1989:4).

In all three models, power is unitary in the sense that even when delegated, the authority to exercise power at all levels stems from a single sovereign (Foucault 1980:95). Power in these models is conceived of as something that can be held, taken

away, or shared with others (Foucault 1980:98). It is primarily repressive in nature, and its major function is to control undesirable forms of behavior on the part of its subjects (Ransom 1997:14-17). Disobedient subjects are coerced into obedience through the application of penalties, with death as the ultimate sanction (Foucault 1979:3-69).

Historically, policy analysts and political theorists working within sovereign power frameworks have centered their attention on questions related to the legitimate use of power, which in turn is linked to the theory of rights (Foucault 1980:102-105). Subjects are assumed to be autonomous moral agents who have given their consent to be governed by a sovereign ruler or state; the legitimate exercise of power thus rests on the presumption of prior consent by sovereign subjects:

With regard to political power, in particular, the most influential traditions of modern political thought have been especially concerned with questions of sovereignty and of legitimacy, and they have identified the most significant effects of political power with reference to the condition of those who are regarded, at least in principle, as autonomous moral agents. As a result, the imposition of power is seen as legitimate if it is based on the real or implied consent of such persons. All other impositions are seen either as illegitimate or, at best, as bearing on persons who are regarded as less than fully autonomous and therefore as being without the capacity either to give their consent or to withhold it." (Hindess 1996:96)

In sovereign models of power, the use of power is thus considered to be limited only to those domains or activities over which individuals have agreed to relinquish their rights over decision-making to a sovereign. In theory, the ruler or state has no legitimate grounds for exercising rights in domains that fall outside these agreed upon aspects of life. The legal system serves to codify those areas where subjects have relinquished their rights to self-governance and to specify the domains over which and manner in which the exercise of sovereign power is permissible (Foucault 1980:95). Power, which operates through and whose limits are codified in the law, is thus seen as operating discontinuously and at specific points, rather than being something that is ubiquitous and constantly in operation (Foucault 1980:104-105). Not surprisingly, much of the

work done by scholars operating within sovereign power assumptions focuses heavily upon the formal and informal aspects of how laws are made and applied.

The Strategic Model of Power

Where Hobbes and his successors may be said to have endlessly legislated on what power is, Machiavelli and his successors may be said to have interpreted what power does (Clegg 1989:5).

Hobbes' and his successors' notions of power as linked to sovereignty contrast starkly with an alternative view of power elaborated by Machiavelli in the 16th century. Rather than focusing on what power is, where it comes from, and whether its exercise is legitimate, Machiavelli examined in detail the strategies, contingencies, and organizations that characterized the operations of power in the Italian city-state of Florence during the early 1500s (Clegg 1989:5). As Clegg notes in his comparison of Hobbes and Machiavelli's writings on power, for Machiavelli power is fluid, flexible, and everywhere, rather than something that is fixed in its nature and linked to a sovereign:

Power does not belong to anyone nor to any place; it is not something that princes necessarily have; it is no Leviathan. Power is simply the effectiveness of strategies for achieving for oneself a greater scope of action than for others implicated by one's strategies. Power is not any thing nor is it necessarily inherent in any one; it is a tenuously produced and reproduced effect which is contingent upon the strategic competencies and skills of actors who would be powerful (Clegg 1989:33).

Largely ignored by prominent Western political theorists during the past five centuries, Machiavelli's model of power as non-unitary, strategic, contingent, and "embedded in many diverse forms of practice" (Clegg 1989:33) re-emerged in the works of French social theorists in the 1970s and 1980s. Of these works, Michel Foucault's writings on power and his descriptions of the relentless expansion of the state into the nooks and crannies of everyday life are probably the most widely read and

most hotly debated. Social scientists are increasingly using Foucault's strategic model of power to explore the ways in which power relations permeate everyday life (Darier 1999a and 1999b; Darier 1996; Mitchell 1996; Hannah 1993).

Disciplinary Power, Biopolitics and Governmentalization

Foucault rejects the sovereignty model of power as inadequate for understanding the exercise of power in modern state societies. He argues that with the gradual collapse of the feudal system and the advent of industrial capitalism in the 17th and 18th century, sovereign power was increasingly displaced by a new form of power focused on producing particular kinds of individuals:

In the seventeenth and eighteenth centuries a form of power comes into being that begins to exercise itself through social production and social service. It becomes a matter of obtaining productive service from individuals in their concrete lives. And in consequence, a real and effective "incorporation" of power was necessary, in the sense that power had to be able to gain access to the bodies of individuals, to their acts, attitudes and modes of everyday behavior (Foucault 1980: 125).

Foucault (1979:170-194) refers to this new form of power as "disciplinary power." Disciplinary power operates through the use of a series of technologies aimed at remolding and reshaping individuals to behave in certain ways of their own volition (Foucault 1979:195-228; 154-160). Disciplinary technologies include the establishment of hierarchies and classification systems so that each individual has an assigned task or place, the use of monitoring and tracking systems so that individuals know that they can be held accountable for their actions, and the constant and regular application of control (Foucault 1980:146-165; Foucault 1979:135-228).

The sovereign power models also share in common a belief that knowledge and power comprise two separate spheres. Foucault challenges this assumption noting that while distinct, power and knowledge are so closely intertwined that it makes more sense to lump them into one term, "power-knowledge":

[For Foucault] knowledge is not gained prior to and independently of the use to which it will be put in order to achieve power (whether over nature or over other people), but is already a function of human interests and power relations...Foucault accordingly labels what he is studying 'power/knowledge'. The slash suggests that for his purposes power and knowledge are not to be studied separately. From his perspective there is little point in speaking even about the relation between knowledge and power, since these are not so readily distinguishable (Hoy 1986:129).

Foucault argues that in the realm of disciplinary power, there is a constant articulation between power and knowledge with the need of each for the other creating an ever-expanding web of power-knowledge that filters into ever smaller interstices of everyday life:

Now I have been trying to make visible the constant articulation I think there is of power on knowledge and of knowledge on power. We should not be content to say that power has a need for such-and-such a discovery, such-and-such a form of knowledge, but we should add that the exercise of power itself creates and causes to emerge new objects of knowledge and accumulates new bodies of information. One can understand nothing about economic science if one does not know how power and economic power are exercised in everyday life. The exercise of power perpetually creates knowledge and conversely, knowledge constantly induces effects of power (Foucault 1980:51-52).

In other words, the use of disciplinary power requires knowledge about humans and their behavior. As disciplinary techniques are practiced and their inefficiencies noted, a demand is created for the production of more specific knowledge about humans and their behavior under certain conditions. This knowledge in turn reshapes disciplinary technologies, which are then put into practice. When their shortcomings are revealed, additional knowledge is produced to address them, and so forth (Hindess 1996:115-116).

Discourse, and the use of discursive formations, is one important way in which knowledge claims are linked into systems of power:

[Discourse] brings objects into being by identifying them, delimiting their field, and specifying them, as when psychiatry declares schizophrenics to exist and to be the objects of psychiatric therapies. Objects of knowledge are defined in ways that converging practices can use: the practices of the criminologist, the psychiatrist, the hospital administrator, and the legislator. Thus a discursive formation unites thought and practice in a seamless and circular web: Practices set the conditions for discourse and discourse feeds back statements that will facilitate practice (Wolin 1998:184).

Discourse is thus an important element in Foucault's model of power – it connects thoughts with practice and thus can be used strategically to influence existing fields of power. And while knowledge is not identical with power, it is so intimately linked with power that knowledge production processes, the acceptance of certain kinds of knowledge over others, and the ways in which different types of knowledge are and can be used, form an integral part of any understanding of power.

In his later works, Foucault situates the extensive use of disciplinary technologies, and the production of knowledge that underlies and reinforces them, into a category of politics which he labels “biopolitics” and which he asserts became increasingly prevalent in the European states and Great Britain during the 16th and 17th centuries. In contrast to sovereign power's preoccupation with obedience, biopolitics is concerned above all with techniques and technologies of power that facilitate caring for and controlling individuals and populations located within the boundaries of the state:

The old power of death that symbolized sovereign power was now carefully supplanted by the administration of bodies and the calculated management of life...Hence there was an explosion of numerous and diverse techniques for achieving the subjugation of bodies and the control of populations, marking the beginning of the era of “biopower” (Foucault 1990:139-140)

Thus, the 16th and 17th centuries saw the development of increasingly complex state administrative apparatuses through many parts of Europe. Chief among these apparatuses were police systems whose job “was the articulation and administration of

techniques of bio-power so as to increase the state's control over its inhabitants" (Dreyfus and Rabinow 1983:139). Not only did the focus of the state's actions with respect to its citizens change but so too did the domains in which state intervention began to be considered justifiable:

State power had previously centered on men as subjects with rights and duties. Now the police were concerned with men in their everyday activities, as the essential components of the state's strength and vitality (Dreyfus and Rabinow 1983:139).

A central feature of biopolitics was the development and expanded use of norms that make it possible to ensure the welfare of individuals and populations on a large-scale and in a continuous manner. As biopolitics became more widespread, Foucault asserts that norms, rather than law, began to take precedence in exercises of power:

...[A] power whose task is to take charge of life needs continuous regulatory and corrective mechanisms. It is no longer a matter of bringing death into play in the field of sovereignty, but of distributing the living in the domain of value and utility. Such a power has to qualify, measure, appraise, and hierarchize, rather than display itself in its murderous splendor; it does not have to draw the line that separates the enemies of the sovereign from his obedient subjects; it effects distributions around the norm (Foucault 1990:144).

In his later work, Foucault notes that he is not saying that the legal system has disappeared, or is in the process of disappearing, but rather that its mode of operation and societal importance has shifted:

I do not mean to say that law fades into the background or that the institutions of justice tend to disappear, but rather that the law operates more and more as a norm, and that the judicial institution is increasingly incorporated into a continuum of apparatuses (medical, administrative, and so on) whose functions are for the most part regulatory. A normalizing society is the historical outcome of a technology of power centered on life (Foucault 1990:144).

Foucault notes further that one of the important aspects of biopower is that it serves to regulate the conduct of both individuals and populations as invisibly as possible and with an economy of force (Foucault 1980:156-57). The use of disciplinary technologies, which are designed to produce individuals who behave in desired ways without even realizing that their behavior has been molded, was and remains an important factor in the spread of biopolitics to virtually every domain of social life (Foucault 1991a:100-103).

Foucault contends that the expansion of biopolitics as an important form of political interaction has been a critical element in what he refers to as the “governmentalization” of the state. By governmentalization of the state, he means:

First, that the activities of the state have increasingly taken the form of *government* – that is, of attending to the *conduct* of its subjects as distinct from relying on *ad hoc* interventions, law-enforcement and straightforward domination – and secondly, that the state itself has been subsumed as a set of instruments within broader programs of government (Hindess 1996:109).

Government, as Foucault uses the term, refers to “certain less spontaneous exercises of power over others...and particularly, to the use and invention of technologies for the regulation of conduct” (Hindess 1996:106). Government in Foucault’s view is “concerned with managing the population of the state and the institutions, organizations and processes which that population encompasses” (Hindess 1996:112). Consequently, in contrast to the sovereign power model where the state *is* the government, in Foucault’s strategic model of power, “the agencies of the state appear as one, albeit significant, set of instruments of government amongst others, and as part of the population that is to be governed” (Hindess 1996:112).

Foucault notes that tensions exist within the governmental framework that has become so prevalent in the 20th century. He attributes these tensions to the simultaneous existence of incompatible rationalities of government in western societies (Foucault 1990:138-145). On the one hand, government has the welfare of its population as its

main concern and thus “the aim of government is to promote the well-being of its subjects by means of detailed and comprehensive regulation of their behavior” (Hindess 1996:118). This “pastoral” view of the aim of government, however, exists in tension with liberal rationality

...the liberal rationality of government regards the liberty of its subjects as an indispensable element of government itself. This view marks a radical departure from the ‘pastoral’ rationality that characterizes the theory of police. Where police regulation involves making people do what is good for them, even when they may not see it as such, the liberal commitment to liberty requires that they be allowed to choose what is good for them (Hindess 1996:128).

The central problem of government in 20th century western societies then is how to reconcile these two competing rationalities: how to provide subjects freedom of choice, while simultaneously ensuring that their choices will be the “right” ones.

The disciplinary techniques that helped further the expansion of biopolitics and governmentalization of the state were not new, having previously formed the basis of military training and the religious orders. However, he argues that a fundamental shift in the characteristics of power occurred as the efficacy of these techniques intensified and their use spread throughout a variety of social realms where they had previously been absent (Foucault 1980:125; Foucault 1990:36-49; Foucault 1991a:87-104). He links the spread of industrial capitalism to the development and expansion of the use of disciplinary power techniques as a means for nation-states to establish control over the populations within their territories (Foucault 1979:218-221). As industrial forms of production began to replace craftwork and as large-scale farming and livestock production led to ever-increasing restrictions on access to the commons, controlling the movement and activities of displaced craftworkers, farmers, and herders became a major concern of the monarchical states of England and France (Foucault 1979:218-221).

Over the course of two centuries, the western European nation-states developed policing and administrative infrastructures and practices to ensure the health and

welfare of the populations within their territories. Simultaneously, these control measures served to produce a workforce with the skills needed by the emerging industries of the industrial revolution:

[Foucault] contends that it was the disciplinary technologies which underlay the growth, spread, and triumph of capitalism as an economic venture. Without the insertion of disciplined, orderly individuals into the machinery of production, the new demands of capitalism would have been stymied. In a parallel manner, capitalism would have been impossible without the fixation, control, and rational distribution of populations on a large scale...(Dreyfus and Rabinow 1983:135).

Foucault notes that the use of disciplinary technologies within a regime of disciplinary power differs from their use in a regime of sovereign power in three crucial ways (Foucault 1979:218-221). First, unlike sovereign power which relies upon a show of force for its effectiveness, disciplinary techniques strive to achieve the exercise of power with the least visibility and the lowest possible economic cost. Second, where sovereign power is exercised only sporadically and over a relatively small percentage of the population, disciplinary techniques are used in ways that intensify and extend the field of operation of power as much as possible. Third, these technologies are used to link disciplinary power to "the output of apparatuses (educational, military, industrial or medical)" (Foucault 1979:218) so as to enhance the "docility and utility of all the elements of the system (Foucault 1979:218)." Disciplinary power is directed at shaping to the extent possible, thoughts and behaviors of *all* members of society so that individuals and groups will unconsciously act in ways that accord with societal laws and norms (Foucault 1979:195-228).

Looking Beyond Sovereignty

Foucault argues that in order to understand how power works, we need first to "cut off the king's head" (Foucault 1980:121). By cutting off the king's head, he means that we need to disabuse ourselves of the notion that the sort of power embodied in constitutions and laws is the only kind of power that is worth paying attention to:

One impoverishes the question of power if one poses it solely in terms of legislation and constitution, in terms solely of the state and the state apparatus. Power is quite different from and more complicated, dense and pervasive than a set of laws or a state apparatus (Foucault 1980:158).

Foucault maintains that if we wish to understand the workings of power, we need to look beyond the sovereign, whether the sovereign be a king, a ruling oligarchy, or a democratic state, and focus our attention instead on the much more ubiquitous disciplinary power that figures so prominently in 20th century societies:

The crucial point of Foucault's political theory is that discipline escapes the world of law and right – and then begins to 'colonize' that world, replacing legal principles with principles of physical, psychological, and moral normality. ...And the code by which this machinery operates is a scientific, not a legal code. The function of discipline is to create useful subjects, men and women who conform to a standard, who are certifiably sane or healthy or docile or competent, not free agents who invent their own standards, who, in the language of rights 'give the law to themselves' (Walzer 1986:59).

Foucault goes on to question the validity of the concept of a legitimate state in a society where disciplinary power has so thoroughly colonized the state and legal apparatuses (Walzer 1986:54). If, as Foucault argues, the state can no longer be viewed as the locus of power, and particularly as the locus of legitimized power, then any attempts at political reform have to focus not merely on changing state apparatuses, but also on changing the mechanisms of power that operate outside those apparatuses:

...one of the first things that has to be understood is that power isn't localized in the State apparatus and that nothing in society will be changed if the mechanisms of power that function outside, below and alongside the State apparatuses, on a much more minute and everyday level, are not also changed (Foucault 1980:60).

Foucault's point about the importance of power based outside the realm of sovereignty is an argument that Weber also made with respect to bureaucracies.

However, Hindess (1996:135-136) notes that Foucault takes Weber's argument several steps further:

...first, by insisting that significant aspects of the work of government are conducted outside the state bureaucracy and secondly, by pointing to forms of power associated with other (non-bureaucratic) forms of expertise such as accountancy, economics and psychiatry. On this view, then, there is far more to government in the modern West than most of us have normally been prepared to acknowledge: there is, in other words, considerable 'political power beyond the state.'

Foucault emphasizes that disciplinary power has displaced, but not replaced, sovereign power over the course of the last two centuries. He notes that this period was a time when many western countries experienced the growth of a formally egalitarian juridical framework. However, he asserts that the simultaneous spread of disciplinary power resulted in the development of a "dark side" or "underside" to the law that supports the maintenance of the juridical systems based upon the notion of sovereignty:

...the development and generalization of disciplinary mechanisms constituted the other, dark side of these processes. The general juridical form that guaranteed a system of rights that were egalitarian in principle was supported by those tiny, everyday, physical mechanisms, by all those systems of micro-power that are essentially non-egalitarian and asymmetrical that we call the disciplines. And although, in a formal way, the representative regime makes it possible, directly or indirectly, with or without relays, for the will of all to form the fundamental authority of sovereignty, the disciplines provide, at the base, a guarantee of the submission of forces and bodies (Foucault 1979:222).

Rather than replacing other forms of power, discipline "...colonizes them, linking them together, extending their hold, honing their efficiency, and 'above all making it possible to bring the effects of power to the most minute and distant elements' (Dreyfus and Rabinow 1983: 153). Foucault notes a connection between the spread of democratic institutions and the extension of disciplinary power:

The juridical systems – and this applies both to their codification and to their theorization – have enabled sovereignty to be democratized through the constitution of a public right articulated upon collective sovereignty, while at the same time this democratization of sovereignty was fundamentally determined by and grounded in mechanisms of disciplinary coercion (Foucault 1980:105).

The irony, however, is that as the reach of disciplinary power expands, the areas in our lives that fall within the realm of democratic rule grow increasingly smaller. And where disciplinary power and sovereign power collide, the only recourse we have is to the right of sovereignty since that is what our laws are based upon. Yet because disciplinary power is based on norms, not on rights, it is exceedingly difficult to limit its exercise.

The result of the spread of disciplinary power was the establishment and extension of mechanisms of power that permeate the social body, much as capillaries carry blood to the furthest extremities of a human body:

But in thinking of the mechanisms of power, I am thinking rather of its capillary form of existence, the point where power reaches into the very grain of individuals, touches their bodies and inserts itself into their actions and attitudes, their discourses, learning processes and everyday life. The eighteenth century invented, so to speak, a synaptic regime of power, a regime of its exercise *within* the social body, rather than *from above* it (Foucault 1980:39).

Disciplinary power thus resembles Lukes' third dimension of power in that it shapes people's very thoughts, as well as influencing their behavior. It differs, however, in that it doesn't originate in a ruling class that seeks to dominate other social classes, but rather is the result of local attempts to deal with particular issues of social control (Foucault 1980:159). While Foucault acknowledges that such power is exercised with specific aims and objectives, he asserts that there is no one individual or group that "runs the show":

....neither the caste which governs, nor the groups which control the state apparatus, nor those who make the most important economic decisions

direct the entire network of power that functions in a society (and makes *it* function); the rationality of power is characterized by tactics that are often quite explicit at the restricted level where they are inscribed....tactics which, becoming connected to one another, attracting and propagating one another, but finding their base of support and their condition elsewhere, end by forming comprehensive systems: the logic is perfectly clear, the aims decipherable, and yet it is often the case that no one is there to have invented them, and few who can be said to have formulated them: an implicit characteristic of the great anonymous, almost unspoken strategies which coordinate the loquacious tactics whose "inventors" or decision-makers are often without hypocrisy (Foucault 1990: 95).

Consequently, although patterns of domination emerge from the local exercise of power, power is not the exclusive domain of dominant groups or classes, but is something that circulates and is to some extent exercised by everyone.

Methodological Implications

In addition to developing an alternative to the sovereignty model of power, Foucault simultaneously lays out the elements of a methodology for conducting what he calls an "analytics of power." The problem that Foucault saw was this: because sovereignty models of power presume that the state is the locus of power, power is studied primarily through the lens of state institutions, including such things as elections, public hearings, the development and implementation of laws and regulations, and so forth. If, however, Foucault is correct in his assertion that disciplinary power is far more ubiquitous, and perhaps more important in its effects on individuals and populations than sovereign power, then understanding how power works in our society requires a very different approach both in terms of what is studied and how it is studied.

Foucault (1980:95-103) identifies five methodological precautions that he believes are critical in the study of how power works:

- 1) We should look at power as it is exercised at the extremities, rather than at the presumed center of society (i.e. the state);

- 2) We should look at how power is exercised rather than whether its exercise is legitimate or why it is exercised;
- 3) We should look at power as something that circulates, and that exists everywhere rather than being localized in certain segments of society; we also must look at the individual as an effect of power rather than as an object of power (i.e. in other words, we must pose the question “what kinds of subjects does this form of power being exercised produce?”);
- 4) We should do an ascending analysis of power, starting by observing exercises of power at the farthest extremities of society and working our way up to the highest levels of the state and even to the level of the international regimes of power, rather than beginning from the top and working our way down;
- 5) We must include knowledge among the things we look at when we study power. Among other things, this would include studying “the production of effective instruments for the formation and accumulation of knowledge – methods of observation, techniques of registration, procedures for investigation and research, apparatuses of control” (Foucault 1980:102).

Foucault also emphasizes the importance of looking at the historical origins of current-day practices of power. He calls his approach “genealogy.” Although genealogy looks at history, its purpose is not to construct histories for the sake of understanding the past (Foucault 1991b:75). Rather the aim of genealogy is to show that what we think is self-evident and natural is instead merely the product of a series of contingent events and interconnections whose outcome could have been otherwise (Foucault 1991b:75). For example, Foucault developed a genealogy of the French prison in order to show that the modern-day practice of imprisoning transgressors of the law, a practice which we have come to accept as a given of criminal justice systems, is, in fact, only a relatively recent phenomenon in western society (Foucault 1991b:75).

Unlike most historical accounts, genealogical accounts are developed specifically for the purpose of transforming practices in the present that we take for granted. By showing the social origins of and the precarious foundations of practices we consider natural and self-evident, the genealogist transforms the unquestioned into “something that is “present-to-hand” and a proper subject for critical reflection (Ransom 1997:81).” Thus genealogy, as Foucault conceives it, is directed not merely at illustrating the ways in which power operates, but much more importantly, it carries the potential to be used as a tool in resistance and oppositional strategies (Ransom 1997:94-95).

Mechanisms of Disciplinary Power

Much of Foucault's work is devoted to illustrating how disciplinary power works, and to demonstrating its generalizability as a form of power across several social domains. The following five techniques figure prominently among the mechanisms of disciplinary power:

- 1) Configuring space so as to enclose and separate individuals and populations from each other;
- 2) Configuring space in ways that permit a large number of individuals to be watched by a minimum number of watchers in an unobtrusive way;
- 3) Setting into place a documentary apparatus that enables the authorities to gather and keep track of data about individuals and populations over time;
- 4) Establishing systems for categorizing and ranking individuals within a population (a process that Foucault refers to as “normalization”); and
- 5) Setting in place systems for testing and licensing individuals for their proficiency at a given set of tasks or for their knowledge of a particular domain (i.e. the process of professionalization).

Mechanisms 1-3 together constitute the technique of surveillance, which is fundamental to the successful exercise of disciplinary power (Foucault 1979:195-228). In describing the development of the modern penal system and the growth of

disciplinary power, Foucault notes the critical importance of Jeremy Bentham's idea for a model prison, known as the Panopticon, in allowing disciplinary power to spread (Foucault 1979:200-204). Although Bentham's prison was never constructed, the principles on which it was based have been widely utilized in subsequent prison architecture, as well as for a variety of other types of buildings and institutions, including schools, military training camps, and hospitals, where disciplinary power has figured prominently (Foucault 1979:195-228; Foucault 1980:146-165).

The panopticon is based on the principles of separating the individuals to be watched into individually occupied cells, configuring the cells in such a way that they are all visible from a central observation point, and constructing the observation point such that the watcher is invisible to those being watched (Foucault 1980:147-148). The watcher thus can watch a large number of people at one time, and even more important, since the persons being watched cannot ever be sure that whether they are being watched or not, they will tend to act as if they were being watched, even if no one is occupying the observation point (Foucault 1980:147-148). As Foucault points out, this spatial configuration of observer and observees greatly reduces the cost of controlling the individuals under surveillance:

There is no need for arms, physical violence, material constraints. Just a gaze. An inspecting gaze, a gaze which each individual under its weight will end by interiorising to the point that he is his own overseer, each individual thus exercising this surveillance over, and against himself. A superb formula: power exercised continuously and for what turns out to be a minimal cost(Foucault 1980:155).

The beauty of the panopticon system from the standpoint of disciplinary power is that it can be modified in various ways to fit other social situations besides prisons:

It is polyvalent in its applications; it serves to reform prisoners, but also to treat patients, to instruct schoolchildren, to confine the insane, to supervise workers, to put beggars and idlers to work. It is a type of location of bodies in space, of distribution of individuals in relation to one another, of hierarchical organization, of disposition of centres and

channels of power, of definition of the instruments and modes of power, which can be implemented in hospitals, workshops, schools, prisons. Whenever one is dealing with a multiplicity of individuals on whom a task or a particular form of behavior must be imposed, the panoptic schema may be used (Foucault 1979:205).

A key difference between traditional forms of power based on sovereignty and disciplinary power is that where sovereign power is most effective when it is visible, disciplinary power works best when the objects of power are made visible, but the operation of power itself is invisible:

Now, it is power itself which seeks invisibility and the objects of power – those on whom it operates – are made the most visible. It is this fact of surveillance, constant visibility, which is the key to disciplinary technology (Dreyfus and Rabinow 1983:159).

In Bentham's panopticon, the surveillance system relied upon a particular distribution of watchers and prisoners in a special configuration of space to establish and maintain visibility. Surveillance systems, however, can also be established in ways that do not rely upon the partitioning of space or particular spatial distributions of the controllers and those being controlled:

Surveillance, whether personal, technical, bureaucratic or legal, is the central issue. Its types may range through forms of, for instance, supervision, routinization, formalization, mechanization and legislation, which seek to effect increasing control of employees' behaviour, dispositions and embodiment, precisely because they are organization members. However, surveillance is not simply about such direct control. It may range from cultural practices of moral endorsement, enablement and suasion to more formalized technical knowledge. At one particular level of application, these can include the use of new technologies such as computer monitoring of keyboard output and efficiency or low cost drug-testing systems. At another, more general level, one may be dealing with the development of disciplines of knowledge shaped almost wholly by the 'disciplinary gaze' of surveillance (Clegg 1989:191).

The persons upon whom disciplinary power operates are made visible and kept visible through systems that first document their existence and then track them through various parts of their lives. The documentary apparatus serves a second function aside from tracking individuals – through the knowledge accumulated about individuals and stored in files, the information needed to begin categorizing people into sub-groups and ranking those sub-groups in terms of relevant management criteria (e.g. dangerously insane, mildly insane, mentally stable, etc.) is made available:

A vast, meticulous documentary apparatus becomes an essential component of the growth of power. The dossiers enable the authorities to fix a web of objective codification. More knowledge leads to more specification. This accumulation of individual documentation in a systematic ordering makes” possible the measurement of overall phenomena, the description of groups, the characterization of collective facts, the calculation of gaps between individuals, their distribution in a given population (Dreyfus and Rabinow 1983:159).

Foucault refers to this process of categorization of individuals and then assigning a rank to the categories (i.e. normal, deviant, etc.) as “normalization” (Foucault 1979:177-184; Foucault 1990:144). He argues that it is through use of the technologies of normalization in conjunction with surveillance mechanisms that the state is able to exert control over ever-smaller interstices of everyday life (Foucault 1979:195-228). The normalization process simultaneously sets into motion a demand for the intensification of the use of disciplinary technologies and other technologies of biopower by creating abnormalities that require treatment and reform (Foucault 1990:36-49). This requires the development of increasingly detailed knowledge about individuals and populations, and sets into motion a process whereby what were once considered political problems become transformed into technological problems (Foucault 1991a:99-102). As a result, ever larger aspects of social life become redefined as appropriate areas for expert intervention, and thus appropriate sites for the use of disciplinary power practices:

The spread of normalization operates through the creation of abnormalities which it then must treat and reform. By identifying the

anomalies scientifically, the technologies of bio-power are in a perfect position to supervise and administer them. This effectively transforms into a technical problem – and thence into a field for expanding power – what might otherwise be construed as a failure of the whole system of operation. Political technologies advance by taking what is essentially a political problem, removing it from the realm of political discourse, and recasting it in the neutral language of science. Once this is accomplished the problems have become technical ones for specialists to debate. In fact, the language of reform is, from the outset, an essential component of these political technologies. Bio-power spread under the banner of making people healthy and protecting them. When there was resistance, or failure to achieve its stated aims, this was construed as further proof of the need to reinforce and extend the power of the experts....We are promised normalization and happiness through science and law. When they fail, this only justifies the need for more of the same (Dreyfus and Rabinow 1983:195-196).

Another important aspect of disciplinary power is that it seeks to fix individuals and groups in space and time, thus making it easier to keep track of individuals and groups. As Foucault notes, discipline “....fixes; it arrests or regulates movements; it clears up confusion; it dissipates compact groupings of individuals wandering about the country in unpredictable ways...” (Foucault 1979: 219). It was no coincidence that the use of disciplinary power techniques in England and France expanded greatly at a time when both nations were struggling with how to deal with the vast numbers of itinerant workers displaced from agriculture and craft occupations by policies favoring the establishment of industrial agriculture and manufacturing concerns. Prisons, insane asylums, workhouses for the poor, factories – all served to literally fix itinerant workers and displaced peoples in place (Foucault 1979:218-221).

Resistance and Opposition in a Disciplinary Society

The suggestion is, then, that we live in a world of disciplinary projects, many of which cut across other such projects, and all of which suffer from more or less successful attempts at resistance and evasion. The result is a disciplinary, but hardly a disciplined, society (Hindess 1996:118).

According to Foucault's analytics of power, practices and relations of power are ubiquitous in society. Who we are and what we think is in large part a function of the operation of these practices of power on our bodies and minds, most of which we are unaware of as we go about our daily lives. At first glance, Foucault's analysis seemingly offers little room for a life free from oppression or for resistance and opposition to unwanted domination. Power is everywhere, and there is no escaping it. Moreover, unlike sovereign models of power which assume a realm of knowledge that exists outside of power relations, the strategic view of power offers us no neutral domain of knowledge that can provide a point for mounting resistance and opposition. Knowledge, and specifically knowledge within the human and social sciences, is inextricably intertwined with the operation of disciplinary power.

A more careful reading of Foucault's analytics of power, however, reveals that there are several points for a positive view of his claim that power exists everywhere, as well as points where resistance and opposition to relations of domination can be pursued. First, the fact that power exists everywhere is not the same thing as saying that oppression exists everywhere. Indeed, one of the key features that distinguishes Foucault's view of power from traditional views of power is his assertion that power is not just repression (Hoy 1986:144). What makes power effective, he argues, is that it is productive:

If power were never anything but repressive, if it never did anything but to say no, do you really think one would be brought to obey it? What makes power hold good, what makes it accepted, is simply the fact that it doesn't only weigh on us as a force that says no, but that it traverses and produces things, it induces pleasure, forms knowledge, produces discourse. It needs to be considered as a productive network which runs through the whole social body, much more than as a negative instance whose function is repression (Foucault 1980:119).

Lacombe maintains that Foucault's productive notion of power "...is best understood in terms of a 'mechanism for life' that includes strategies for self-

development that both constrain – through objectifying techniques – and enable – through subjectifying techniques – agency” (Lacombe 1996:334).

Foucault also maintains that resistance is inherent in power relations, that the very existence of power relations “depends on a multiplicity of points of resistance: these play the role of adversary, target, support, or handle in power relations. These points of resistance are present everywhere in the power network (Foucault 1990:95).”

Resistance, however, has to be conceived of in a much different way than it has been historically theorized in traditional models of power based on presumptions of sovereignty. In Foucault’s model of power, resistances “are formed right at the point where relations of power are exercised; resistance to power does not have to come from elsewhere to be real, nor is it inexorably frustrated through being the compatriot of power” (Foucault 1980:142). Resistances, like power relations, are irregularly distributed in society: they are multiple, heterogeneous, and often transitory; only occasionally do they take the form of major cleavages or revolutions:

...[resistances] too are distributed in irregular fashion: the points, knots, or focuses of resistance are spread over time and space at varying densities, at times mobilizing groups or individuals in a definitive way, inflaming certain points of the body, certain moments in life, certain types of behavior. Are there no great radical ruptures, massive binary divisions, then? Occasionally, yes. But more often one is dealing with mobile and transitory points of resistance, producing cleavages in a society that shift about, fracturing unities and effecting regroupings, furrowing across individuals themselves, cutting them up and remolding them, marking off irreducible regions in them, in their bodies and minds. (Foucault 1990:96).

Foucault offers us little hope of a transforming revolution that can overcome oppressive power relations on a society-wide basis in a relatively short period of time. However, that does not mean that he offers no hope for changing systematic patterns of domination. In his later works, he outlines two important avenues by which resistance and opposition to dominating and oppressive power relations can be mounted. These avenues consist of the practices of strategic reversibility and genealogy.

In *The History of Sexuality*, Foucault (1990:100-102) introduces the concept of “strategic reversibility” as a mechanism by which relations of domination can be resisted or opposed. He uses the example of how a series of discourses developed in 19th century France to portray homosexuality as criminal and medically unsound behavior. In the 20th century, gay rights supporters developed a reverse discourse in which “homosexuality began to speak in its own behalf, to demand that its legitimacy or “naturalness” be acknowledged, often in the same vocabulary, using the same categories by which it was medically disqualified” (Foucault 1990:101). The weakness of this type of reverse discourse, according to Ransom, is that while it rejects the negative moral valuation assigned to the category, it accepts the existence of the category itself (Ransom 1997:84). Foucault himself sees strategic reversibility as limited in its long-run effectiveness because such reversals can be relatively easily counter-blocked (Ransom 1997:84).

Another strategy for resistance that Foucault identifies as useful in situations involving the use of disciplinary power is genealogy, a task which he believes intellectuals can contribute towards:

What the intellectual can do is to provide instruments of analysis, and at present this is the historian’s essential role. What’s effectively needed is a ramified, penetrative perception of the present, one that makes it possible to locate lines of weakness, strong points, positions where the instances of power have secured and implanted themselves by a system of organization and dating back over 150 years. In other words, a topological and geological survey of the battlefield – that is the intellectual’s role (Foucault 1980:62).

Genealogy’s important role in resistance is tied to the key role that knowledge plays in the operations of modern power:

Knowledge of various kinds plays a key role in the formation and constitution of disciplines: categorizing knowledge, which divide the sane from the insane; productive knowledge, which invent and stimulate sexuality; confessional knowledge, which gives power access to individuals’ inner lives. Because of the importance of knowledge in the

functioning of modern power, it is perhaps natural that genealogy – which provides its own kinds of knowledge – should be looked to as an important element in developing strategies that will counter the knowledge-based forms of power dominant today (Ransom 1997:84).

In essence, genealogy transforms knowledge claims, and the status that is attached to them, into objects of critical reflection and thus opens up new possibilities for political change (Ransom 1997:84).

Section 3 - Applying Disciplinary Power

A small, but growing body of empirical literature is developing among cultural geographers and anthropologists that supports Foucault's theories about power-knowledge, and the widespread use of disciplinary power as a means by which nation-states exert control over natural resource domains. The following section examines two studies by historical geographers in which the workings of the disciplinary power model are explored in North American contexts (cf. Darier 1996, 1999a and 1999b). The first case, published in an article by Matthew Hannah (1993), analyzes the mechanisms by which the U.S. Bureau of Indian Affairs gained control over the Oglala Lakota in the Dakota Territory in the 1870s. The second case, recounted by Don Mitchell (1996) in *The Lie of the Land: Migrant Workers and the California Landscape*, conducts a similar analysis of attempts by various levels of government in California to exert control over migrant farmworkers in the state's Central Valley during the early 20th century.

As Hannah points out, most of Foucault's work deals with the control of people who are either "normal" citizens or institutionalized populations. His work and Mitchell's, however, address the question of how states exert control over mobile populations. In the case of the Oglala Sioux, the issue of controlling a mobile population is further compounded by the resistance of the Oglala to the idea that the American state should be controlling them at all.

Hannah notes that the control of space, and the reconfiguring of the spatial distribution of the Oglala in their daily and annual activities constituted a key strategy that enabled the American government to eventually control the Oglala. The

development of administrative procedures that rendered individual Oglala visible to the Indian Agent in charge of distributing rations to the Oglala, and allowed him to track their presence and absence, also played a key role in the ability of the government to extend its control over the Oglala. This visibility made social control of the Oglala possible by allowing the three key mechanisms of social control – observation, judgment and enforcement – to reinforce each other, leaving few spaces for effective resistance.

Initially the “resolution” of the administrative gaze was quite low – the government differentiated only some 90 “principal men” of the encampments and was unable to identify or track the remaining 6,000-8,000 younger men, women, children, and elders. The army’s first step to gain control over the Oglala consisted of labeling all Indians found off-reservation as “hostiles,” and thus subject to imprisonment, despite the treaties which authorized the Oglala to hunt buffalo off-reservation. However, without either an effective surveillance or enforcement system, the government’s objective of turning the Oglala into sedentary agriculturalists could not be accomplished. As Hannah notes:

Neither surveillance nor enforcement could work independently of the other. While confinement to the reservations was at this stage of the game a necessary condition for both, it was sufficient condition for neither (Hannah 1993:421).

At a loss for how to obtain raiding tribe members once they had returned to their encampments, the Indian Agency on the reservation turned to the food rationing system as the means by which to establish a surveillance and enforcement mechanism for keeping tribal members confined to the reservation. Instead of issuing whole beef to heads of extended households, as had been customary, in 1876 the Agent shifted to a family rationing system:

The need to collect rations would bring individuals within the official field of vision *as individuals*; the wrongdoers among them could then be identified and denied rations. This plan constituted the first official

attempt at efficient “staging” of the Oglalas, that is making up for inability to observe everyone all the time by concentrating the official gaze on one location or activity through which all must pass (Hannah 1993:423).

The Oglala objected strongly, in part because butchering in advance meant that they did not receive the entrails, which the young men shared amongst each other in camp, and in part because the Oglala were highly averse to signing any written materials and were opposed to being counted. The Agency viewed counting their charges as a critical aspect in controlling them:

...the possibility of a reliable enumeration of Oglalas went hand in hand with the destruction of their traditional culture, and both were predicated upon spatial subdivision and fixation (Hannah 1993:423).

As Hannah points out, by linking enumeration, spatial subdivision, and fixation, the agency was eventually able to establish a web of surveillance and enforcement that enabled it to meet its goal of destroying the traditional culture. In the interim, however, the agency also sought to win over the Oglala by co-opting the “principal men,” in the hopes that they would then use their authority to keep control of their own people. The cooptation policy failed as soon as the agency shifted to family rationing, since the bulk of authority on the part of the chiefs rested upon their having control over the distribution of rations within their sub-group. Importantly, as part of the 1874 census that made possible the 1876 family rationing program, the Agent relied upon the assistance of a small number of Oglala warriors. Thus, the American nation-state’s control over the Oglala was made possible in part because members of the tribe became a part of the control system. In effect they became the “eyes and ears of the Agent” (Hagan in Hannah 1993:426):

Suddenly, the government’s surveillance capabilities reached down much closer to the individual level. Although the size of the police force did not allow any more than sporadic observation of most Oglalas, officers could draw on their family connections, friendships and acquaintances to learn much. The capacity to punish misconduct was

greatly enhanced because for the first time it was possible to apprehend Indian suspects...Most important in the long term, for the first time, all three moments of the cycle of social control (observation, judgment, and enforcement) were under the jurisdiction of the same government department (Hannah 1993:426).

Hannah notes that although in hindsight the system of control over the Oglala has the appearance of having been designed as a coherent system that could be imposed smoothly, the reality is that the Indian Agency developed and put together the different elements over a period of nearly a decade, and that the Oglala, realizing the threat to their freedom, fiercely resisted each new element.

Like Hannah, Mitchell (1996) emphasizes the importance link between spatial control and the ability of the nation-state to control a mobile farmworker population. However, unlike the Indian Agency which sought to transform the mobile Oglala into sedentary farmers, the state and federal agencies interested in supporting the growth of California's industrial agricultural sector sought to exert control over farmworkers in a way that still facilitated the continuance of a highly mobile labor force:

Mobility of labor had been entrenched in the California system of agriculture almost from the start. Both the creation of huge landholdings in the early American period and the intensification of agriculture after 1880 had created an agricultural landscape of both stunning monotony – in which holdings of several hundred thousand acres were not unusual and in which whole districts were given over to a single crop – and stunning diversity – where up and down the state crops matured at different times and demanded a short burst of highly intensive work to gather oranges or lettuce or grapes before the crops rotted (Mitchell 1996:58).

To accomplish this, various federal and state agencies worked together with large-scale agricultural enterprises to construct a series of spatially dispersed labor camps, a registration system for camp residents, and the development of a labor espionage system. The nation-state's effort to control labor in California began after the Wheatland Riot in 1913, in which a number of laborers were killed and injured when the local sheriff and his deputies sought to break up an IWW gathering on one of the

local ranches infamous for abusive labor practices (Mitchell 1996:38-40). Subsequently local officials, ranchers, farmers, and administrators with various agencies of the State of California demonized IWW members and any other suspected labor organizers, a category into which they placed migratory workers as a whole, as “psychological aberrants,” revolutionaries, and agitators intent on destroying the country’s social fabric (Mitchell 1996:44-45). Carleton Parker, the Executive Secretary of the California Commission of Immigration and Housing at the time of the Wheatland Riot, began the effort to control migrant workers by persuading large agriculturalists to establish camps meeting state specifications for cleanliness and comfort, and by setting up an undercover espionage system to gather “basic data on the lives, mores, and customs of migratory laborers” as well as keeping tabs on the IWW organizers (Mitchell 1996:46).

In Parker’s view, migrant workers were innately inferior, and militant laborers were not only biologically inferior, but mentally ill besides. However, he believed that they could be made docile through the development of sanitary living environments in which the “workers could be healed and made content” (Mitchell 1996:50). He proposed to accomplish this healing process, and therefore domestication process, through the construction of clean and well-organized labor camps:

Good camps, properly constructed and maintained, eliminated the ‘soldiering of discontented workers’. The construction of model camps was therefore a means of disciplining workers, replacing their tendency to rebel with a sense of satisfaction within the system as it existed (Mitchell 1996:51).

Control of the mobile workforce, however, required more than camps. Because of their mobility, workers could remain relatively invisible, since they were not required to stay in camps, nor did the first CCIH camps have a system for tracking the comings and goings of individual workers. The invisibility fostered by mobility, thus presented a problem in terms of the state’s ability to control migrant workers:

...modern power demands a fixity in place, so that each individual can be catalogued and accounted for. Surveillance in the modern world is

predicated on fixing individuals to specific “addresses,” making them accountable for specific spaces. Uncontrolled, constant mobility removes people from the policing gaze of the state (or other powerful interests), making the job of control that much more difficult (Mitchell 1996:60).

From the worker organizer’s standpoint, mobility was a tool that enabled workers, and organizers, to remain invisible and thus “mobility itself became a tool of class warfare” (Mitchell 1996:65):

The mobility of militant labor provided the pathways for connecting sundry place-based struggles, but it also did more. It took hold of the established spatial practices of industrialized agriculture and other resource-based industries in western North America and utilized them for its own purposes. Here lay the very subversiveness of mobility. By connecting place-based struggles, migratory workers were able to transcend the spaces and places of their oppression: they were able – at least potentially – to rattle the patterns that underlay capitalist productivity (Mitchell 1996:66).

To counter the workers’ use of mobility as a subversive strategy, Parker and the CCIH made use of a network of labor spies. The labor espionage system had its origins in Parker’s desire to obtain information about migrant workers’ lives as part of a series of scientific studies about labor conditions to be used in support of the camp construction program, the program soon became a way for the CCIH to keep track of militant laborers (Mitchell 1996:73).

As labor unrest continued through the 1920s, growers relied increasingly on the camps as a means for controlling workers. Balfour-Guthrie Investment Company, for example, built a model labor camp in 1929 surrounded by a double fence and guarded by a caretaker that allowed them “greater surveillance over its workers” (Mitchell 1996:166). In the 1930s, one of the larger growers worked out an arrangement with the local sheriff to make sure that they registered all workers arriving in the area. The grower then refused to hire workers who did not fill out the registration forms. At the same time, the sheriff developed an informant network among the workers to learn about worker rallies in advance. In short, through using a combination of worker camps,

registration requirements, and the informant network, the California growers, working in conjunction with state and county agencies and law enforcement officials were able to keep migrant farm workers from organizing effectively throughout the 1930s (Mitchell 1996:156-175).

Several key points emerge from these two cases. First, both cases illustrate that disciplinary power has and can be used effectively to control mobile populations. In both cases, the techniques of disciplinary power are mobilized and combined to link actions to specific individuals at specific places and times. This gives the surveillance system a fine level of resolution, enhancing the ability of the state to shape behavior at the individual level. Second, both examples illustrate the systemic nature of disciplinary power – the presence of one element in itself is not enough for power to operate effectively. Rather it is the deployment of the various elements together – categorization, enclosure, documenting apparatus, panopticon surveillance structure, and professionalization – that ultimately enabled the state to control the Oglala Lakota and the migrant farmworkers. Third, in both cases the presence of an informant network within the population itself played a critical role in the ability of the state to gather the information needed to monitor and track these two populations. The state was also able to take advantage of fissures in the population, and use those as points to simultaneously gain support within the populations while minimizing the effectiveness of resistance efforts.

Section 4 - Political Ecology and Disciplinary Power

A comparison of the key ideas expressed by Foucault with those expressed by political ecologists reveals many commonalities. The following list sums up the major areas of overlap:

- 1) A concern for analyzing the workings of power from the bottom up, starting with studying the politics of everyday life;
- 2) A concern for understanding the historical processes which underlie current power dynamics;

- 3) A view of social actors as heterogeneous, multi-dimensional, and culturally embedded;
- 4) A view that social structure and human agency exist in an interactive two-way relationship with each other;
- 5) Among post-structuralist political ecologists, the view that discourse and knowledge systems constitute an integral part of politics and thus need to be included in any analysis of the workings of power.

What then does adding disciplinary power theory to the political ecology framework gain us? I suggest that it allows us to begin addressing the gap in political ecology noted by Peet and Watts (1996:8-9) in the statement that “political ecology has very little politics in it.” By politics, they are referring to “the means by which control and access of resources or property rights are defined, negotiated, and contested” within various political arenas (Peet and Watts 1996:8-9). Integrating Foucault’s disciplinary power model into a political ecology research framework provides a means for clarifying how disciplinary technologies which are generally only partially effective when applied piecemeal can become exceedingly effective at enhancing the control of state scientific management regimes, and the various social actors implicated in those regimes, over natural resource domains. As an example, political ecologists working in positivist traditions critique post-structuralist political ecology for an excessive concern with discourse analysis (Stonich 1999:24), a concern which often is informed directly by Foucault’s work on discourse and power/knowledge. However, while discourse is certainly an important element in environmental politics, it gains considerably more effectiveness when linked to other technologies of disciplinary power (Foucault 1979:195-228). Our understanding of how state control expands and is maintained over various natural resource domains, will thus be considerably deepened if we look at how the different elements of disciplinary power work singly *and* in combination.

Applying a political ecology framework modified by explicitly incorporating an disciplinary power to examine wild mushroom politics in Sisters, Oregon, permits me to make the following theoretical claims:

- 1) The multi-dimensional, heterogeneous nature of the state creates fissures in its apparent solidity. These fissures can serve as points on which other social actors can mount resistance to state control, or negotiate the terms under which state control takes place.
- 2) Non-state actors play an important role in facilitating the intensification of state control over their everyday lives. Informant networks, in particular, constitute an important mechanism by which the state is able to develop surveillance systems with a fine enough resolution to monitor and track individual behavior. Just as state actors are not heterogeneous, neither are other social actors. The fissures that are created from the tensions inherent in heterogeneous populations serve as points where the state (or other social actors) can develop an informant network.

In terms of policy implications, the use of this combined analytical framework allows me to propose the need for a fundamental change in how we conceptualize public participation in natural resource management. Environmental laws, such as the National Environmental Policy Act, the National Forest Management Act, and the Resources Planning Act, have among their objectives ensuring that natural resource decisions remain reasonably transparent and that the American public has opportunities to provide input into those decisions. The public involvement processes established under the authority of these laws, however, are based on sovereign models of power. If disciplinary power is at operation and is as pervasive as I demonstrate that it is in the realm of wild mushroom politics at Sisters, then public involvement processes need to be structured in ways that take into account the workings of this type of power.

CHAPTER 2: METHODOLOGY

Research Questions

1. By what processes has the American nation-state managed to attain a considerable degree of control over wild mushrooms and the people who harvest and buy them at Sisters, Oregon during the past twenty years?
2. How have the people whose livelihoods are linked to wild mushrooms contributed to or resisted the efforts to construct a nation-state wild mushroom management regime, and
3. What are the implications of this story of wild mushroom politics for political ecologists, Forest Service managers, and wild mushroom pickers and buyers?

Research Strategy Overview

To answer the questions listed above, I adopted a single case study research strategy with multiple units and levels of analysis. I chose to examine the case of the wild mushroom harvest at Sisters, Oregon, including the changes it went through during the period 1980-1998, and its relationship to broader economic and political forces. I relied upon a combination of ethnographic methods, including participant observation, semi-structured interviews, and document analysis, to gather and analyze data about the Sisters harvest and associated activities.

Why Wild Mushroom Politics?

I chose to explore the dynamics of wild mushroom politics for theoretical and practical reasons. At the time I started my studies, the U.S. Forest Service and other federal and state land management agencies in the Pacific Northwest region had recently begun to develop and implement formalized laws and regulations for

harvesting and buying wild mushrooms on public lands. This represented a substantial change from the vacuum that previously had existed in terms of formally articulated rules governing wild mushroom harvesting and buying in the region. The shift from informal to formal regulation in the wild mushroom sector thus clearly represented a case of state control being extended into a new resource management domain. Since the shift had only recently started, I could observe first-hand the social and political dynamics of the extension of state control over wild mushrooms instead of having to rely upon documentary evidence or people's recollections of past events. From a practical standpoint there were also good reasons for studying wild mushroom politics. Conflicts over how wild mushrooms are or should be managed are comparatively well-documented in the popular media, amateur science newsletters and journals, and government archives relative to most other non timber forest products. I was thus able to rapidly construct a preliminary picture of the dynamics connected with struggles over wild mushrooms, a picture that would have been quite difficult to develop for most non timber forest products. Later in my research this documentation also provided a useful, albeit limited, cross-check for my participant observation and interview data.

Why A Case Study?

Social scientists often employ case study designs when they wish to illustrate how a number of factors converge to contribute to the development of specific kinds of sociological phenomenon (Yin 1989:13-15). They also use case studies when they want to demonstrate how spatial and temporal contexts have shaped on-going actions and perceptions at particular sites and points in time (Yin 1989:22-25). Additionally, case studies are useful for exploring links between micro and macro levels of social interaction (Abbott 1992:76-79).

These characteristics of case studies make them highly appropriate for constructing a political ecology of wild mushrooms. Political ecologists emphasize the importance of looking at the confluence of multiple factors, including economic, social, political, and ecological events and conditions, in order to understand how power relations shape

human interactions with the environment (and vice versa). In addition, political ecologists argue that an understanding of spatial and temporal contexts is needed if we are to understand how specific distributions of power, and the techniques of power that underlie them, came to be established, as well as how those distributions are maintained, resisted and transformed. They also stress that understanding how specific regimes of power are established and maintained or resisted requires that we examine everyday exercises of power, as well as its exercise at macro-levels. A case study research strategy allowed me to address all of these theoretical concerns.

I utilized a single case study approach since I wished to construct a detailed picture of socio-political interactions at multiple spatial and temporal scales. In the case of wild mushroom harvesting this meant incorporating not only details about harvesting and regulatory activities at Sisters, but also, to the extent possible, regional, national, and global level data about social, economic, and ecological factors affecting what happens at Sisters. To obtain the requisite detail, I opted to explore the politics of resource control surrounding one set of forest understory products – wild mushrooms -- at one harvest site – Sisters.

My case falls into the category of instrumental case studies (Stake 1994:237). The purpose of instrumental case studies is to “provide insight into an issue or refinement of theory (Stake 1994:237). Researchers select instrumental cases for their potential ability to illuminate the social processes that they wish to study, rather than because the case findings are likely to be generalizable to other sites or time periods. As Stake notes:

The case is of secondary interest; it plays a supportive role, facilitating our understanding of something else. The case is often looked at in depth, its contexts scrutinized, its ordinary activities detailed, but because this helps us pursue the external interest. The case may be seen as typical of other cases or not. The choice of case is made because it is expected to advance our understanding of that other interest” (Stake 1994: 237).

In choosing Sisters as my case, my purpose was to determine how state control is being established over a specific natural resource (wild mushrooms) at a particular point in space (Sisters) and time (late 20th century), as well as to identify some of the tensions arising among and between key social actors as a result of that process. My findings are not meant to be used for making generalizations about what is happening at other harvest sites, or to predict what might happen at other sites if wild mushrooms were to appear in commercial quantities in the near future. However, my work can be used as a guide against which data from other sites can be compared at a later date.

Study Setting: Sisters, Oregon

Sisters is by no stretch of the imagination a wild mushroom harvesting or regulatory “hot spot.” There is just enough happening at Sisters for wild mushrooms and the conflicts surrounding them to be visible, but not so much going on that it registers high on many people’s list of places to be greatly concerned about. It is thus tempting to dismiss the Sisters harvest as marginally useful for contributing to theories about how states gain control over resources. However, if Foucault (1980) is correct in his claim that the power of modern state systems lies in their ability to sift invisibly into the crevices and pores of everyday life, it is precisely Sisters’ backwater reputation that makes it an appropriate case for answering my research question about how states exert control over forest understory resources. As a very mundane, every day kind of place in the wild mushroom world, Sisters was an ideal choice for my research.

Methodological considerations also played an important role in my decision to study the Sisters harvest. Gaining entry into the world of commercial wild mushrooms posed a major challenge. When the owners of a small mushroom buying company offered to set me up as an apprentice buyer at Sisters for the 1997 spring season, I jumped at the chance. In taking them up on this offer, I not only put myself in a position where I was able to acquire a tacit, as well as intellectual, understanding of what it is

like to be a field buyer,¹ but by literally working on-the-ground, I greatly enhanced my credibility among the buyers and pickers that I lived and worked with.

Sisters also has some other features that make it a good site for doing a relatively short-term research project. It is a comparatively small harvest site, both in terms of the number of pickers who work there (between 200-400, depending on the year) and in terms of the geographical area in which pickers typically operate (roughly forty square miles, most of it easily accessible by road). As a result, it was relatively easy for me to get to know a good many of the people involved in the harvest and to observe their activities and interactions with others. In addition, the majority of the mushroom beds are located on national forest land administered by the Sisters Ranger District and most harvesting and buying activity takes place within the boundaries of the Sisters Ranger District. I could thus focus most of my attention on the interaction between harvesters and buyers with each other and the Forest Service without risk of vastly misrepresenting the political dynamics of current struggles over wild mushrooms in the area. Lastly, Sisters' spring mushroom harvest is dominated by native English speakers, rather than by Southeast Asian immigrants as is the case at many prominent harvest sites in the Pacific Northwest. As a native English speaker myself, I was able to conduct most of my interviews without an interpreter, thus reducing the likelihood of misunderstandings on my part and on the part of the people I interviewed.

Research Methods

The aim of attending carefully to the details, complexity, and situated meanings of the everyday life world can be achieved through a variety of methods. Although we may feel professionally compelled to use a special language for these procedures (e.g., participant observation, informant interviewing, archival research), at base, all interpretive inquirers watch, listen, ask, record, and examine (Schwandt 1994: 119).

¹ See Allen 1995 for a discussion of the importance of acquiring tacit, as well as intellectual understandings of social practices.

Both political ecology and disciplinary power theory emphasize the importance of studying politics by examining how power works in people's everyday lives and at the extremities of power. Ethnographic methods, which anthropologists developed as a means of gathering and analyzing data about everyday life as a means for understanding how beliefs, value systems, practices, and social interactions combine to form distinct cultures, thus seemed appropriate for my project. I used a combination of three common ethnographic methods -- participant observation, focused conversational interviews, and archival analysis -- in carrying out my research on wild mushroom politics at Sisters.

Participant Observation

All social research takes the form of participant observation: it involves participating in the social world, in whatever role, and reflecting on the products of that participation. (Hammersley and Atkinson 1983:16).

Since many of the everyday practices and tacit understandings that make up a large proportion of social behavior are often invisible in written texts and remain unarticulated in interview situations (Allen 1995:177; Emerson et al. 1995:2), I relied extensively on participant observation as a data collection method. Much of the initial participant observation I did was done as a part of my everyday life as a forest policy analyst and scholar participating in academic and non-academic conferences, workshops, meetings, and research and writing projects related to non-timber forest products, forest management, and wild mushrooms.² These participant observation

² My claim that these activities constitute participant observation rather than merely "living and working" on my part is based on the fact that I made a conscious decision in 1993 when I started researching nontimber forest products policy to track, to the extent possible, the debates and discussions arising at various meetings, conferences, and so forth related to NTFP management and policy occurring in the Pacific Northwest and, eventually, in other parts of the country and the world. I did so with the intention of linking that material to my dissertation

activities provided a wealth of contextual information that ultimately allowed me to do a better job of tracking cross-scale connections between the micro-world of wild mushrooms at Sisters and the macro-worlds of national, regional, and international forest policy.

I also conducted participant observation at the Sisters mushroom camp during the 1997 and 1998 spring mushroom seasons, at a mushroom buying station in the Willamette Valley during fall 1997, and at the Sisters Ranger District office in the fall of 1997. During the spring 1997 I participated in the wild mushroom harvest at Sisters in the role of buyer-researcher, with the bulk of my time spent buying and doing other activities related to buying. During the fall of 1997, I lived in the Sisters Ranger District bunkhouse and worked in the District office in the role of researcher-observer. Much of November and part of December 1997 I worked as a packer/buyer-researcher at a small buying station a hundred miles west of Sisters with the same company that took me on as a field buyer apprentice the previous spring at Sisters. In the 1998 spring mushroom season I stayed once more in the mushroom camp, spending most of my time interviewing informants or accompanying people on scouting and harvesting trips.

I relied on participant observation as a source of data in part because I felt it was a technique that could be useful in helping me establish credibility and trust with mushroom pickers, buyers, and Forest Service employees. I had encountered a generalized mistrust of "outsiders" on the part of harvesters and buyers while carrying out exploratory work on non timber forest products politics in the early 1990s. I also had encountered feelings of embattlement and marked sensitivity to criticism of Forest Service decisions and activities on the part of many Forest Service employees whom I encountered at various meetings and conferences. Though it is difficult to gauge how living and working with buyers, pickers, and Forest Service staff in their "natural habitat" affected the level of trust, a number of my informants commented on how nice

project. I thus took extensive notes at any meetings and workshops I attended related to NTFPs. and included discussions of their relevance to my research in my project notes.

(and unusual) it was to have a researcher asking them questions who was willing to spend the time to really get to know the place, the people, and the issues.

Another reason I emphasized participant observation, however, was that doing so would give me insights into the commercial wild mushroom and forest management worlds that I would likely not have access to in any other way. In acquiring an "insider-outsider" view of the factors that shape people's harvesting, buying, and administrative and regulatory enforcement behavior I came to know enough to be able to ask questions about things that a person who had not experienced life in a mushroom camp or ranger district office might not realize were important. Moreover, as a participant observer over several years and in multiple venues, I was also able to gather first-hand observations about the specific tactics that different social actors involved with the wild mushroom harvest use to negotiate and resist the expansion of the incipient state wild mushroom management regime. As a participant observer, I also had the opportunity to compare my observations and interpretations of specific incidents with others' accounts, thus adding an additional dimension to my interview data. Finally, living and working "on-site" increased my opportunities for asking follow up questions of informants and to observe changes in the ways that people talked or acted depending on who was present (or absent).

I spent much of my first season at Sisters learning how to buy, pick, and pack mushrooms, familiarizing myself with the physical and cultural geography of the Sisters area, learning the general patterns of harvester composition and movement across the local landscape and the Pacific Northwest and Rocky Mountain region, and piecing together a more or less coherent history of commercial picking in the Sisters area. Due to a temporary physical disability that restricted my ability to walk and drive, by default my observations that first year focused mostly on activities occurring in and around the camp. During the 1998 spring season, I broadened my observations to include scouting and harvesting activities in the woods, and focused my in-camp observations primarily on regulatory activities. Table 3 outlines the major types of activities that I recorded

observations about during the two seasons I spent living in the mushroom camp at Sisters.

TABLE 3: ACTIVITIES OBSERVED WHILE AT THE SISTERS MUSHROOM CAMP

Mushroom buying and selling	Social Networking
Mushroom processing and storage	Information Sharing
Scouting	Regulation
Harvesting	Knowledge Production
Site Occupation Patterns	Forest Management
Conflicts	Public Involvement
Stewardship Behavior	

Focused Conversational Interviews

Focused conversational interviews with pickers, buyers, Forest Service employees and other key informants constituted the second major source of data for my study. I adopted Mishler's (1986) approach to interviewing, in which interviews are viewed as discourse, or "meaningful speech between interviewer and interviewee as speakers of a shared language" (Mishler 1986: 10-11). Interviews of this sort tend to take on the form of a conversation between the interviewer and informant; they also emphasize the production of narratives that serve as analytical units for the researcher (Riessman 1993).

I selected categories of people to interview based on the degree to which different social actors were involved in, affected by or influenced wild mushroom politics. Major categories of informants included the following central and peripheral players (see Table 4):

TABLE 4: CENTRAL AND PERIPHERAL PLAYERS IN MUSHROOM POLITICS

Central Players	Peripheral Players
Commercial Mushroom Pickers (22)	Local residents (3)
Field Buyers (5)	Campground hosts (4)
Buying Company Owners (4)	Campers (10)
Forest Service Employees (18)	
Friends of the Metolius members (3)	
Law Enforcement Officers (3)	

The nature of these interviews varied somewhat over time. Early on in the study my interviews tended to take the form of fairly wide-ranging conversations as I tried to acquire some basic knowledge of mushroom harvesting and buying activities, as well as an understanding of forest politics specific to Sisters and wild mushroom politics in the northwest. As my study became narrower in focus, the conversations became more structured and limited to a smaller set of thematic topics centered around the informant's involvement in wild mushroom activities, experiences with conflicts and negotiations over wild mushrooms, and views/experiences related to the development and implementation of federal and state wild mushroom regulations. Thematic topics varied slightly by the category of informants (see Table 5). Names of informants have been changed in my write-up to address privacy concerns.

Sampling

I used a purposive sampling strategy to identify key informants to interview. For example, in the early stages of my work I began by talking with pickers and buyers who had a long history of involvement in the wild mushroom industry to develop a sense for how the Sisters harvest has changed over time and to identify key events or points of conflict that would be worth examining in greater detail and with a broader range of

TABLE 5: INFORMANT CATEGORIES AND THEMATIC TOPICS

Pickers and Buyers	Personal Background (age, gender, income activities, residence, etc.) Annual Activity and Livelihood Cycle History and Nature of Participation in the Sisters Mushroom Harvest Changes Noticed in the Harvest at Sisters Motivations for Participating in the Sisters Harvest Difficulties Encountered While Harvesting at Sisters Regulatory Knowledge and Experiences with Monitoring/Enforcement Nature of Interactions with Local Residents, Other Pickers and Buyers Impacts of Recent Regulatory Changes on Their Lives Anticipated Future Participation in the Wild Mushroom Industry
Forest Service Technicians and Professionals	Personal Background (training, work experience, etc.) Job Responsibilities Interactions with other District Programs/Staff Knowledge of Wild Mushrooms and Wild Mushroom Industry Participation in Wild Mushroom Activities Impacts of Mushrooming on Their Program's Activities How Their Program Affects Wild Mushroom Activities Input of Wild Mushroom Pickers/Buyers into Their Activities Interactions with Mushroom Pickers
Law Enforcement Officers and Special Forest Products Coordinators/Technicians	Personal Background (age, training, work experience) Job Responsibilities Interactions with other District Programs/Staff Interactions with Other Law Enforcement Agencies Knowledge of Wild Mushrooms Knowledge of Wild Mushroom Industry Participation in Wild Mushroom Activities Monitoring and Enforcement Activities Types of Interactions with Wild Mushroom Pickers/Buyers Input of Wild Mushroom Pickers/Buyers into Their Activities Sources and Levels of Program Funding Changes Envisioned for the Future
Local Residents/Camp Hosts/Campers	Personal Background (age, training, occupation, origins) Knowledge of Wild Mushrooms and Wild Mushroom Industry Participation in Wild Mushroom Activities Types of Interactions with Wild Mushroom Pickers/Buyers Views on Wild Mushroom Regulation

pickers. Early on I also made an effort to seek out pickers and buyers who had taken time to work out experiential-based theories about how mushrooms grow and what affects the timing and patterns of flushes. Later as I developed a better sense of who participated in the Sisters harvest, and what behavioral and demographic dimensions, such as site-occupation patterns, mobility patterns, ethnicity, length and/or depth of involvement in the mushroom industry, etc. might be likely to influence how various regulations affected pickers, I broadened my interview sample to try to encompass that variety.

For the Forest Service and law enforcement interviews, I began by interviewing staff members who occupied positions in which they had considerable interaction with wild mushroom pickers (i.e. law enforcement officers, front desk clerks and special forest products program staff). I then interviewed staff members who worked in positions in which decisions or activities related to their scientific or planning specialties had had a clear impact on the wild mushroom world during the previous two decades (i.e. ecologists, fish biologists, fire management, reforestation, timber sales and administration, recreation and wilderness, NEPA planner). For both the Forest Service/law enforcement and pickers/buyers I stopped interviewing when I reached theoretical saturation.

Recording and Transcription

I taped interviews whenever possible. As Mishler (1986) notes, taping interviews acquires critical importance if the interviews are seen as occasions for jointly producing meaning about sociological phenomena rather than as opportunities for collecting an individual's pre-existing (and presumably unchanging) views about those phenomena. Although interview transcriptions are themselves only partial accounts of a conversation (Riessmann 1993:56-60; Mishler 1986: 47-50), they can be more useful than less detailed interview notes for tracking and clarifying interpretations. I also was interested in analyzing and comparing the differences between the specific language that wild

mushroom industry and Forest Service people use to talk about wild mushrooms and forest management. Taping conversations with a wide range of pickers, buyers, and Forest Service employees allowed me to collect these differences in language use more quickly than would have been possible in written notes. Only one person refused outright to let me tape our conversation. However, he agreed to let me take handwritten notes during the conversation, which I then transcribed later.

Although many qualitative researchers prefer to do their own transcriptions as a way of increasing their familiarity with the data and reduce the chance for transcription errors (Reissman 1993:56-58), I was physically unable to do the transcriptions myself and thus relied upon several professional transcriptions of interviews. To ensure good quality transcriptions, I reviewed each transcript for gaps and mistakes. In addition, the bulk of the transcribing was done by a woman who took an active interest in the social dynamics revealed through the interviews. My discussions with her regarding the nature of social relationships and attitudes that the interviews revealed of both myself and the people I talked with proved invaluable in helping me refine my analysis.

Interview Context Issues

I conducted most of the interviews in informal settings: around campfires, in tents, trailers, and homes, or at people's work desks. At first I tried to interview people alone, on the grounds that people would be more open if others were not present. This was quite easy to do for Forest Service and law enforcement agency employees, all of whom I interviewed in private. However, interviewing pickers and buyers alone proved very difficult, particularly at the mushroom camp where most people spend their free time in the evenings with other campers around a campfire or in front of a stove or heater in a trailer or RV. I thus compromised in the camp setting by interviewing informants off to the side of a campfire or in a side area of a trailer or RV. While other campers sometimes followed the conversations and interjected comments, rarely did they try to take over the interview.

Although the use of semi-public interviewing had the disadvantage of possibly inhibiting a picker or buyer from expressing their views openly, it had several important advantages over privately held interviews. For example, other campers were sometimes able to supply dates, names, and details about events that the interviewee was unable to recall, thus allowing me to more easily construct a picture of key events. Sometimes the interviewee would carry on a short discussion with another camper before responding to a particular point. Through these side discussions, the interviewee would often reveal ambiguities in how they felt about the incident or issue in question. Frequently when the interviews were over, the campers in the area who had been listening in would continue discussing the topics raised during the interview in more detail. These post-interview discussions (which I usually did not tape but reconstructed after the interview in my field notes) also revealed ambiguities, clarified the sequence of events, and helped me place interview information into a wider context. For my research purposes the advantages of semi-public interviews thus greatly outweighed the disadvantages.

Documentary Evidence

Documentary evidence constituted my third major source of data. I examined and analyzed the following types of documents:

1. Federal and state documents regarding wild mushroom and forest management,
2. Wild mushroom permit data from Sisters Ranger District and synopses of permit data from other government entities,
3. Scientific accounts of wild mushroom and related non timber forest product harvesting and regulatory activities, and
4. Media accounts of forest management conflicts at Sisters and of wild mushroom activities in the United States and elsewhere.

I made use of a variety of primary documents in my analyses of wild mushroom politics at Sisters. The texts of federal laws, regulations, and forest planning documents governing federal forest management served as raw materials for my analysis of the

policy framework surrounding and influencing wild mushroom management on the Sisters Ranger District. I also examined state and federal laws, regulations, decision memos, and environmental assessments aimed specifically at administering and regulating wild mushroom activities. In addition, staff at the Crescent and Sisters District provided me access to notes that they had taken over the years on meetings and informal discussions about wild mushroom conflicts and administrative policies. Although sketchy, these notes provide important insights on how the two districts have dealt with wild mushroom management within their administrative jurisdictions over the past decade. District staff at Crescent also provided me with copies of harvesting and buying permits and regulations dating back to 1990. I was thus able to track how those regulations changed in written form over time, as well as to pinpoint more accurately times at which major regulatory changes occurred.

The staff at the Sisters Ranger District also allowed me to copy wild mushroom harvesting permit data from the Sisters Ranger District files for 1996, 1997 and 1998. I entered this data into a computerized database (SPSS version 8.0), which I then used to produce statistics to describe certain characteristics of the population of pickers who had obtained permits at the Sisters District during those three years. These data provided a means for cross-checking my participant observation data on the types and numbers of pickers present at Sisters.

I also hired a fellow student to conduct phone interviews with special forest product coordinators on the national forests in Washington, Oregon, and Northern California in order to obtain a broad picture of wild mushroom harvesting and buying regulations on national forests in the Pacific Northwest. At the same time, I obtained wild mushroom permit activity summaries from other national forests, the Bureau of Land Management, the Oregon Department of Forestry, and the Washington State Department of Natural Resources. Together this data enabled me to put the wild mushroom activities taking place at Sisters into wider perspective.

A final source of documentary evidence consisted of media accounts of forest management at Sisters and wild mushroom conflicts and activities at Sisters and elsewhere. Back issues of the Sisters Nugget (1979-1998), the area's weekly newspaper, were my most important source of information about changes that have occurred in forest management at Sisters during the past twenty years. Other written sources of information that proved useful included newsletters and journals published by amateur mycological societies in the U.S and Great Britain. I relied most heavily upon newsletters from the Puget Sound Mycological Society and the Oregon Mycological Society, the regional (West Coast) amateur mycological journal (Mushroom, The Journal of Wild Mushrooms), the North American Mycological Association journal (Mycena), and the British Mycological Society journal (Mycologist). These documents provided useful information about the roles and public views of amateur mycologists in the development of state regulatory frameworks for wild mushrooms in North America, Europe, and Great Britain.

Field Notes

In keeping with typical ethnographic practice (Emerson et al. 1995; Hammersley and Atkinson 1983; Wolcott 1995; Becker 1998), I kept extensive notes of my interviews, observations, and the documents that I reviewed. In developing my field notes I followed as best I could the recommendations suggested by Becker (1998), Emerson et al. (1995), and Spradley (1979) regarding how to describe events, places, and people, developing recapitulations of key conversations, and creating analytical memos about what I was seeing, hearing, reading, and experiencing. I kept a field notebook in my pocket for recording observations on-site or as soon as possible after an incident or conversation. I later transcribed and fleshed out these jottings using a computerized word processing program for easier coding and retrieval for on-site and off-site analysis. To the extent possible, I typed up my handwritten notes the evening or morning following my observations. My obligations as a buyer, however, sometimes made this logistically impossible, particularly when a major flush of mushrooms was

coming through the station. Thus on some occasions several days might pass before I was able to type up my notes. Rather than separating my field notes into observations and research memos, I wrote up descriptions of events, places, interactions, people etc. as well as my analysis of them in the same field note file. Later I used Atlas-TI,³ a qualitative software program to code my field notes, and included a code to differentiate descriptions from analytical memos. I then printed out the analytical memos so that I could begin to order my final analysis from them.

Data Analysis

Following standard ethnographic conventions, I conducted data gathering and analysis simultaneously in an on-going iterative process while I was in the mushroom camp and staying at the Sisters Ranger Station bunkhouse. After my first field season (one spring in the camp and the fall spent living in the ranger station bunkhouse and talking with District employees and observing their activities), I went through my field notes and began to develop a list of major themes. I began by using an open coding technique (Emerson 1995:150-155) to mark reoccurring analytical categories. For example, some of the categories that emerged very early on included examples of the use of different aspects of disciplinary power (i.e. categorization of pickers by Forest Service employees and local residents; efforts to segregate pickers from other forest users; and mechanisms for keeping track of people) and examples of pickers' efforts to resist the application of these forms of power.

During my second field season at the mushroom camp in spring 1998, I narrowed my field of observation and the focus of my interviews to the themes I'd identified in the preceding winter. However, I continued to remain alert for alternative explanations and contradicting pieces of evidence to my hypothesis that a disciplinary power framework was being established over the wild mushroom industry at Sisters. After completing the second field season, I worked on coding my field notes again using my

³ Atlas.ti Version 4.1. 1997. Developed by Thomas Muhr. Scientific Software Development: Berlin.

focused coding scheme, elaborated somewhat over the previous fall from my experiences during the spring. Based on my preliminary findings from this coding exercise, I then developed a formal theoretical framework combining political ecology and disciplinary power as a means for structuring my remaining analysis. In the final stage of analysis, I went through a similar combination of open and focused coding for the interviews I had conducted with pickers, buyers, District employees and local residents. Simultaneously I developed the narrative presentation of my study results, using the focused coding scheme categories as a way to organize the presentation of the interview data, the field note data, and the archival data.⁴

In presenting my data I used a style that Emerson et al. (1995:170-174) refer to as a thematic narrative:

In coding and memo-writing, the ethnographer has started to create and elaborate analytic themes. In writing an ethnographic text, the writer organizes some of these themes into a coherent “story” about life and events in the setting studied. Such a narrative requires selecting only some small portion of the total set of fieldnotes and then linking them into a coherent text representing some aspect or slice of the world studied.

Thematic narratives allow the researcher to illustrate “distinctions and interconnections between related phenomena.” (Emerson et al. 1995:173). This approach was thus extremely useful since I wished to specify the links between micro and macro political dynamics, as well as the interactions among and between forest user groups and forest managers.

⁴ I used a similar focused coding process to analyze the documentary evidence.

Ethics and Trust

Trust provides not transcendent but situated access – to some secrets, including some that may be critical to understanding that particular scene – but inevitably not to all secrets (Emerson 1983:183).

Ethnographers place considerable emphasis on the importance for researchers to take ethics and trust issues into consideration as they carry out their research projects (Guba and Lincoln 1994; Dewalt and Dewalt 1998; Emerson 1983). Ethical issues I struggled with in the course of this project had to do with how I obtained data, how I made known to others that I was engaged in doing research, and what information I could safely share with others, either in the course of carrying out my study or in constructing my research narrative.

In terms of obtaining data, a key issue was the extent to which I should reveal my research agenda to others, as well as my institutional affiliations and sources of funding. Neither the ethics of constructivist social science (Guba and Lincoln 1994) nor my personal ethics allowed me to conduct my research as a disguised participant observer. I concur with Erickson (1967) that researchers who use methods designed to establish relationships based on trust in order to acquire information that they might otherwise not obtain have a moral obligation to reveal their underlying research motives to the extent that that is possible. However, as Dewalt and Dewalt (1998:272-276) observe, field work, particularly long-term participant observation, inevitably involves some element of secrecy and deception.

As required by university regulations, I completed a Human Subjects Review form for my project. I did not, however, ask informants or observees to fill out informed consent forms. As Emerson notes (1983:264), “the informed consent model assumes that the researcher confronts a series of individual subjects. Yet most fieldworkers do not recruit individual subjects, and few or no “formal choice points” arise for participation in the study.” In addition, as Emerson also observes (1983:264), the subject-researcher relationship assumed by the informed consent model is sharply at

odds with the role relations that develop during field work, which tend to be multiple, shifting and based on a complex set of obligations and responsibilities on the part of both parties.

Nonetheless, I made an effort to minimize elements of secrecy and deception to the extent possible by revealing my research agenda upfront and by periodically reminding people that my main agenda was research, and specifically applied research that I hoped would contribute to the development of more equitable wild mushroom policies and public participation processes. Explaining and keeping my research agenda upfront was relatively easy with the Forest Service employees I interacted with. Many of them had met me in the course of the non-timber forest products meetings, conference, and workshops I'd attended in the early part of my project and which I continued to attend throughout the research project. In addition, many of them had read articles that I had co-authored on different aspects of wild mushroom policy in the latter part of my studies. Revealing that part of my funding came from the Forest Service and the Environmental Protection Agency probably worked to my advantage with Forest Service employees, since it likely gave my work greater credibility and more immediate relevance than might have been the case if I had had funding from non-governmental sources. It also gave me easier access to documents than might have been the case if I hadn't had a clear, albeit distant, connection with the agency.

I found that I was much more readily accepted as a semi-insider by Forest Service employees than by pickers and buyers. This is hardly surprising given that my language, training, class background, and work experiences are much closer to those of most Forest Service employees than of most wild mushroom harvesters and buyers. Not only was I a student in a school of forestry and thus conversant in forest management jargon, but I had actually worked for a number of years with several public land management agencies, including the Forest Service and thus had acquired an on-the-ground knowledge of the dilemmas that natural resource management agency staff are constantly faced with. Much to my surprise, being a social science student in a

forestry school also turned out to be advantageous -- "dirt" foresters identified with the fact that I was majoring in forest management and thus tended to treat me as a potential ally, and the "ologists" (i.e. disciplinary specialists, such as biologists, archeologists, hydrologists and geologists) identified with the fact that I was not a "dirt" forester and so also tended to treat me as a potential ally.

Keeping my research agenda upfront was much more difficult while I was in the buying camp at Sisters or at the buying station in the Willamette Valley. This was especially true during the 1997 season when I did a lot of mushroom buying and very few activities that people around me would readily recognize as "research." Before accepting my friends' offer to work as a field buyer, I had anticipated that a blurring of roles and subsequent ambiguity about who I was and what my purpose in being in the camp would be a problem. I thus took the time to discuss my project at length with my buyer-friends, including the ambiguity that participant observation creates between researchers and the people around them as well as some of the potential problems hiring me might cause for their business. When they still seemed comfortable with the idea of helping me do my research, I asked them if they had any suggestions on what we could do to keep the lines relatively clear. They offered to take on the task of helping me let other buyers and pickers know who I was, what I was doing, and why.

The importance of their help with this cannot be underestimated -- my friends have been full-time participants in the wild mushroom industry in the northwest since the early 1980s, they are in regular contact with an extensive regional and international network of buyers, pickers, dealers, shippers, import-exporters, and produce buyers for stores and restaurants. Their willingness to mention that they had a buyer working for them who was also doing a study of wild mushroom policy over the nearly two year period that we worked together was, in my view, absolutely critical to making sure that the wild mushroom buyers and pickers I encountered knew what my agenda was. The extent to which this was true was something I discovered in my second season at the

buying camp, when a number of pickers and buyers passing through mentioned that they'd heard about my study from talking with my friends the previous fall.

At the same time, I also took care to let any new pickers I encountered at the camp or buying station know that I was a forestry student at the University of Washington and that I was doing a study of the wild mushroom industry at Sisters and how it's changed over time. I tried to do this in a relatively non-intrusive and non-threatening way. Often when a new person came on the scene, I would make comments about some of the things I was learning in passing to other pickers and buyers who were already aware of my research agenda. This generally would elicit some kind of question or comments from the new picker about what I was doing and why. I then would explain my work in more detail.

Even though I spent much more time in the wild mushroom camp than I did at Forest Service offices or meetings, most of the wild mushroom harvesters and buyers I lived and worked with never really saw me as one of them. On the other hand, many people in the camp were intrigued by my study and participated willingly in conversations and interviews about sensitive topics. Although working as a field buyer created ambiguities in how other buyers and pickers saw me, it also greatly enhanced my credibility with pickers and buyers. Many people in the mushroom camp made favorable comments about the fact that my study was based on my having actually worked and lived for several seasons at a wild mushroom camp. Several people noted that they found this approach a welcome contrast to most of the stories that have appeared in the newspapers, popular journals, and on television about wild mushroom harvesters, in which journalists have drawn conclusions on the basis of having spent very little time in the field.

Another major ethical issue I faced was deciding how much information to reveal about the activities and views of the people I interviewed. Pickers and buyers, for example, are often quite selective in terms of who they are willing to reveal information to about harvesting sites. Some Forest Service staff also adhere to the picker code of

only selectively revealing the location of patches. Buyers are often reluctant to share information about the locations and types of markets that they ship to, and rarely are willing to reveal the names of the major companies they ship through or sell to. Forest Service law enforcement agents often wish to keep secret the “tricks of their trade” out of concern that pickers and buyers will use that information to undermine their enforcement activities. Remaining completely silent about these activities or places where activities were occurring, however, makes it difficult to construct a meaningful narrative about the politics of wild mushrooms. In the end, I arrived at a compromise based on my realization from living in the mushroom camp and the ranger station that secretiveness of information is generally linked to the amount of detail that one reveals or the degree to which something is considered “common knowledge,” rather than to the type of information that it consists of. For example, there are a number of so-called “community” patches of boletes in the Metolius watershed, patches that experienced mushroom pickers will often direct new pickers to on the grounds that “everyone knows about them anyway.” Additionally, the secretive aspects of patch locations, law enforcement activities, and shipping and market activities tend to lie in specific details and not in the generalities, which tend to be widely known within the mushroom community at least. For example, it is one thing to reveal that wild mushroom picking takes place in the early part of the season on the eastern slopes of Green Ridge west of Sisters. It is quite another thing to reveal the mile number of the roads and township and range coordinates where prime morel patches are located on those slopes. Similarly, it is one thing to reveal that a buying company does both export and domestic marketing and quite another thing to reveal the names of the companies with whom the company deals with in each of those markets. In deciding what information to reveal, and what information to keep silent about, I relied in part on specific wishes expressed by the people I interviewed or talked with, in part on my understanding of what constitutes common knowledge, and in part on my understandings of the level of detail that

distinguishes secret from non-secret knowledge as used in common practice among pickers, buyers, and Forest Service employees.

Limitations of the Study

My study took place in a harvesting site where most of the mushroom ground is located on lands administered by the U.S. Forest Service. In areas where land ownership is more diverse, the power dynamics and social actors involved in expanding a state wild mushroom management regime are likely more nuanced and complex. A useful next step to go with this project would thus be to conduct a similar type of study in an area where pickers seek access to patches on lands held by different private and public owners.

A second limitation of this study is that the bulk of my participant observation work and interviews took place at Sisters, which is a fairly small harvest site in the wild mushroom world. While it was useful for the reasons cited earlier in this chapter to conduct research at the extremities of power, it would also be useful to develop a more detailed understanding of how a capillary site like Sisters fits within the more important mushroom sites, such as Crescent Lake or the burns in eastern Oregon and the northern Rockies in a year following a major fire season. Examining disciplinary power in action at a more lucrative harvest site, where the industry players involved are likely to be much better capitalized than the smaller firms that send field buyers to Sisters, could well reveal a much greater influence on the part of the industry in wild mushroom regulations and other forest management decisions than was the case at Sisters.

CHAPTER 3 - PRODUCTION, PLAYGROUND, OR PROTECTION?

Introduction

In 1891, the U.S. Senate included a 68-word rider on an obscure act revising public land law (Robinson 1975:6; Pisani 1997:15-34; Reiger 1997:35-47; Williams 1992:393-409; Steen 1997:49-68). This rider, which became known as the 1891 Creative Act,¹ authorized the U.S. President to set aside portions of the lands remaining in public ownership as national forest reserves (Robinson 1975:6; Hirt 1994:29; Hays 1959:263). The 1891 Creative Act marked the first significant step toward bringing a large portion of the country's land area under the direct management authority of the nation-state rather than transferring it to private citizens or firms (Williams 1992:410-411). In essence, the 1891 Creative Act initiated a nation-wide experiment in extending and intensifying the degree of state control over the nation's natural resource domain.

Within three years from the Creative Act's passage, Presidents Benjamin Harrison and Grover Cleveland had designated close to 17.5 million acres as forest reserves (Rowley 1985:22-31). These reservations left the West in turmoil (Rowley 1985:22-31). The framers of the Creative Act had failed to specify the purposes for which these lands were to managed, and as a result, they existed in an administrative vacuum for the better part of four years (Rowley 1985:22-23). The administrative uncertainty over the forest reserves ended in 1897 when Congress included an amendment on the June 4, 1897 General Appropriations Act stating that forest and water supply protection and timber

¹ Section 24 of 26 Stat 1103 (U.S.C. 471) reads: "That the President of the United States may from time to time, set apart and reserve, in any State or Territory having public land bearing forests, in any part of the public lands wholly or in part covered with timber or undergrowth, whether of commercial value or not, as public reservations, and the President shall, by public proclamation, declare the establishment of such reservations and the limits thereof."

production constituted the purposes of the reserves (Rowley 1985:30-31).² In addition, Congress stipulated that the secretary of the Department of Interior, which had taken possession of the reserves, had the authority to regulate occupancy and use of the forests, as well as to preserve them from destruction (Rowley 1985:31). Later this authority was shifted over to the Secretary of Agriculture (Williams 1992).

Within less than a decade from the act's passage, national forest reserves encompassed over 40 million acres in the western United States (Rowley 1985:4). The 1891 Creative Act generated a century-long, and often acrimonious, debate over what these reserves should be managed for and who should be involved in their management.³ Similar debates occurred during the same era regarding the

² The second paragraph of the Organic Act of 1897 (General Appropriations Act of June 4, 1897, Chap 2, 20 Stat. 34; U.S.C. 473) states: "No public forest reservation shall be established, except to improve and protect the forest within the reservation, or for the purpose of securing favorable conditions of water flows, and to furnish a continuous supply of timber for the use and necessities of citizens of the United States...The Secretary of the Interior shall make provisions for the protection against destruction by fire and depredations upon the public forests and forest reservations....and he may make such rules and regulations and establish such service as will ensure the objects of such reservations, namely to regulate their occupancy and use and to preserve the forests thereon from destruction..."

³ The following works provide excellent and detailed accounts of the origins and evolution of the national forest system and the discourses surrounding the purposes of national forest reserves: Steen, Harold K. (editor). 1992a. *The Origins of the National Forests: A Centennial Symposium*. Forest History Society: Durham, North Carolina; Miller, Char (editor). 1997. *American Forests: Nature, Culture, and Politics*. University of Kansas Press: Lawrence, Kansas. Hirt, Paul W. 1994. *A Conspiracy of Optimism: Management of the National Forests since World War Two*. University of Nebraska Press: Lincoln, Nebraska; Steen, Harold K. 1976. *The U.S. Forest Service: A History*. University of Washington Press: Seattle, WA; Rowley, William D. 1985. *U.S. Forest Service Grazing and Rangelands: A History*. Texas A & M University Press: College Station, TX.; Robinson, Glen O. 1975. *The Forest Service: A Study in Public Land Management*. Johns Hopkins University Press: Baltimore, MD.

establishment of national parks, such as Yellowstone, and state forest reserves, such as the Adirondack Park (Warren 1997; Jacoby 1997).

Three key discourses dominated the debates over what these newly created reserves should be managed for, who they should be managed for, and how they should be managed. In the dominant discourse national forests were portrayed as places that should be devoted to ensuring the production of products needed for economic development, notably water for livestock and agriculture and trees for building materials (Williams, G. 1992; Steen 1976; Pisani 1997). I label this discourse the “forest as production place” discourse.

In a second discourse, the national forests were portrayed as places for people to get away from the noise and bustle of the nation’s large urban centers and participate in leisure activities, such as hunting and fishing for sport, or camping and hiking for pleasure (Rothman 1998; Warren 1997). I call this discourse the “forests as playground” discourse.

In the third major discourse, forests and other areas such as national parks were portrayed as places that should be protected for their natural beauty or left untouched so as to provide places where people could go to escape the trappings of civilization and regain spiritual fulfillment (Nash 1967). In the early 20th century, this discourse was expanded to include the view that some areas should be set aside as nature sanctuaries, where the presence of humans would be largely prohibited (Cronon 1995). I call this discourse the “forests as protected space” discourse.

Over time the “forest as protected space” discourse has developed into two major sub-strands, one in which the focus is on protecting forests for the purpose of satisfying human spiritual needs, and another which centers on protecting forests for the sake of the non-human species that inhabit those spaces (Cronon 1995). The key difference between the two strands is that the spiritual needs strand justifies protection for the sake of human well-being, while the forest species protection strand justifies protection for the sake of the well-being of non-human beings. An underlying assumption that these

discourses share in common is a view of humans as separate from nature, rather than being embedded in and a part of nature (Cronon 1995:69-90).

In this chapter I lay out how the power dynamics among the three competing forest management discourses have shifted over time as the American nation-state has intensified and broadened its control over an ever-increasing number of natural resource domains and as the American economy moved from an industrial production based economy to an information systems based economy during the late 20th century. I divide this account of the history of American forest politics over the past hundred years into three sections. Section one reviews the environmental history literature that examines the links between the American conservation movement and the scientific state resource management regimes that emerged out of late 19th century conservation politics. The forest as production place discourse ended up as the primary discursive influence over national forest management policy in the early 20th century, but the forest as playground and forest as protected space continued to co-exist within the dominant production framework.

Section Two provides an overview of how the Forest Service narrowed the forest as production place discourse to encompass primarily timber in the post-World War II era. The shift to the forest as a timber production place discourse, and the resulting disjuncture between the Forest Service's timber bias and the broader American interest in using the national forests for recreation and spiritual fulfillment, however, opened up political spaces for the playground and protected space discourses to gain a foothold. Beginning in the 1960s, the dynamics of power began to shift slowly away from the adherents to the forest as timber production place viewpoint. By the early 1990s, the forest as protected space had gained political ascendancy in the Pacific Northwest, a shift that is epitomized by the U.S. Forest Service's adoption of ecosystem management as its management philosophy in 1992.

In Section Three, I examine how the shift in dominant forest management discourses occurred at the micro-level on the Sisters Ranger District, as well as the role

that the micro-politics of forest management on Sisters played in shifting macro-level power dynamics.

Section 1 – The Conservation Movement

The debates taking place in the wild mushroom arena in the late 20th century bear a striking resemblance to the debates that took place in the late 19th and early 20th century over the necessity and advisability of constructing scientific state management regimes for a number of the nation's key resources. In the last two decades, as environmental historians have begun to take a more careful look at the 19th conservation movement and its effects on various segments of the nation's population, it has become clear that the conservation movement was neither as ecologically or socially benign, nor as politically objective or neutral, as its adherents would like to believe (Warren 1997; Jacoby 1997; Cronon 1995; Flores 1998). Chief among the scientific state management regimes that environmental historians have explored include sardine fishery management off the coast of California (McEvoy 1986), the creation of the Adirondack Park and private forest and game reserves in New York (Jacoby 1997), wildlife conservation in the Pennsylvania, Montana, and New Mexico (Warren 1997), forest management in the Blue Mountains of Oregon (Langston 1995), and range management in New Mexico (Flores 1998). An understanding of the general outlines of these 19th century debates serves as a useful entry into understanding the current debates over the construction of a scientific state wild mushroom management regime in the Pacific Northwest.

In the following discussion I briefly explore three common threads that run through histories of the emergence of scientific state natural resource management regimes in the late 19th century. These threads include the following:

1. The notion that the conservation movement played a key role in facilitating industrial development in late 19th century and early 20th century America;

2. The notion that conservation policies of that period were neither politically or ideologically neutral, but rather had disproportionately negative effects on certain social classes and ethnic groups; and
3. The notion that the biases of conservation policy and the fierce resistance that local peoples put up against state resource management regimes during the late 19th and early 20th century are linked in part to differences between how conservationists and many rural peoples conceptualize the relationship between humans and nature.

In addition, historians of the 19th century conservation movement point out that conservationists across a number of natural resources domain commonly relied upon two political tactics -- criminalization and/or demonization of rural peoples and insistence on the superiority of scientific knowledge over local knowledge -- to legitimize their position in support of the development of state resource management regimes. These histories, however, also indicate that rural peoples often resisted the conservation movement's attempts to bring natural resources under state control, attempts which they viewed as threats to their cultural, as well as physical, survival.

Conservation and Industrial Development

An important thread running through the above works is the view that the 19th and 20th century American conservation movement was at its roots a more modern version of the enclosure of the English commons in the 17th and 18th centuries, which played an important role in England's economic transformation into an industrialized economy. The English enclosure movement stripped rural inhabitants of long-standing informal use rights held in common with their neighbors to large areas of land, and transferred the rights of access and allocation to private individuals, usually wealthy and powerful landholders (Jones 1982:62-85; McLynn 1989:202-217). Contrary to what one might expect, the English parliament supported the enclosure of the commons primarily as an economic development measure, rather than as a measure for conserving the nation's wild fauna. By restricting hunting, fishing and trapping to the upper classes, the British

state greatly reduced the ability of the lower classes to participate effectively in semi-subsistence economies, which relied heavily upon reliable access to products hunted, fished, or gathered from local commons (Jones 1982; McLynn 1989). As a result, people other than the landed gentry were forced increasingly to rely upon wage labor in order to make a living, creating a cheap and abundant labor supply for England's industrializing economy (Jones 1982; McLynn 1989). At the same time, by integrating rural people more tightly into the nation's growing market economy, the enclosure process also supported efforts of the British state, working in the interests of and in conjunction with the captains of industry and trade, to break down local ties and strengthen the population's sense of national identity (Jones 1982; McLynn 1989).

Although American conservationists and preservationists at the turn of the 19th century based their appeals to transform "de facto" local commons (Warren 1997) into national commons on a somewhat different argument, the effects -- the creation of a cheap and abundant supply of rural labor, the ready availability of raw materials for fueling America's industrial economy, and the creation of a national identity -- were similar. American conservationists argued that resources not easily held as private property, such as fish and game, would be better managed by the nation-state than by local communities, which they claimed lacked the economic and political power to resist the influences of the commercial fishing and hunting industries (Warren 1997:1-20; McEvoy 1986:93-119). Conservationists made similar arguments for placing immobile resources, such as forests and grazing lands, under the control of the nation-state (Langston 1995).

Many conservationists added an additional twist to their arguments by casting local commercial and subsistence resource users as villains, accusing them of either being too profit-oriented themselves or lacking sufficient education to understand the importance of managing resources for the long-term (Warren 1997; Jacoby 1997). They thus advocated in favor of transforming localized commons or de facto open access resource regimes, into larger, centralized commons, regulated by national or state governments

(Warren 1997:9). To ensure proper management of the newly nationalized resources, advocates for these state management regimes also pushed for the development and application of scientific knowledge to the production and protection of the nation's fisheries, grazing lands and forests (Rowley 1985; McEvoy 1986; Warren 1997). As Warren points out in *The Hunter's Game*, however, the reality of scientific state management fell short of its promises:

[Conservationists] reordered local-national relationships, wresting natural resources from local control into the hands of scientists and technicians, who funneled them into the rapidly expanding market economy (Warren 1997:11).

The link between the conservation movement and industrial development is nowhere more apparent than in the case of the national forest reserve system. True, the 1897 Organic Act cited water supply protection as the first purpose of the reserves, and the preservation of timber as the second purpose of the forest reserves, but a closer look at the interpretation of these purposes at the time indicates that the drafters and supporters of both water supply and timber protection viewed the reserves as a mechanism for ensuring adequate local supplies of water for agriculture and adequate local supplies of timber for building materials (Hirt 1994).

Thus for the first half of the 20th century, the discourse of forests as production spaces dominated national and regional forest policy debates as the American nation-state sought to support the spread of industrial capitalism (Williams, M. 1992:456-465; Hirt 1994:32-34; Hays 1959). Gifford Pinchot, who was appointed to head the U.S. Forest Service when it was transferred in 1905 from the Department of Interior to the Department of Agriculture (Williams 1992), set the productive use tone that dominated the agency for the next century. Pinchot's view of national forests as primarily production places is clearly articulated in the Use Book that early forest rangers carried with them in the woods:

“...a National Forest does not act like a wall built around the public domain, which locks up its lands and resources and stops settlement and industry. What it really does is to take the public domain, with all its resources and most of its laws, and make sure that the best possible use is made of every bit of it. And more than this, it makes these vast mountain regions a great deal more valuable, and keeps them a great deal more valuable, simply by using them in a careful way, with a little thought about the future” (USDA 1907:15).

Though the production place discourse dominated the newly created Forest Service, the influence of the playground and protection discourses remained relatively strong in American forest politics up until the post-World War II era. The balance among the competing discourses remained possible in large part because most of the nation’s timber supply came from private holdings until the late 1930s (Wilkenson 1992:132). With such a low demand for its timber, the Forest Service adopted a largely custodial role over the reserves for the first half of the 20th century (Wilkenson 1992:131-135). The Forest Service sold timber during this period but the amounts cut on the national forests were very small relative to the quantities coming off of private lands (Wilkenson 1992:132). As an example, in Deschutes County, Oregon private landholders cut roughly 350 mmbf annually on their holdings during the 1920s⁴ (Eriksen 1953:99) while only three times that amount -- a billion board feet -- was cut under permit on all of the national forests in 1925 (USDA 1925:31).

During this custodial era, the Forest Service focused its on-the-ground resource management efforts on managing the graziers who were among the largest and economically most powerful extractive user groups with an immediate interest in maintaining access to resources located within the national forest reserve boundaries (Rowley 1985). After the 1910 fires that destroyed huge areas of forest in the West, the agency also devoted a large part of its resources to developing a national fire suppression infrastructure in order to protect the remaining timber from future fires.

⁴ By contrast, in 1975, loggers harvested 15.1 mmbf from private lands in Deschutes County; and 60.2 mmbf from national forest lands located within Deschutes County (Dicken and Dicken 1982:139).

During the first few decades of its existence, the Forest Service focused primarily on developing its administrative, surveillance, and enforcement capacity. For example, during this period the agency developed categories into which it assigned different types of resource use (i.e. commercial, non-commercial). It also developed a system of permits to regulate the use of different forest products and areas of land, a system which is still in use today (Wilkenson 1992:131-135; Hirt 1994:31-39; Rowley 1985:55-146; Steen 1976:47-196). In order to monitor what was happening on the lands under its authority, and to bolster its fire suppression capacity, the Forest Service embarked on an ambitious program of constructing a system-wide transportation and communications infrastructure, including roads, trails, and telephone lines (Steen 1976:145-195; Rowley 1985:55-146; Jenks 1972:322-323). Interestingly, the agency acknowledged that forest inholders and forest users themselves played a key role in the ability of the greatly understaffed agency to keep track of activities taking place in the reserves (U.S.D.A-FS: 1916). The agency also developed an in-house program of scientific research on a variety of natural resource topics, including range management, silviculture, fire prevention and protection, reforestation, and wildlife science. In this way, the scientific knowledge the Forest Service needed to support its decisions gradually became readily available (Steen 1976:131-144; Rowley 1985:96-111).

To the extent that the playground and protected spaces contributed to regional and national industrial development agendas and to political support for the Forest Service, they also influenced national forest policy decisions and practices in the early part of the 20th century (Williams 1992:456; Sax 1989:117). As it became clear that tourism constituted an integral part of the industrial American economy, the movement to create a system of National Parks to fill the demand among urban elites for recreational and tourism opportunities in the American West gained political strength in national politics. With the creation of the National Parks System in 1915, and the transfer of authority over large chunks of the National Forest Reserve System to the newly created National Park Service, the Forest Service moved to develop a recreational program

within the Forest Service as a way of maintaining the agency's appeal to a broad-based constituency and thus increasing the likelihood for expanded congressional funding for the agency (U.S.D.A.-Forest Service 1916). The agency paid more than just lip service to its perceived role as provider of recreational facilities and forest protector: By the 1920s, the agency had established programs in recreational facility leasing and development (USDA 1930:44) and began to set aside a few primitive and wilderness areas in which timber cutting and other resource production activities were restricted (Roth: 1997 230-234). The agency's efforts to address the agendas of the playground and protection factions were clearly linked to the growth in the economic power of the tourism industry. For example, in 1924 while working with the U.S. Forest Service, Aldo Leopold successfully linked the establishment of the nation's first wilderness area, the Gila Primitive Area, in which logging was minimized, to New Mexico's interest in developing its hunting and fishing tourist industry (Warren 1997:112). The establishment and growth of a state forest management regime commons was thus tightly linked to the changing structure of the market economy at the turn of the 19th century, including the desire on the part of large-scale industries to ensure that they would have consistent and reliable supplies of raw materials (Warren 1997) and the desire on the part of the railroads and the newly established towns and cities in the West to attract tourist development to the remote Western forests (Rothman 1998).

Conservation and Class

Just as the English enclosure movement favored the landed gentry over the working classes, conservation policies that emerged out of the closing of America's local commons also exhibited strong class, ethnic, and racial biases in terms of whose access to resources, such as fish, game, and foraging grounds, was restricted (Warren 1997:9-20; Flores 1998:24-37; McEvoy 1992:479; Jacoby 1997:326-331). In the California sardine fisheries, for example, Chinese abalone fishermen were singled out as the main culprits in the decline of sardine stocks in the 1880s (McEvoy 1992:479). Regulations regarding size and season limits were structured in ways that affected the abalone

fishermen more severely, even though the decline in the sardine population had little to do with their fishing practices (McEvoy 1992:479). Jacoby's work on the effect of the creation of the Adirondack Park in New York State, along with numerous private reserves, during the 1880s speaks eloquently to the hardships conservation brought to the local economy by this enclosure movement:

Previously, only local community norms circumscribed hunting, foraging, and cutting of timber. Any undeveloped land, state or private, was considered open to all, and locals ranged widely, with little regard to formal property limits. Adirondack males might cover distances of forty miles or more when out hunting, trapping, or foraging for spruce gum or ginseng....The series of regulations that New York instituted in the 1880s and 90s changed all this. The enclosure of state lands within a forest preserve prevented the cutting of timber that previously had been used for firewood and building materials. The tightening of the game laws made it harder to procure the wild meat that was a regular part of household consumption and the hides and furs that could be traded with the outside world. The establishment of game preserves denied the region's inhabitants access to many of the trails and hunting and fishing spots that they had previously used (Jacoby 1997:328-329).

Limitations on taking timber and game and enclosure of large portions of the region in private preserves – such measures made it more difficult for many residents to support themselves as before, pushing many Adirondackers further into the expanding cash-based and wage-earning economy:

.....an increasing proportion of the local populace was forced to supplement traditional sources of support with employment in the expanding tourist industry of the Adirondacks: the women as cooks and maids, the men as hunting guides, carpenters, and caretakers (Jacoby 1997:336).

The promulgation and implementation of conservation laws and regulations thus has often had the effect, intended or not, of undermining the ability of certain social classes, or ethnic or racial groups, usually those less economically and politically powerful, to

survive within a subsistence economy or to compete effectively in the market economy as independent producers (Warren 1997:9-20; Jacoby 1997:336-337).

A look at the history of the early years of the national forest reserve system supports the above arguments that late 19th century conservation policy had a strong class and eastern seaboard industrialist bias to it. In the minds of many Westerners, the creation of the forest reserves signaled the intent of easterners to treat the West forever as a de facto colony, either locking up the woods as nature preserves for a few rich hunters and tourists or by funneling out the raw materials needed to fuel industrialization in the Midwest and eastern seaboard while leaving the West short on resources to further its own economic development (Williams, G. 1992:324-327). Small livestock producers and lumbermen saw the reserves as an attempt by large eastern companies to restrict widespread access to timber and grasslands in order to concentrate their own economic power (Williams, G. 1992:324-327).

Proponents of the reserves, however, argued that the forest reserves were established primarily as a means to protect water and timber supplies so that smallholders outside the reserves would have access to irrigation water and building materials (Steen 1997:63-64). Indeed, Gifford Pinchot and other Progressives of the time explicitly linked the forest reserves to the public as a whole rather than to big business:

In the administration of the forest reserves it must be clearly borne in mind that all land is to be devoted to its most productive use for the permanent good of the whole people, and not for the temporary benefit of individuals or companies (Pinchot in Hirt 1994:33).

Pinchot sought to allay the fears of westerners about the reserves by emphasizing the importance of local use in the Forest Service's management priorities:

On a National Forest the present and future local demand is always considered first. The Government tries to see that there shall always be enough timber and wood on hand for use by the home builder, the prospector, the miner, the small mill man, the stockman, and all kinds of

local industries. If it were in the hands of individual or corporate owners, it would very likely be shipped out, regardless of local needs (USDA 1907:19).

The conservation movement's rhetoric of support for the "small man" at the expense of big business, however, proved otherwise in reality. For example, in the early 1900s, Pinchot instituted a timber sales system in which the sales went to the highest bidder, thus favoring larger companies (Williams, M. 1992:421). Similarly, the Forest Service only inconsistently supported small livestock producers in its issuance of grazing allotments, buckling into pressure from larger companies and favoring the larger cattle companies over the smaller sheep operations (Rowley 1985:83). Rather than supporting the "small man" and giving priority to local needs Pinchot claimed, the Forest Service increasingly favored the larger lumber and livestock companies (Williams, M. 1992: 420-422; Rowley 1985:83):

The conservation movement did not involve a reaction against large-scale corporate business, but, in fact, shared its views in a mutual revulsion against unrestrained competition and undirected economic development. Both groups placed a premium on large-scale capital organization, technology, and industry-wide cooperation and planning to abolish the uncertainties and waste of competitive resource use (Hays 1959:266).

Not only did the Forest Service and other state and federal conservation agencies end up favoring large-scale and heavily capitalized companies rather than the "small man," but they also favored certain races and social classes over others. Wildlife policies developed on the national forests in New Mexico and Montana during the early part of the 20th century, for example, "were in reality strategies aimed at regulating people, often specific groups of local people who used wildlife in ways urban white elites deemed either undemocratic, unsporting, or a threat to huntable and fishable stocks of game species" (Flores 1998:29).

Conservation and Constructions of Nature

Environmental historians point out that many of the resource conflicts that surrounded the construction of state resource management regimes at the turn of the 19th century, were simultaneously cultural and class conflicts, involving groups of people who not only had different understandings from conservationists about what forests were for, but also very different ways of being relative to forests, fish, and wildlife (Cronon 1995; White 1995; Warren 1997). Warren (1997:152), for example, notes that while white tourists saw Glacier Park as a “retreat and tonic for urban ills,” the Blackfoot saw Glacier Park as part of their home and a source of food and raw materials needed to live. Similarly, Jacoby notes that the urban elite’s construction of the forests of the Adirondack park as a playground and place of sanctuary from urban stress, was made possible only by a simultaneous transformation of the forest from a living/being place for rural people to a work place.

Ironically, it was the labor of these locals – the preparation of meals, the guiding of sports hunters to fishing holes and hunting spots – that made the Adirondacks a place of rest and leisure for visiting tourists. The paradox of the touristic understanding of the Adirondacks – as a place apart, free from the corrupting influences of contemporary life – was that it was achieved by transforming the Adirondacks into a workplace” (Jacoby 1997:336).

In a critique of the concept of wilderness, Cronon (1995:78-82) notes that it is a purely urban concept, that holds the promise of redemption from the ills of civilization for urban elites. Cronon also observes that late-20th century attempts to apply American notions of wilderness to Third World countries can “become an unthinking and self-defeating form of cultural imperialism” (Cronon 1995:82). Using that same analogy in a 19th century context, the Conservation movement can also be viewed as a form of cultural imperialism, in which the cultural values of the American upper and middle classes dominated rural values and constructions of nature (Warren 1997; Jacoby 1997).

As Cronon (1995), Katz (1998), Keulartz (1998) have noted, the three mainstream conservation discourses described earlier in this chapter, including their late 20th century descendants, such as mainstream environmentalism, all share in common constructions of nature in which humans are situated outside of the natural world. How they construct that relationship, however, differs somewhat. The forest as production place discourse, for example, views resources as passive objects embedded in natural resource systems, with humans as external to those systems but having the capacity to control those systems for human use given enough scientific data about the system elements (McEvoy 1986:253):

....nature was thoroughly plastic, its capacity to sustain an ever-increasing flow of commodities into the market limited only by the technical facility and political will of human beings.

According to this perspective, humans and nature are seen as separate, or at best only loosely connected, entities. Nature is “neutral stuff,” which humans could (and should) control for the betterment of humankind (O’Riordan 1974).

The “forests as playgrounds” discourse also constructs nature such that humans lie outside of it. Nature is a place where humans go to recreate, to relax from the busy pace of city life, and to enjoy themselves in “pristine” settings; it is not a place where people live or do land or resource-based productive work (White 1995). The only type of work that is permitted in nature is service work directed at making certain that humans pass their time in nature safely and without too much physical discomfort. In his critique of the concept of wilderness, Cronon (1995:78) describes the extent to which America’s wealthy urbanites at the end of the 19th century had incorporated the notion of humans as separate from nature, and the role that wilderness played in furthering that ideology:

Wilderness suddenly emerged as the landscape of choice for elite tourists, who brought with them strikingly urban ideas of the countryside through which they traveled. For them, wild land was not a site for productive labor and not a permanent home; rather it was a place of recreation. One went to the wilderness not as a producer but as a

consumer, hiring guides and backcountry residents would could serve as romantic surrogates for the rough riders and hunters of the frontier if one were willing to overlook their new status as employees and servants of the rich.

Similarly, both sub-strands of the “forests as protected space” discourse also construct humans as separate from nature, albeit using somewhat different language. Henry David Thoreau, who contributed to the popularization of the discourse of forests as places where humans can seek spiritual regeneration and fulfillment, for example, posits “untouched” nature as humankind’s salvation: “In Wildness is the preservation of the World” (Thoreau in Cronon 1995:69). Katz notes that modern-day environmentalist organizations, such as World Wildlife Fund and The Nature Conservancy, who support the protection of forest ecosystems as a means to preserve biodiversity rather than to promote human spiritual well-being, likewise construct humans as outside of nature:

Preservation turns on an intrinsic contradiction. It requires that a particular patch of nature – ecological niche, biome, or park – be cordoned off as an island in space and time. Preservation represents an attempt both to delineate and maintain a boundary in space and to arrest time in the interests of a supposedly pristine nature which, of course, is neither bounded nor static. As such, preservation is quite unecological, defying natural history and the vibrancy of the borders – physical, temporal, spatial – where evolution, change, and challenge are negotiated and worked out in nature as in culture (Katz 1998:54)

Katz (1998), Cronon (1995), and White (1995) maintain that the preservationist version of the human-nature dichotomy creates a problem from the standpoint of solving environmental problems. By positing that nature is where humans aren't, the preservationist discourse absolves humans of responsibility for managing those areas where they do live and work in environmentally sound ways, provided that they do their part to ensure that areas of wildness are set aside to remain untouched by humans (Cronon 1995:80-83). What these three scholars also point out, however, is that the bounding off of supposedly “pristine” nature, is done only at the expense of the well-being of other social actors – the people who live and work in those areas that become

constructed in preservationist discourse as “pristine nature” (Katz 1998:55; Cronon 1995:79, 82; White 1995:172-173). Preservationist discourse makes land-based productive work and livelihoods, and the people who practice them, the source of environmental degradation, ignoring the unchecked consumption and urban lifestyles that fuel the demand for ever more natural resources (White 1995; Katz 1998; Cronon 1995; Proctor 1995, Keulartz 1998).

Political Tactics

Environmental historians also shed some light as to *how* the American conservation movement succeeded in its efforts to transform a large number of localized commons into nationalized commons. Two discursive tactics played a particularly prominent role in efforts to construct state resource management regimes:

1. The use of discourses that criminalized and/or demonized the classes or ethnic and racial groups who derived their livelihoods in large part from localized commons (Warren 1997; Jacoby 1997; McEvoy 1986). These discourses served to weaken the public image of these groups and generate support for restricting their uses of previously localized commons.
2. The use of the discourse of scientific expert management, in which science was constructed as the primary legitimate source of resource management (McEvoy 1986; Hirt 1994). This discourse had the effect of discounting the relevance of experiential knowledge and generated support for public financing devoted to the development of a cadre of scientific experts and research programs in a variety of resource management fields.

Criminalization and Demonization

Criminalization and demonization of local resource users figured prominently among the tactics conservationists used to legitimate the need for state intervention in natural resource commons of the late 19th and early 20th century United States. For example, in the 1880s, conservationists who supported the creation of the Adirondacks

Park demonized locals for “managing their property in a reckless and selfish manner” (Jacoby 1997:327), and thus justified the creation of a state-managed park in the area. Foraging for spruce gum and ginseng, which previously had been an important local economic activity, suddenly became classified by conservationists as “trespassing and theft” and those people who dared continue their harvesting activities became transformed from independent wildcrafters into criminals:

...to many Adirondackers, the most striking feature of conservation was its reconceptualization of many long-standing local practices as crimes limiting “poaching,” the cutting of trees as “timber theft,” foraging as “trespassing” (Jacoby 1997:329).

Similarly, Anglo and Hispano settlers in New Mexico in the early 1900s demonized the Apache and Navajo hunters in the Mogollon mountains in New Mexico, accusing them of decimating the local deer and antelope herds (Warren 1997:96-97). Game wardens selectively enforced hunting regulations by targeting Apache and Navajo deer and antelope hunters for arrests and fines, even though Anglo and Hispano settlers participated equally in breaking the rules (Warren 1997:96-97). Ironically the settlers’ cattle, sheep, and goats likely had a far more negative effect on the deer and antelope population in the Mogollons than hunting pressure by the Apaches and Navajos (Warren 1997: 91).

Science As A Legitimizing Tool

A second tactic used by conservationists to support the creation of state management regimes consisted of appeals to science, and insistence on the need for the state to hire or obtain advice from scientific experts to ensure proper management of the nation’s resources. Forest scientists and arboriculturalists played an instrumental role in getting the U.S. Congress to develop legislation authorizing the President to create the federal forest reserve system (Reiger 1997; Pisani 1997). The discipline of range management science was developed in large part by the newly created U.S. Forest Service in the early 1900s to legitimize the agency’s restrictions on grazing on national

forests in the West (Rowley 1985:96-111). Fisheries science had its start in the 1870s and 1880s, when a number of states, including California, established special agencies to conduct scientific studies of fisheries problems and provide suggestions for legislative remedies (McEvoy 1986:100-108). In the case of fisheries, as with forestry and range management, powerful elements among the resource users often exercised considerable influence over the type and topics on which government scientists chose to conduct research (McEvoy 1986; Rowley 1985). Fisheries scientists in California, for example, chose to focus in on the negative effects of the Chinese fishing industry on the region's fisheries, neglecting studies of the effects of habitat destruction through fishing, mining, and residential and industrial development (McEvoy 1986:103).

Resistance, Opposition, Negotiation

Environmental historians point out that the efforts to construct state resource management regimes at the turn of the 19th century were met by resistance, opposition, or attempts by those negatively affected to negotiate the terms of the regulations affecting their lives and livelihoods. In the Adirondacks, for example, many local residents ignored the prohibitions on timber cutting in the new reserve, and flaunted the new restrictions on hunting and fishing (Jacoby 1997:329). Resistance was broad-based, not just a matter of a few individuals breaking the law. Moreover, many locals refused to testify against fellow residents when the game department brought game violations before the court, thereby further undermining the effectiveness of the state management regime at deterring timber cutting, hunting, and fishing within the park boundaries (Jacoby 1997:330).

Similarly, in the Mogollon region of the Southwest, locally-based Apaches, Navajos, Hispanics, and Anglos all resisted federal and state attempts to regulate deer and antelope hunting. The Hispanics and Anglos, in particular, were able to develop close relations with local officials; and "juries usually failed to convict Anglos, even those who violated game laws openly" (Warren 1997:99). Anglos and Hispanics also successfully negotiated with the federal forestry officials to gain legal access to timber

and pasturelands on the Gila Forest Reserve, activities that the forestry officials had declared off-limits in 1899 when the reserve was created (Warren 1997:99).

Salmon fishermen in the Sacramento area of California also resisted the state government's new season closure law in 1875 by setting up storage camps in remote parts of the Sacramento-San Juan delta. They then "posted lookouts at either end of their drifts to signal with fire or with gunshots the approach of a suspicious-looking boat (McEvoy 1986:111). Again, when the fishing wardens "did make arrests for violating the fishing laws, state agents found local juries unwilling to convict the accused" (McEvoy 1986:111). The non-Chinese fishermen also worked closely with the State Fish Commission to develop regulations that effectively forced most of the Chinese fishermen out of business, while doing little to address the habitat degradation from mining and farming that likely contributed to the decline of the area's fisheries (McEvoy 1986:112-114).

The U.S. Forest Service played a prominent role in pushing for the use of science as a decision-making tool. Although the conservationist movement billed itself as a supporter of the people and proponent of democracy (Hays 1959:261-276), they maintained that training and hiring a cadre of technical experts to manage the nation's natural resources was the best way to ensure that public interests won out over private greed (Hays 1959:261-271). Gifford Pinchot thus relied heavily upon the discourse of rational, scientific state management to legitimize the newly created Forest Service's management authority (Hays 1959:261-271). He and other conservationists maintained that industrial capitalists run rampant had destroyed the forests in the Midwest and South, and that federal management of the west's forest reserves would provide an alternative to private waste and inefficiency (Hays 1959:265). To manage these reserves with less waste, Gifford Pinchot proselytized what Samuel Hays, a conservation historian, refers to as the gospel of efficiency:

...experts, using technical and scientific methods, should decide all matters of development and utilization of resources, all problems of

allocations of funds. Federal land management agencies should resolve land-use differences among livestock, wildlife, irrigation, recreation, and settler groups....The crux of the gospel of efficiency lay in a rational and scientific method of making basic technological decisions through a single, central authority (Hays 1959:271).

Rather than supporting widespread public input into resource decision-making, under Pinchot's guidance the Forest Service developed an administrative philosophy and culture that "emphasized a flow of authority from the top down" (Hays 1959:272). This top down, expert-driven approach to resource management opened the agency up to cooptation by economically and politically powerful resource users and contributed to the development of a single resource management philosophy within the agency (Hays 1959:272-275). Although Pinchot extolled the value of local knowledge, in his view, the public interest could be met only if that knowledge was filtered through technical experts (Hays 1959:271; Wilkenson 1992:129).

Conservation Science: Sustained Yield and Stable Equilibrium

The strong connections between science and federal forestry went back to the period 1886-1898, when Bernard Fernow, the Division of Forestry head, instituted a series of economic studies and silvicultural experiments on private lands in collaboration with forest products harvesting and manufacturing companies (Steen 1976:37-46). A decade later, Gifford Pinchot capitalized on the new forestry organization's reputation for its applied science expertise and insisted that the Forest Service apply forest science principles to federal forest reserve management (Steen 1976:413-421; Rowley 1985:98-108). Under Pinchot's administration, two scientific theories – sustained yield and stable equilibrium ecology – became the cornerstones of forest and range management for much of the 20th century.

Pinchot drew upon Prussian forest science, which revolved around the concept of sustained yield (Lee 1990:83-94), to structure the scientific basis of federal forest management. In sustained yield forestry, foresters seek to manage trees as a farmer would a crop (Miller 1992:291). In this model, the forester treats the trees within the

reserve as a long-rotation crop in which the annual volume of wood cut is equal to the annual volume of wood produced (Miller 1992:291). Foresters liken this system to investment banking where the interest may be used but the principal always remains intact (Miller 1992:292). In 20th century America, however, where a good portion of the forests in reserves consisted of mature timber with very slow rates of growth, eventually the Forest Service's interest in maximizing the annual volume of timber produced, coupled with the agency's faith in the sustained yield model, led to massive clearcutting in the 1950s and 1960s (Hirt 1994: 39-81), as foresters sought to convert slow-growing mature forests to younger, faster growing stands (Langston 1995:99).

Under Pinchot's direction the U.S. Forest Service also incorporated Clements' equilibrium model of plant ecology in the development of timber and grazing management practices (Langston 1995:126-128; Rowley 1985:98-108). Both forest and range science drew heavily upon Clements' theories on plant succession, and the notion that forests and rangelands could be maintained in economically desirable, stable sub-climax stages by manipulating various ecological parameters (i.e. through crown removals, thinning intervals, stocking densities) (Langston 1995:126-132). In Clements' work, disturbances, such as fire, floods, winds, and insect epidemics were considered external to the plant community, and as events that occurred only rarely (Langston 1995:127). Consequently, provided they knew enough about the forest stands they worked in, foresters could predict how the vegetation, including the trees, in that stand would change over time (Langston 1995:127). By adjusting the vegetative composition on the site, foresters could control both moisture and light, and thus the types of trees that would grow on the site (Langston 1995:128).

In applied range science, and other natural resource sciences utilized in forest management, such as wildlife and fisheries ecology, the concept of carrying capacity became the basis of establishing what resource managers viewed as good management practices (Behnke and Scoones 1995:2-8; Botkin 1990:19-23). In range science, the economic carrying capacity of a grazing system is the stocking density at which the

plant community sub-climax desired in order to produce a given economic output is in balance and can be maintained indefinitely (Behnke and Scoones 1995:3).

Wildlife ecologists developed a slightly different model of carrying capacity known as “ecological carrying capacity.” Ecological carrying capacity is the stocking density at which the ecological system continues to support both plants and animals, but where the grazing animals are not in very good condition, and the vegetation is less dense and composed of different species than under a lower stocking density (Behnke and Scoones 1995: 3-8). Wildlife ecologists linked their concept of ecological carrying capacity to the concept of maximum sustained yield, which is, in the case of animals, the maximum number of animals that one can put into the ecosystem and still maintain both a stable plant community and a stable, albeit less well fed, animal population, (Behnke and Scoones 1995:5). The stocking density at which maximum sustained yield (i.e. the most pounds of meat or liters of milk per hectare, in the case of cattle) can be obtained while maintaining a stable plant community is the economic carrying capacity of the system (Behnke and Scoones 1995:5). The concept of maximum sustained yield eventually became applied to timber management as well (Cortner and Moote 1999:16-18).

Whether range, wildlife, fisheries, or forest ecology, equilibrium ecology is predicated on the assumption “that conditions for plant growth are relatively constant” (Behnke and Scoones 1995:8). Natural events that affect plant growth drastically, such as drought, fires, and long periods of extremely hot or cold weather, are treated as intermittent “noise” (Behnke and Scoones 1995:8). Ecological and economic carrying capacities in the equilibrium model of ecology are thus viewed as being relatively stable, with a rather narrow fluctuation around a stable point (Bartels et al. 1995:93). Variability in the system is assumed to be unimportant in the calculation of an average carrying capacity (Bartels et al. 1995:93). Management centers around linear models and tying management actions to averages in production, rather than taking into account ranges of variability in production. In practice, the use of the stable equilibrium model and sustained yield theory meant that forest and range managers tended to overestimate

the amount of timber that could be taken out (Hirt 1994:88-89, 132-134), or the number of animals who could be pastured on a unit of land (Behnke and Scoones 1995).

A major weakness of these two theories, and thus of conservation science, is that they minimize the complexity of natural resource systems. McEvoy's environmental history of the California fisheries, for example, illustrates how scientists' focus on the importance of ensuring economic profits for the more powerful elements of the fishing industry led them to underestimate the social and environmental costs of their management policies (McEvoy 1986:251). At the same time, fisheries scientists and economists assumed that fishermen and all other economic actors, were irresponsible and autonomous resource users who would, if not controlled by the government, utilize the resources on which their livelihoods depended in unsustainable ways (McEvoy 1986:253). Only in the 1970s, did the idea that "the ecology of the fisheries at any point was to a significant extent the product of present and past human impacts on it" (McEvoy 1986:254) begin to gain widespread acceptance among fisheries biologists and ecologists. At the same time, fisheries scientists also began to recognize and take into account the interactions, not only among humans and fish, but among all the elements that make up the California fishery. Equally important, they began to acknowledge the dynamic nature of the resource system, in which "both production and management were embedded in a volatile environment, only imperfectly knowable" (McEvoy 1986:254). The realization that fisheries systems are volatile and to some degree unpredictable, also brought with it the view that the various interest groups embedded within those systems need to be engaged in making decisions about how they are managed, along with the technical experts (McEvoy 1986:256). Nancy Langston (1995) makes similar arguments for forest management in the Blue Mountains of Oregon, while Warren (1997) observes the same phenomena in wildlife management in both the eastern and western United States.

Conservation and Disciplinary Power

Though none of the environmental historians whose works are discussed above cite Foucault's work on disciplinary power, a comparison of these works with Foucault's research on the French state's colonization of the domains of public health, medication, and criminal justice suggests that disciplinary power played an important role in the extension of scientific state management regimes over fisheries, wildlife, and pasture lands in the U.S. at the turn of the 19th century. For example, attempts by conservationists to label and then assign a value judgment to different types of users constitute the process of categorization and normalization that underlies the workings of disciplinary power. In California, the state, working in conjunction with the more powerful European and American fishing interests, divided fishing populations according to ethnic lines (Chinese, European, and American), labeled the Chinese fishing techniques as unsustainable, and developed policies aimed at curtailing their use. In New York, conservationists labeled hunters and gatherers trying to exercise long-standing informal use claims over resources located within the boundaries of the newly created Adirondack Park became "poachers" and "trespassers." In this manner, activities that had once been viewed as socially acceptable, became classified as "abnormal" or "deviant", and criminal acts in the eyes of the (state) legal system. The criminalization and demonization of rural peoples and their activities served to legitimate state intervention in a plethora of natural resource domains.

Similarly, disciplinary power's focus on the importance of controlling space and developing documentary apparatuses to keep track of who is doing what where, is also prominent in the natural resources examples. Just as the Indian Agency in the Dakota Territory and the California Commission on Immigration and Housing established zones in which the populations they wished to control could reside, along with zones in which their presence was not permitted or discouraged, so too did the state and federal resource management set aside hunting, fishing, and grazing zones to help control those activities and the people who engaged in them. The states and federal government also

developed temporal zoning systems, such as hunting and fishing seasons, in order to facilitate the tracking of people and their activities and movements within the reserves or on the rivers and oceans. State and federal agencies also set up surveillance systems in which written permit systems and the game wardens and forest and range police required to enforce those systems played a key role.

Additionally, the informant networks that Hannah and Mitchell identify as critical to the success of the “panopticon” systems of surveillance in their examples, also play a key role in the efforts of conservationists in late 19th century and early 20th century America to establish and solidify state control over various natural resources domains. For example, informant networks, often composed of competing users, constituted an important element in the ability of state entities to control big game hunting in both the Mogollon plateau and the Adirondack Park.

The development of knowledge production systems supportive of scientific state natural resource management regimes also was instrumental in the success of the conservation movement’s efforts to establish and expand state control over large areas of the nation’s land base. In the case of fisheries, wildlife, and range, scientific knowledge production activities, in the form of statistical studies as well as in the form of experiments conducted in the field, constituted important tools by which the state was able to acquire information about resource users, the resources themselves, and the extent to which human actions affected natural resources and ecosystems. Given these parallels between the disciplinary power examples and empirical studies of the process by which state management regimes have been constructed for natural resources, it seems reasonable to posit that similar processes may be at work in the emergence of the late 20th century state wild mushroom management regime.

Section 2 – From Timber to Ecosystem Management

In the immediate post-World War II era, the forest as production place discourse rapidly gained political dominance within the national forest policy arena as the growth of the American middle class, and the widespread desire by many families to own their

own homes in the prosperous times following World War II, fueled a sharp increase in demand for wood products across the nation (Robinson 1975; Hirt 1994:50).

Importantly, however, the production place discourse narrowed considerably, with the production of timber and wood fiber as the predominant objective. The Forest Service's timber-oriented organizational culture, which became increasingly at odds with a broader American cultural shift toward valuing forests for recreation and environmental goods and services, carried the seeds of its own disintegration. In the 1960s and 1970s, the environmental movement, including groups that had played key roles in the 19th century conservation movement, such as the Sierra Club and the National Audubon Society gained sufficient political dominance to persuade the American Congress to pass a series of environmental laws that gradually undermined the political stranglehold of the timber industry on national forest politics as well as dissolving the cohesion of the Forest Service's timber culture.

Forests As Timber Production Places

With most of the private lands already cut over and the regeneration still too small to harvest, the national forests in the Rockies and the Pacific Northwest constituted the main potential sources for timber and wood fiber in the 1940s and 1950s (Hirt 1994:50). To meet this demand, the U.S. Forest Service radically accelerated its timber sale program through the 1950s and into the 1960s (Gregg 1989:156; Hirt 1994:50-55). The annual cut rose from 2.7 billion board feet in 1946 (Hirt 1994:50) to 12.1 billion board feet in 1966 (Gregg 1989:156). The percentage of timber harvested in the U.S. from national forests rose from 10 to 15% of the total national harvest during the 1950s; the percentage harvested in the Pacific Northwest from national forest lands was even larger, rising from 21 to 35% of the total regional harvest (Hirt 1994:131).

Transforming the national forest system into a timber and wood fiber production place required the U.S. Forest Service to strengthen its timber administration capacity. The agency thus embarked on a concerted program to hire foresters trained in how to lay out timber sales, map cutting units, write up timber sales and put them up for bid,

cruise timber, mark timber, and conduct quality checks on timber harvesting activities (Hoberg 1997:49). The Forest Service also expanded its capacity to design and lay out roads, since most of the timber in the Pacific Northwest and northern Rockies was located in remote locations with limited ground access (Hirt 1994:92). In five short years, from 1955-1960, the Forest Service constructed over 35,000 miles of roads, mostly in order to allow logging companies access to insect-damaged and diseased trees (Hirt 1994:113-115). By 1958, foresters or forest engineers constituted 90% of the agency's professional employees (Robinson 1975:34), despite the fact that recreational use of national forests expanded equally rapidly (from 10 million visitors in 1945 to 92.5 million visitors in 1960) during this time period (Hirt 1994:52). By the end of the 1950s, timber production and logging road construction and maintenance completed dominated the Forest Service's activities and budgets (Hirt 1994:80, 142).

The agency's leaders justified their focus on timber on the grounds that "building roads into virgin forests and harvesting the ancient trees constituted forest conservation and resource protection" (Hirt 1994:92). The agency's upper-level management quickly learned that it was much easier to get funds from Congress for economic development projects, such as timber sales and roads, than for wildlife or recreation projects (Hirt 1994:80). From the standpoint of most foresters in the 1950s, this policy was justified in that "standing trees represented unutilized economic capital and the public interest would best be served by harvesting that capital and putting it to economic use" (Hirt 1994:107). By 1960, the socialization process of the agency's "timber culture" had become so entrenched that even with a high degree of decentralized administration, decision-making was remarkably uniform throughout the National Forest System (Kaufman 1960).

While the idea that the national forests should be managed first and foremost for timber pervaded the Forest Service by the end of the 1950s, it became increasingly dissonant with the thinking of many Americans (Hays 1989:22-26; Allin 1997:179; Wilkenson 1992:137-142; Hirt 1994:151-170). As the nation's population became

more urban and less directly dependent on natural resource extraction and manufacturing for employment, the discourses of forests as playgrounds and forests as protected places gradually began to gain greater persuasive power in national forest policy debates (Hirt 1994:151-170; Roth 1997:235-244; Steen 1976:301-314). The growing political influence of these forest management discourses became apparent at a national level in the 1960s, when the U.S. Congress' passed the 1960 Multiple Use and Sustained Yield Act (74 Stat 215; 16 U.S.C. 528-531 sec. 1), which explicitly included outdoor recreation, wildlife, and fish among the purposes for which national forests were to be managed.⁵ Four years later Congress passed the 1964 Wilderness Act, which authorized setting aside federal lands to be "protected and managed so as to preserve its natural conditions" (78 Stat 890; 16 USC 1131-1136 sec 2 (c)). Congress' passage of the Multiple Use and Sustained Yield Act and the Wilderness Act brought the sub-theme of forests as playgrounds closer to the foreground of forest management debates, and reinforced the sub-theme that at least some areas of the national forests ought to remain relatively untouched by humans.

Upper-level managers in the U.S. Forest Service, however, interpreted multiple use to mean that timber production ought to be the dominant use of many parts of the national forest system, with the other uses receiving only secondary consideration (Hoberg 1997:49; Hirt 1994:39). Forest policy analysts attribute the Forest Service's continued timber production orientation to the agency's decentralized and locally responsive management structure, and to the dominance of forest engineers and production foresters in the agency's subculture (Hoberg 1997:49; Brown and Harris 1992:242-243; Twight and Lynden 1989:39-41). Timber production figures for the

⁵ Section 1 of the June 12, 1960 Multiple Use Sustained Yield Act states: "It is the policy of Congress that the national forests are established and shall be administered for outdoor recreation, range, timber, watershed, and wildlife and fish purposes."

national forest system thus remained at very high levels through the 1960s and 1970s, hovering around 10 mmbf as an annual average during the 1970s (Gregg 1989:156).

By the 1970s, however, the tide began to turn on the timber industry's dominance over the U.S. Forest Service. The passage of the National Environmental Policy Act in 1969 marked a significant shift in the nation's attitudes toward scientific expert management by nation-state bureaucracies, such as the Forest Service and the Bureau of Land Management. To the forest user groups not part of the "iron triangle" that had formed between the large timber companies, the Forest Service, and the Senate and House subcommittees dealing with natural resource issues, the decisions made by the Forest Service during the 1950s and 1960s seemed neither objective nor environmentally sound. NEPA, which contains language requiring federal agencies to make their decision-making more transparent to the public, and requiring the agencies to provide opportunities for broad public review of its decisions, constituted an important step in the gradual weakening of the Forest Service's timber culture (Ackerman 1990).

Despite growing opposition to its clearcutting practices, the Forest Service continued to ratchet up the pace and extent of its clearcutting operations during the 1960s and early 1970s. The agency expanded the use of clearcutting to the eastern forests, where uneven-aged management had previously been the normal timber harvesting practice, and it designed a series of vast clearcuts and regeneration terraces on steep, unstable slopes in the Bitterroot Range in Montana (Hirt 1994:246). Public opposition to these practices was so vehement and widespread, that congressional members at the national and state levels called for independent analysis of the conflicts over clearcutting. Perhaps the most influential report was the Bolle Report put together by the University of Montana Forestry School (Hirt 1994:248). The Bolle Report provided a scathing indictment of the Forest Service's clearcutting practices, labeling them timber mining rather than timber harvesting (Hirt 1994:248). Meanwhile in West Virginia, a group of turkey hunters asked the Izaak Walton league to file a suit on their

behalf against the Monongahela National Forest's new clearcutting practices, on the grounds that the practice violated the 1897 Organic Act's stipulations that all trees had to be individually marked before they could be cut (Hirt 1994: 260-261). In response to pressure from an uneasy alliance between environmentalists, scientists, and sports associations, in 1976 the U.S. Congress passed the National Forest Management Act (NFMA) of 1976 to help resolve the conflicts over clearcutting in the national forests (Wilkenson 1992:144-146). During the NFMA hearings in the 1970s (U.S. Congress 1976), national and Pacific Northwest policy debates centered around the questions: "How fast should we cut old-growth trees, and what management practices will permit us to cut old-growth while accommodating other forest uses?" Although the NFMA legalized clearcutting, it eventually weakened the hold of the timber hegemony on the national forests since it also required the Forest Service to expand public involvement opportunities and to more fully consider other forest management options when drawing up timber sales (Hays 1991).

A series of environmental laws (e.g. Resources Planning Act, Endangered Species Act, and the National Environmental Policy Act) passed by Congress between 1969 and 1976 together with the NFMA of 1976 contributed to the gradual decline in the timber hegemony over national forest lands (Hoberg: 1997:50-53; Gregg 1989:167-168; Dunlap 1989:214-225). These laws shifted the dynamics of power in the forest policy arena in several important ways. First, these environmental laws all contain language that required the Forest Service to move away from its one discipline, single resource focus and begin looking at the forests under its charge in a more interdisciplinary and systemic fashion.⁶ They also set up a planning process that required the agency to

⁶ Sec. 102 of NEPA (83 Stat. 852; 42 U.S.C. 4321, 4331-4335, 4341-4347) for example states that federal agencies shall "utilize a systematic, interdisciplinary approach which will insure the integrated use of natural and social sciences and the environmental design arts in planning and in decision-making which may have an impact on man's environment." Sec. 2(b) of the Endangered Species Act states that one of the purposes of the Act is to "provide a means whereby the ecosystems upon which endangered

examine cumulative impacts of actions on the environment, and to take into account the effects of different actions on biodiversity (Keiter 1990:48-57). Second, the regulations based on these laws established procedures for public input and information dissemination that greatly expanded the cast of players who could have input into environmental management decisions (Hoberg 1997:50-53; Buck 1996:18-19; Hirt 1994:256-265; Culhane 1990:692). Third, they required that federal agencies, including the U.S. Forest Service, explicitly and publicly lay out the impacts of different possible management options for specific management actions, such as a timber sale, the issuance of a special permit for a recreational facility, or resource protection set-asides (Buck 1996:18-19; Hirt 1994:256-265). To comply with NEPA, for example, the Forest Service now had to prepare environmental impact statements or environmental assessments for many of its activities. Similarly, to comply with the Resources Planning

species and threatened species depend may be conserved,....” while Sec. 2(c) of the ESA states that “all Federal departments and agencies shall seek to conserve endangered and threatened species...”; 36 CFR 219, the regulations that are derived from the NFMA also include language that eventually forced the Forest Service to shift away from its timber production orientation. For example, Sec. 219.1(b)(3) states that forest planning will be based on the “recognition that the National Forests are ecosystems and their management for goods and services requires an awareness and consideration of the interrelationships among plants, animals, soil, water, air, and other environmental factors within such ecosystems.” Sec. 219.19 also emphasizes the importance for the agency to manage the lands under its jurisdiction for fish and wildlife, as well as timber: “Fish and wildlife habitat shall be managed to maintain viable populations of existing native and desired non-native vertebrate species in the planning area.” Sec. 219.26 requires the agency to take biodiversity into account as well: “Forest planning shall provide for diversity of plant and animal communities and tree species consistent with the overall multiple-use objectives of the planning area.” Sec. 219.27 (g) states further: “Management prescriptions, where appropriate and to the extent practicable, shall preserve and enhance the diversity of plants and animal communities, including endemic and desirable naturalized plant and animal species, so that it is at least as great as that which would be expected in a natural forest and the diversity of tree species similar to that existing in the planning area.

Act and NFMA, each National Forest was required to develop a Forest Plan following a procedure designed to make the decision-making process more transparent. This process consisted of first identifying issues, concerns and opportunities associated with the forest and its resources, developing a range of management alternatives to address those concerns, assessing the environmental, economic, and social effects of each alternative, and then selecting the preferred alternative with reasons provided for why that alternative was chosen over the others (Deschutes National Forest Land and Resource Management Plan (DNF LRMP) EIS 1990:1-3).

The demand for transparency in forest management and expanded public involvement reflected growing public skepticism about the agency's professionally trained foresters' claims as neutral and objective decision makers (Tipple and Wellman, 1989). At the same time, however, NEPA, the NFMA, and the Resources Planning Act, and the planning regulations developed based upon them strengthened the power of science as a legitimating political tool by explicitly requiring that decisions incorporate scientific analysis (Culhane 1990:685).

Forest Politics in an Information Economy

By the 1980s, the economic and cultural environment in the Pacific Northwest had changed dramatically since 1891 when Congress planted the seeds for the national forest system. The new information economy, which Abbott (1999:121) refers to as "Cascadia," is oriented along a north-south axis stretching from Vancouver B.C. to Eugene, Oregon, rather than east-west along the Columbia River as was the case for the region's former natural resource production economy. Cascadia's tentacles stretch eastward to the historically less-densely populated rural areas east of the Cascades, but the glittering metropolises on the westside of the Cascades – Vancouver, Seattle, Tacoma, Portland – constitute the central nodes of the high-tech and service-based Cascadian economy (Abbott 1999:121). Smaller cities, such as Spokane, Washington, Boise, Idaho and Bend, Oregon function as important peripheral nodes linking still rural

and once-rural parts of the Pacific Northwest to the coastal cities and global communication networks that form the basis of Cascadia (Abbott 1999:121).

In the new information economy, the forest as production place discourse began to lose its broad political appeal, even though timber and wood fiber consumption levels continue to rise. As the Cascadian economy expanded in the 1980s, rural places increasing became valued as much for their “recreation and refreshment” (Abbott 1999:121) as for the livestock, timber, or minerals they produce. At the same time, the region’s urban areas became the source of “new ideas about environmental regulation and management and a source of political force behind those ideas” (Abbott 1999:122). One of the ideas that pervades environmental management in the new Cascadian economy, is the notion that “lofty mountains, canyon views, mild climates, sprawling forests, lonely trails, fished-filled streams, rugged coastlines, wide vistas, and unhurried hamlets” are assets, rather than economic liabilities (Ewert 1999: 23; Power 1996:4-5). The influx of new people and new notions of environmental values also has brought social and economic conflict into rural areas of the Northwest, as longer term residents, many of whom work in resource extraction industries, lose jobs and political and economic power to the newcomers (Ewert 1999:24; Riebsame et al. 1997:46).

The growing persuasive power of the forest as playground and a sources of aesthetic pleasure, however, is only one aspect of the recent shift in the political dynamics of the Pacific Northwest’s forest policy area. At least equally important has been the rise in persuasive power of discourse of forests as protected spaces and, in particular, the biocentric strand of that discourse in which forests are portrayed as ecosystems worthy of protection for their own sake, rather than for the use they have for humans.

The Emergence of Ecosystem Management

The forests as ecosystems view emphasizes holistic management approaches, such as landscape or ecosystem management, that encompass multiple species, rather than single species or resources (Keiter 1990:45). Instead of focusing on stability, the new ecological paradigm focuses on the dynamic qualities of ecosystems and views

disturbances, such as fire and insect epidemics, as integral to the system (Haeuber 1996:14). From a management standpoint, proponents of ecosystem management focus on creating desired ecological conditions as the goal of management actions, rather than focusing on resource outputs:

In ecosystem management, objectives for land and water resources are related first and foremost to the integrity, vitality, and resilience of ecosystem structures and processes. Ecosystem management reflects growing public awareness and acceptance of environmental values, increasing emphasis of the scientific community on ecological concerns such as biodiversity, and changing professional practices that view conditions of the land to be just as relevant as the quantities of outputs that can be produced (Cortner and Moote 1999:1-2).

As the ecosystem view of forests gained a stronger foothold in the Pacific Northwest during the 1980s, the forest policy questions under debate shifted from “How much old growth can we cut and still adequately preserve other forest values?” to “*Should* we cut old-growth forests at all, and if so, how can we structure management activities so as to minimize damage to the ecosystem?” Aside from the economic and cultural changes noted above, other factors that contributed to the reframing of the Pacific Northwest Policy debates included: 1) Changes in the ways in which ecological scientists conceptualized ecosystem dynamics, 2) a series of lawsuits filed by environmental organizations against the Forest Service and Bureau of Land Management, and 3) a change in the professional make-up of the U.S. Forest Service, leading to strong internal resistance to the agency’s timber production orientation.

The Role of Science

The shift toward old growth protection as the major question on regional forest policy agendas during the 1980s and 1990s was linked to changes in scientific understanding about the importance of old growth structures and ecological processes for wildlife habitat, nutrient recycling, carbon storage, and so forth (Antypas 1998). Ironically, Forest Service ecologists played a key role in publicizing the long-term

ecological studies that environmentalists and other social actors used as ammunition in their efforts to keep the remaining old growth stands from being included in new timber sales (Antypas 1998:102-104).

In the new ecosystem management paradigm, forests became viewed first as life support systems and reservoirs of biodiversity, and only secondarily as reservoirs of commodities (Hays 1991). The Forest Service scientists, known as the Andrews Group,⁷ who conducted ecological studies in old growth forests saw their work as providing a compromise between the timber hegemony and the deep ecology⁸ end of the environmentalist movement. Rather than assuming away disturbance from forest ecosystems, the Andrews Group proposed that ecologists try to understand the role and processes of disturbance, and then work with foresters and other scientists to develop forest management techniques that would mimic nature, rather than seeking to control it and thereby accomplishing production and preservation goals simultaneously (Antypas 1998:166-169).

The Role of the Courts

In the early 1970s, Oregon biologists studying the northern spotted owl, which was listed as a rare species under Oregon's Endangered Species Act noted that the owl's presence was correlated with old growth forests (Antypas 1998). As the 1980s wore on, and timber volumes coming off the Pacific Northwest's forests continued to rise (Hirt

⁷ The Andrews Group consists of a group of scientists who began conducting integrated research on old-growth forests during the 1970s on the H. J. Andrews Experimental Forest, which was established by the U.S. Forest Service in 1948 (<http://www/fsl/orst.edu/lter/about/abointro.htm>).

⁸ Arne Naess coined the term "deep ecology" in 1973 to describe a spiritual approach to being with and understanding nature (Devall and Sessions 1985:65). Devall and Sessions (1985:65) note that "Deep ecology goes beyond a limited piecemeal shallow approach to environmental problems and attempts to articulate a comprehensive religious and philosophical worldview." Deep ecology differs from normal ecology by going "beyond the so-called factual scientific level to the level of self and Earth wisdom" (Devall and Sessions 1985:65).

1994), proponents of old-growth preservation, including the Oregon Wilderness Coalition, Seattle and Portland Chapters of the Audubon Society, the Wilderness Society, the National Wildlife Federation, Ancient Forests Campaign, and the ONRC, filed various suits against the Forest Service between 1984 and 1992 for its failure to meet the requirements of the NFMA planning requirements regarding species protection and the cumulative effects of timber harvesting on the northern spotted owl (U.S. Congress 1992b). The conflict over old growth came to a head in 1989 when U.S. District Court Judge Dwyer issued an injunction prohibiting the Forest Service and the Bureau of Land Management from letting any new timber sales out for bid until they came up with a viable plan to address concerns over the effects of old-growth harvesting on the northern spotted owl, which was under consideration for listing by the US Fish and Wildlife Service as threatened or endangered (Hirt 1994). The volume of timber cut on national forests dropped precipitously from a height of 12.7 mmbf in 1987 to 5.9 mmbf in 1993 as the cutting of federal old growth forests ground to a halt due to Judge Dwyer's injunction (Hoberg 1997:55).⁹

The Role of Internal Dissension

Meanwhile, opposition to the Forest Service's timber production focus began to grow stronger from within the agency itself (Hirt 1994). Long dominated by "dirt" foresters, by the late 1980s the Pacific Northwest offices of the Forest Service had become increasingly diverse in terms of its professional make-up (U.S. Congress 1990). The agency's growing professional diversity was due in large part to the interdisciplinary team planning requirements mandated by the Resources Planning Act, the National Forest Management Act and the National Environmental Policy Act. Where loyalty was previously unquestionably given to the "District" and to the engineering and silvicultural professions, many employees now had strong loyalties to

⁹ In 1998, the most recent year for which data is available, 6.5 mmbf of timber were harvested on national forests located in Region 6 (http://www.fs.fed.us/land/fm/ts_r_f/1998/r06.html).

other professional disciplines, such as ecology and wildlife biology. Many of these professionals found themselves in the awkward position of having to implement forest policies that conflicted with their own values (US Congress 1990). By 1989, dissension within the Forest Service had reached the point where 52% of the nation's Forest Supervisors signed a memo to the Chief of the Forest Service stating that they no longer felt that the Forest Service was fulfilling its stewardship obligations (U.S. Congress 1990). In the same year, Jeff DeBonis, a timber planner with the Forest Service, formed the Association for Forest Service Employees for Environmental Ethics (AFSEEE), a counter-movement organization open to Forest Service employees at all levels (U.S. Congress 1990). By 1990, the ranks of AFSEEE had grown to 4,500, of which 1800 were Forest Service employees, and many of whom were vocal in their opposition toward the agency's timber harvesting policies (U.S. Congress 1990).

Getting Past Gridlock

By 1991, the Pacific Northwest forest policy situation reached complete gridlock. One faction consisted of timber industry supporters who claimed that reducing old growth harvesting on the national forests would produce an economic disaster for the region's rural people (U.S. Congress 1992a and 1992b). The opposing faction was made up of environmentalist supporters who maintained that the northern spotted owl, as well as other species, faced extinction if the Forest Service continued to sell the rights to cut down old growth trees, and that its refusal to consider other options was not only ecologically risky, but also a violation of the Endangered Species Act (Antypas 1998). Facing opposition both from within and from outside, in 1992 Chief Forester, Dale Robertson, issued a memo outlining the agency's intention to implement ecosystems management on lands within the national forest system (U.S. Congress 1992a). Robertson's memo states:

By ecosystem management, we mean that an ecological approach will be used to achieve the multiple-use management of the National Forests and Grasslands. It means that we must blend the needs of people and

environmental values in such a way that the National Forests and Grasslands represent diverse, healthy, productive, and sustainable ecosystems....

An ecological approach to managing the National Forests and Grasslands is the right way to go because forests are dynamic and complex ecosystems. Forest ecosystems change over time whether managed by people or not. Our management and care is essential to providing diverse and productive habitat for wildlife and fisheries, clean water, clean air, outstanding opportunities for outdoor recreation, natural wood products for American families, and long-term stability to the ecosystem (Robertson 1992:1).

Despite the agency's adoption of an ecosystem philosophy, the forest policy gridlock continued. In 1993, President Clinton sought to break the impasse by bringing the various factions together at a Forest Summit held in Portland, Oregon, providing a public forum for the different players to air their concerns (Rayner 1996:92). Immediately following the Forest Summit, Clinton established an interagency team of scientists, known as the Federal Ecosystem Management Assessment Team (FEMAT), to work out a legislative solution to the old growth wars (Rayner 1996:92). Scientists and other technical experts from the Forest Service, Bureau of Land Management, Environmental Protection Agency, US Fish and Wildlife Service, the National Park Service, the National Marine Fisheries Service, and a number of universities participated in the planning exercise (Thomas 1994:12). Lacking sufficient bipartisan support, the Clinton administration chose not to seek Congressional sanction of the team's range of forest management options (Rayner 1996:92). However, the FEMAT options became the basis for the Forest Service and Bureau of Land Management to develop a joint Environmental Impact Statement laying out a range of alternative management options for managing the late-successional and old-growth forest habitat found within the northern spotted owl's range (Tuchmann et al. 1996).

In April 1994, the two agencies issued a joint Record of Decision (ROD), also known as the Northwest Forest Plan, selecting a modified version of FEMAT's Option

9, as the preferred management option for addressing concerns about the northern spotted owl and setting forth Standards and Guidelines (S&G) for implementing the management plan (ROD 1994; S&G 1994). The ROD amended the agencies' existing planning documents, which in the case of the Forest Service included Regional Guides and Forest Plans for those National Forests which had already approved forest-wide land management plans (ROD 1994:12]. The Deschutes National Forest, and the Sisters Ranger District, fall partially within the boundaries of the ROD's applicability (ROD 1994:12]. The Northwest Forest Plan calls for a maximum annual cut of 1.2 mmbf within the northern spotted owl zone (Hoberg 1997:59), down considerably from the average 4.5 mmbf annual cut extracted from the same area between 1980-1989 (FEIS 1994:2-78). The NWFP affects 24.5 million acres of federally administered land, including 19.4 million acres of land administered by the Forest Service (FEIS Vol. I 1994:3&4-5;11).

Resistance and Opposition to Ecosystem Management

When court injunctions halted major timber sales in 1989, the timber industry and other supporters of the notion that the national forests should be timber production places focused their efforts to further their position in the legislative arena. They were somewhat successful in meeting their objectives in 1990, when the U.S. Congress attached a rider (Section 318) to the Interior Appropriations Act of 1990 exempting timber sales already underway from the U.S. District Court injunctions (U.S. Congress 1992b). However, this victory was not obtained cheaply: Section 318 also established a precedent for old-growth set asides (U.S. Congress 1992b). In 1995, the timber industry managed to get around the annual cut restrictions laid out in the Northwest Forest Plan by persuading Congress to attach a rider to the 1995 Rescissions Act. In the name of preserving forest health, the 1995 rider permitted cutting to exceed the plan's limits in areas, such as the Deschutes National Forest, where old-growth forests are affected by insect epidemics or disease (Hoberg 1997).

During the early 1990s, Congressional hearings held to discuss how to manage national forests located on the eastside of the Cascades, revealed that considerable ambiguity surrounds understandings of ecosystem management (U.S. Congress 1992a). In those debates, the forest as production place discourse has highlighted the issue of forest health, and the ways in which production forestry can help protect dead and dying forests in the West from further insect damage, disease, and fire. For example, salvage logging (which in eastside forests generally involves clearcutting extensive areas) is hailed as a means to "save" old growth forests from insects and disease:

The forests of this nation need to be returned to a healthy condition. The introduction of controlled fire, salvage logging, thinning, and stand manipulation are tools the professional forester must be given the opportunity to use" (Wiedeman in U.S. Congress 1992a: 165).

Protectionists, on their part, have already begun to doubt the sincerity of the public land management agencies' intentions in adopting the ecosystems approach:

The major declines in eastside forest health have occurred in the relatively short period of time in which the Forest Service and the Bureau of Land Management have been managing forest lands.. Now, in the name of forest health, federal timberland managers are claiming that they can heal the forest if they are allowed to increase the intensity of the very things that created the problem in the first place" (Mininick in U.S. Congress 1992a: 200).

The strong ambivalence about ecosystem management within the forest management discourses is further evidenced by the response to the publication of the Northwest Forest Plan, which both the timber industry and environmentalists unsuccessfully appealed (Hoburg 1997).

Section 3 - Conflict in the Metolius Basin

Political ecologists emphasize the importance of examining the micro-politics of resource conflicts to understand how local socio-ecological interactions both influence and are influenced by socio-ecological interactions at larger scales. Indeed, an

exploration of the struggles that took place between 1980 and 1990 on the Sisters Ranger District over how the Metolius Basin should be managed illustrates how the interconnections between micro and macro level resource politics served to support the rise of ecosystem management in national forest policy. Coincidentally, the struggles over the Metolius occurred at a time when the commercial wild mushroom industry in the Pacific Northwest underwent rapid expansion, and they thus had an enormous influence over the direction of wild mushroom policy in central Oregon. This section provides an historical overview of the shift in forest management philosophy on the Sisters Ranger District and the Deschutes National Forest between the late 1970s and the late 1990s. The evidence suggests that both rhetorically and in practice, the District and the Forest shifted from a timber primacy philosophy to an ecosystems protection primacy philosophy during those twenty years.

The Deschutes National Forest Plan

The struggle over what the Metolius Basin should be managed for emerged out of local struggles by environmental and recreational groups to open the agency's decision-making process to a broader range of views and cultural values. Shortly after the passage of the National Forest Management Act in 1976 the Deschutes National Forest was designated as one of the lead Forests to develop a new forest plan with public input (Deschutes National Forest Land and Resource Management Plan [DNLRMP] Final Environmental Impact Statement [FEIS] Appendix J:J-1). On the basis of comments received in a number of public workshops held in central and western Oregon during 1978 and 1979, the Forest Supervisor for the Deschutes National Forest issued a draft environmental impact statement and forest plan in late 1982 for public review and comment (DNF LRMP FEIS J-4). The 1982 plan adhered closely to the Forest Service's prevailing vision of the forest as a place for producing timber, and included a timber management schedule designed to rapidly transform most of the district's remaining old-growth mixed conifer forests into even-aged, monocultural stands through the use of aggressive and widespread clearcutting.

However, the District and Forest staff greatly misjudged the strength of the local and national anti-clearcut movement, as well as the strength of the local and national movement by environmentalists and recreationists to obtain a greater voice in forest planning. The new Forest Plan process ended up being considerably prolonged as planners on the Deschutes National Forest sought to come up with a credible public involvement process as well as a Forest Plan acceptable to the timber industry, the tourism industry, and environmental groups. After doing a much more intensive analysis during 1983-1985, the Forest Supervisor issued a new draft plan in 1986. Several years of contentious negotiations followed between the forest planners and various timber industry associations and firms, tourism industry groups, national environmental organizations, local environmental organizations, state natural resource management and economic development agencies, the federal Environmental Protection Agency and the U.S. Fish and Wildlife Service (DNF LMRP 1990). In August 1990, the Forest Supervisor issued a final Record of Decision for a Land and Resource Management Plan for the Deschutes National Forest (DNF LMRP 1990). In the decade of negotiations required for the development of the plan, the Deschutes National Forest, including the Sisters Ranger District, shifted from a strong timber production orientation in its management philosophy toward an increasingly recreation and environmental protection orientation. This shift is reflected in the 1990 Management Plan (DNF LMRP 1990).

Timber Sales in the Metolius¹⁰

On the Sisters District, the long-standing struggle among the competing discourses of forests as production places, playgrounds, and protected places, bubbled to the surface in the summer of 1983 when the Sisters Ranger District's announced its

¹⁰ The Sisters Nugget, the weekly newspaper for the town of Sisters, provided much of the data I used to write the following section. For simplicity, I have used the acronym "SN" in place of spelling out the newspaper's full name.

intentions to sell rights to log 10 million board feet, including a number of large diameter ponderosa pines, from mature stands of timber located along the upper reaches and headwaters of the Metolius River (Sisters Nugget [SN] 8-3-83:1,13). From the District Ranger's standpoint, the sale, known as the Little Buck Timber Sale, seemed innocuous: The 1978 Forest Management Plan for the Deschutes National Forest clearly included the Metolius River Basin Corridor in its allowable cut base, and the corridor's "scenic view" designation permitted the agency to undertake activities, including clearcutting, that would modify the landscape (SN 8-3-83:1,13; SN 8-24-83:1,9). From the standpoint of timber management specialists on the district, the trees along the Metolius were overmature, potentially hazardous, and badly in need of harvesting (SN 8-24-83:1,9). Moreover, as the Sisters District Ranger noted at the time, "...the Metolius Basin does contain some of the most valuable timber in the Sisters District..." (SN 8-24-83:9). At a time when the wood products industry provided 70% of the manufacturing jobs in Deschutes County, and at a time when most of the timber feeding the industry came out of the Sisters Ranger District, cutting timber along the Metolius River made economic sense to many people in the District office (SN 9-7-83:1,3).

However, many people outside the Forest Service strongly disagreed. The ranger's announcement of the Little Buck timber sale set off a statewide controversy over the advisability and necessity of logging an area that had long had a reputation for being one of Oregon's "crown jewels" (Hatton 1996). In the words of Don Eixenberger, conservation director at the time of the Northwest Council of the Federation of Fly Fishermen: "The Metolius is a sanctuary, a church to some people and you want to cut it down with a chainsaw" (SN 8-10-83:3). Two groups quickly formed to oppose the sale (SN 8-3-83:1,13). The Little Buck Consensus Committee took a "let's negotiate a lower volume of cut" approach and entered into a consensus planning process with the Sisters Ranger District (SN 8-3-83:1,13). The "No Cut in the Little Buck" Committee refused to participate in the informal planning process and mounted an effort to remove the Metolius Corridor entirely from the District's timber base (SN 6-13-84:14). By the

fall of 1984, the district had received hundreds of letters commenting on the sale, with comments running 99 to 1 against any kind of logging in the Metolius Basin (SN 9-19-84). The consensus group prevailed, however, and in January 1985 the District Ranger issued a new plan calling for the removal of 800,000 bf of prime timber, as well as 500,000 –1,000,000 board feet of salvage timber over a period of 10 years (SN 1-30-85:1,3).

From the standpoint of wild mushroom management, this first battle over timber cutting in the Metolius was important for several reasons. First, though logging continued in the Metolius Corridor, the volume removed under the revised plan was a small fraction of that originally proposed for removal. For the first time in nearly a hundred years, the proponents of the forest on the Sisters Ranger District as a production place lost a significant and very public struggle with those who supported the notion of the forest on the District as either a playground or protected place. Second, the struggle also made clear that, without watchdogs, the Forest Service would put timber production concerns ahead of aesthetic values, even in areas officially designated as scenic areas and where logging could only be done if it protected or enhanced scenic views (SN 8-24-83:1,9). The Little Buck Timber Sale thus provided the spark for the development of a strong core of locally based opponents to the Forest Service's forest management practices. The opposition eventually coalesced to form a group known as Save the Metolius, which later became Friends of the Metolius (FOM). As I will discuss in Chapter Six, a decade after the Little Buck controversy, the Friends of the Metolius inadvertently played a pivotal role in enabling the District to consolidate its efforts to control wild mushroom harvesting and buying activities on the district. Third, the Little Buck Consensus Committee's success hinged upon their argument that the planners had failed to take into account the cumulative impacts of site by site harvesting in the Metolius Basin (SN 6-13-84:14). They thus hammered home to the District staff the importance of taking a broader based view of planning than the District was accustomed to (SN 6-13-84:14).

Over the course of the next decade, the issue of cumulative impacts of timber harvesting gained increasing political currency in Sisters, as well as the rest of the Pacific Northwest. The Forest Service's adoption of ecosystem management in 1992 exemplified the agency's concession to environmentalist demands that the agency take cumulative impacts into account and adopt landscape scale planning. As I will illustrate in Chapter Six, concern about cumulative impacts and the growing popularity of the notion of ecosystem management played important roles in supporting moves to strengthen the nation-state's claims to the world of wild mushrooms at Sisters and elsewhere.

The Bartlett and Layton Timber Theft

The controversy over the what the Sisters District forests should be used for and who should have a voice in deciding how to manage them did not end with the newly negotiated Little Buck Sale. Nine months after the District Ranger published the details of the revised Little Buck Sale, Paul Dewey, an attorney from Sisters, appealed the Black Pine Sale near Squaw Creek and the Walla Bear Sale near Three Creeks at the southern end of the district (SN 9-11-85:1,7). The management plans for both sales called for heavy clearcutting, with roughly 19 mmbf scheduled for removal (SN 9-11-85:14). Farr, the new District Ranger, noted that the pines in the sale areas suffered from a mistletoe infestation. To get rid of the mistletoe, his staff had designed a series of clearcuts, rather than adopting the shelterwood design which environmentalists preferred (SN 9-11-85:14). In addition, Farr voiced the Forest Service's intention to continue logging old growth areas on the grounds that much of the timber in the District was over-mature and in need of large-scale clearing:

We want a distribution of age classes in the forest. Right now the vast majority of the district is in old growth timber. Our goal is to get the stands in a managed condition of various ages (SN 9-11-85:14).

Farr also stressed the importance of timber to the region's economy: "To protect jobs, the timber industry, we have to decide how much of this land goes into timber

harvest allocation” (SN 10-9-85:18). Since both the Walla Bear and Black Pine sale areas fell under timber management allocations in the 1978 DNF Forest Management Plan, in Farr’s view the sales fit well within the bounds of permitted activities (SN 10-9-85:1,18). Indeed, in his opinion, to leave the area uncut would be contrary to the management plan and would require the Forest to make a change in the land management allocation for the sites (SN 10-9-85:18).

Dewey maintained that such extensive cutting was short-sighted and diametrically opposed to the economic well-being of the area, which he claimed was rapidly shifting from a timber based economy to a tourism based economy:

Tourism is obviously the new economic base in the area. A great many tourists use the Three Creek area as well as Squaw Creek. A great many local people use those areas. We protected Squaw Creek last year [from a proposed hydroelectric development] for these very reasons. Obviously it is worth protecting, just as tourism is. The two go hand in hand (SN 10-2-85:8).

Importantly, Dewey appealed the sales on the grounds that the public should have been involved in the planning process, rather than because they called for the use of clear cut harvesting techniques:

These units are for public use. I’m not saying to stop logging in this area; what I’m saying is let’s plan the best way in which to log the area and still preserve public use areas. I think there should be a community consensus (SN 10-2-85:1).

Again, local opposition to the Sisters District’s decisions centered on trying to open up the process by which the District arrived at decisions, rather than attacking the decision itself. In December 1985, the District Ranger announced that he would defer some of the sale areas until a new forest plan had been adopted, and that they would include requirements that the fallers leave 12 trees per acre instead of the previously planned upon 3 to 5 leave trees per acre (SN 1-1-86:5). A month later Dewey dropped his appeal of both sales (SN 1-29-86:1). A year later, however, Dewey, went out to the

sale areas and found that Layton and Bartlett, Inc., the logging company which had bought cutting rights to the sale, had cut down to the very edges of the watercourses that the Forest Service had agreed to leave a corridor around. Dewey was outraged, and initiated action to bring a suit against the company for illegal harvesting in visually sensitive areas (SN 4-8-87:1; SN 4-15-87:1,10; SN 4-29-87).

Any credibility that the Sisters Ranger District and the Deschutes National Forest had in the eyes of local and national environmental organizations disappeared with the emergence of the Layton and Bartlett logging theft scandal, which the Assistant U.S. Attorney in charge of the case called “One of the most significant and largest timber theft cases ever prosecuted in the United States” (SN 6-1-88:1). The scandal provided environmentalists with unexpected political leverage in the new round of Forest planning that had begun in 1986.

Saving the Metolius

Local and national environmental groups took advantage of the Forest Service’s and timber industry’s weakness in credibility to shift the forest management debates on the Deschutes National Forest to a new set of concerns. Up until the timber theft scandals, the environmentalist and tourism agendas focused primarily on getting the Forest Service to use uneven-aged management regimes rather than the District’s preferred alternative of an even-aged “departure” harvesting scheme. In lay terms, the departure harvest proposal translated into plans to clearcut large areas of the Forest over the next decade to remove trees infested by mistletoe, insects, and root rot. Once the infected and diseased stands had been “treated,” the Forest would scale back on its harvesting program (DNF LMRP FEIS 1990). Local and national environmental groups, as well as tourist industry, homeowner, and recreational associations, used the timber theft scandal as leverage to move the departure harvest scheme off the planning agenda and to shift old growth preservation, water quality improvement, fish habitat protection, timber harvest volume reductions, and the designation of the Metolius Basin as a special conservation area onto the agenda (DNF LMRP FEIS 1990).

Federal District Court Judge Dwyer's injunction on timber harvesting in the northern spotted owl region of Oregon and Washington provided an opportunity for those who envisioned the Sisters District as primarily a playground or protected place to consolidate their influence over the forest planning process. Although only the western half of the district fell within the spotted owl zone boundary (DNF Late Successional Reserve Overview 1995), the effect of the injunction on Sisters' timber economy was enormous. According to the Sisters Nugget, the local weekly newspaper, the Forest Service had planned to sell 42 mmbf of timber in FY 1989 on the Sisters District, but by August of that year, just one month short of the end of the federal fiscal year, had only contracted out 14 mmbf (SN 8-2-89:1, 14-15). One logging company alone lost out on an 8.7 mmbf contract that the District had not yet awarded when the injunction came through (SN 8-2-89:1,14-15).

Sensing a change in the political winds, in the summer of 1989 a group calling itself "Save the Metolius" (which later became "Friends of the Metolius") proposed that the Forest Service designate a national conservation area encompassing the Metolius Basin, Green Ridge, Black Butte, and Suttle Lake region (SN 8-30-89:1,10). Save the Metolius took a prominent role in the Deschutes National Forest's forest management plan development process, and managed to generate sufficient support within the agency for the establishment of a special Metolius Conservation Area (DNF LRMP 1990). The Metolius Conservation Area encompasses 86,000 acres ranging from Green Ridge to the wilderness area boundary on the west side of the Sisters Ranger District and from the Horn of the Metolius at the north end of the district to the southern foot of Black Butte in the middle of the district.¹¹

The struggles recounted above over the Metolius Basin clearly reflected and influenced region-wide and nation-wide struggles to redefine the purposes of national

¹¹ The Metolius Conservation Area is divided into a variety of special management zones, including the Metolius Heritage Area, the Metolius Wildlife-Primitive Area, Metolius Black Butte Scenic Area, the Metolius Special Forest, and three Metolius Old Growth Groves.

forest reserves during the 1980s. The struggle at Sisters began as a reaction to the timber production focus of the Sisters Ranger District's timber-oriented management philosophy and practices. It ended by shifting the terms of local forest management debates in two important ways. First, it shifted protection discourse to the foreground, and moved both production and playground discourses to the sidelines. Second, it opened up the forest planning process to a much broader range of social actors than had previously been engaged in forest management decisions on the district, opening up possibilities for new perspectives and values to enter into the management process. In the following chapter, I explore the on-the-ground consequences on the Sisters Ranger District of the emergence of protection discourse onto center stage, and the entry of new social actors into the district's forest management processes.

CHAPTER 4 - THE NORTHWEST FOREST PLAN

Introduction

The Northwest Forest Plan, which draws heavily on the discourse of ecosystem protection, represents a major shift in the federal government's formally stated management priorities for federal forest lands in Washington, Oregon and Northern California that fall within the range of the northern spotted owl. The northern spotted owl range is used as a proxy for delineating the boundaries of old growth, or late successional, forests in the western portions of those three states (ROD 1994:1-4). The Plan consists of two major components, one addressed at terrestrial portions of forest ecosystems and one addressed at aquatic portions of forest ecosystems (S&G 1994:B1-B10). The terrestrial component centers on the delineation of a series of late-successional reserves, in which the goals of forest management are to restore and maintain late successional habitat forest structures and processes (S&G 1994:B4-B5). The aquatic component centers on the delineation of riparian reserves, with a function and management objectives analogous to the late successional reserves, and on the delimitation of key watersheds which are to serve as priority areas for protection and restoration (S&G 1994:B9-B10).

In this chapter I analyze the key elements of the Northwest Forest Plan and examine what its early effects have been on forest management activities at Sisters, particularly those activities that affect commercial wild mushroom harvesting opportunities, working conditions, and living conditions. In Section One I briefly analyze the forest management objectives of the Plan, and explain how those objectives provide rhetorical support for an ecosystem protection discourse of forest management. I then illustrate in Section Two how the Plan sets up a disciplinary power framework for guiding Forest Service activities in the northern spotted owl zone for the purposes of protecting and restoring habitat conditions suitable for perpetuating the owl and other old growth species. In the third and last section I explore the changes that have taken place on the

Sisters Ranger District as the Forest Service seeks to implement the ecosystem protection goals of the Northwest Forest Plan.

The major dilemma the District faces is that virtually all of the spotted owl habitat on the Sisters District was created as a result of over a century of human-induced fire suppression, selective cutting of mature Ponderosa pine during the first half of the 20th century, and large-scale clear-cutting during the last half of the 20th century.

Unfortunately for the spotted owls, these late successional forests are ecologically very unstable and likely to be destroyed at any time by stand replacing fires or insect and disease epidemics. The Sisters Ranger District staff are thus caught in a conundrum – the Northwest Forest Plan prohibits them from carrying out the types of forest management practices that created northern spotted owl habitat on the district in the first place, yet at the same time, if they don't drastically thin the spotted owl habitat,¹ natural disturbances in the form of catastrophic fire and large scale insect infestations and disease will eliminate not only the remaining owl habitat, but possibly large acreages of other types of forest habitat as well. The District has sought to address this conundrum, as well as the more mundane aspects of ecosystem management by organizational restructuring and by emphasizing certain types of forest stand management strategies, notably thinning trees, mowing brush, and prescribed burning. In addition, the shift to ecosystem management has been accompanied by increased attention and funding to the special forest products program, of which the wild mushroom program constitutes a major component.

Section 1 - Ecosystem Protection

The Northwest Forest Plan emphasizes that the Forest Service's future management actions in late successional reserves and riparian reserves must focus on protecting species, biodiversity, and habitat rather than on the production of resources. The underlying rationale for protecting these things is that doing so will protect and promote

¹ Reducing the density of trees in a forest stand is known as thinning.

the health of these forest ecosystems (S&G 1994:B1-B4). The Northwest Forest Plan thus prioritizes maintaining healthy ecosystems, which its drafters argue can be done through the maintenance of old growth structures and processes, over commodity production and recreational and other human activities on 10 million acres, or 41% , of the federal land within the northern spotted owl range (ROD 1994:6).

The degree to which an ecosystem protection discourse pervades the Record of Decision and the Standards and Guidelines attached to the ROD is evidenced in the sections describing the purposes of the Late Successional Reserves and the Aquatic Conservation Strategy:

One goal of the standards and guidelines is to maintain late-successional and old-growth species habitat and ecosystems on federal lands. Another goal of forest management on federal lands is to maintain biological diversity associated with native species and ecosystems in accordance with laws and regulations (S&G 1994:B1).

In Late-Successional Reserves, standards and guidelines are designed to maintain late-successional ecosystems and protect them from loss due to large scale fire, insect and disease epidemics, and major human impacts. The intent is to maintain natural ecosystem processes such as gap dynamics, natural regeneration, pathogenic fungal activity, insect herbivory, and low intensity fire (S&G 1994:B-1).

These reserves represent a network of existing old-growth forests that are *retained in their natural condition* with natural processes, such as fire, allowed to function to the extent possible. The reserves are designed to serve a number of purposes. First, they provide a distribution, quantity, and quality of old-growth forest habitat sufficient to *avoid foreclosure of future management options*. Second, they *provide habitat for populations of species that are associated with late-successional forests*. Third, they will *ensure that late-successional species diversity will be conserved* (S&G 1994:B4-B5, italics added).

Silvicultural systems proposed for Late-Successional Reserves have *two principal objectives: (1) development of old-growth forest characteristics* including snags, logs on the forest floor, large trees, and

canopy gaps that enable establishment of multiple tree layers and diverse species composition; and (2) *prevention of large-scale disturbances by fire, wind, insects, and diseases that would destroy or limit the ability of the reserves to sustain viable forest species populations*. Small-scale disturbances by these agents are natural processes, and will be allowed to continue (S&G 1994:B-5, italics added).

The Aquatic Conservation Strategy was developed to *restore and maintain the ecological health of watersheds and aquatic ecosystems* contained within them on public lands. (S&G 1994:B9, italics added).

The main purpose of the [riparian] reserves is to *protect the health* of the aquatic system and its dependent species. The reserves also provide incidental benefits to upland species. These reserves will help *maintain and restore* riparian structures and functions, benefit fish and riparian-dependent non-fish species, enhance habitat conservation for organisms dependent on the transition zone between upslope and riparian areas, improve travel and dispersal corridors for terrestrial animals and plants, and provide for greater connectivity of late-successional forest habitat (ROD 1994:7, italics added).

Although the Northwest Forest Plan permits forest product harvesting, recreational and other human activities within late successional and riparian reserves, they can take place only if they make a positive or neutral contribution to the maintenance of old growth ecosystems, aquatic and riparian habitats and key indicator species, such as the northern spotted owl, marbled murrelet, salmon and steelhead trout (ROD 1994:C1-C48). The difference between the NWFP management approach and traditional forest management on Pacific Northwest national forests is articulated in the FEIS as follows:

In the past, proposed projects were considered from the context of what effect (positive and negative) a proposed project would have on individual resources and not necessarily from a watershed perspective. Mitigation was frequently used to attempt to neutralize the effect on riparian dependent resources. Thus, management actions were implemented under the assumption that the mitigation prescription would achieve the desired results and compensate for the negative effects due to the project or management action. The risk to the aquatic and riparian habitat was placed on the outcome of the mitigation. *Under the Aquatic*

Conservation Strategy, a project cannot have a negative effect in the long term on riparian-dependent resources. Mitigation or planned restoration, such as the placement of in-channel structures, should not be used as a substitute for preventing habitat degradation. The risk to the aquatic and riparian habitat has been shifted because each project or management action must maintain or restore the physical and biological processes required by riparian-dependent resources within watersheds (FEIS 1994:B-83, italics added).

In brief, where in the past the Forest Service could address ecological protection concerns by mitigation measures that minimized those concerns, or that protected areas elsewhere, under the Northwest Forest Plan Standards and Guidelines the agency is not allowed the option of mitigation. A similar rationale holds true for management decisions for the LSRs, where only those actions that are neutral or beneficial to the maintenance or improvement of old-growth forest conditions are permitted under the ROD (1994:8).

Thus in the space of five short years between 1989 and 1994, national forest policy in the Pacific Northwest shifted from a timber production and human-use oriented management philosophy in which activities were permitted unless negative impacts could be clearly demonstrated, to a protection and precautionary management philosophy in which activities are permitted only if they are demonstrably neutral or beneficial to the protection or enhancement of certain types of forest structures and processes. If the acreage in Congressionally Reserved Areas and Administratively Withdrawn Areas, which for the most part do not allow large-scale timber harvesting, are added to the Northwest Forest Plan reserves excluding or greatly limiting timber harvesting and other human activities with a major impact on forest conditions, roughly 77% of the federal lands within the northern spotted owl zone are currently being managed either primarily as protected places or as playgrounds (i.e. Wilderness Areas, National Wild and Scenic Rivers, National Recreation Areas, etc.) (FEIS Vol. I 1994:2-65).

Section 2 - Expanding Disciplinary Power to Ecosystems

The Northwest Forest Plan contains many of the elements of Foucault's disciplinary power model: categorization, separation and enclosure, documentary apparatus, and support for the development of ecosystem management sciences. It takes these elements of disciplinary power and applies them toward expanding the scientific state forest management regime's domain of control to encompass all species and activities taking place within the boundaries of federal forest lands located within the range of the northern spotted owl. All it lacks is specification of a panopticon surveillance system. However, as I will illustrate in Chapter Six, the Forest Service is working in conjunction with ecologists, biologists, environmental groups, recreational associations, and industry associations to construct on-the-ground panopticon surveillance systems appropriate for ecosystem management.

Categorization and Ranking

The Northwest Forest Plan begins by accepting the validity of the already established bio-political category, "old growth forest," or rather the technical name for that folk category, "late successional forest" (FEIS 1994:S7). It also accepts the validity of another bio-political category, "endangered species," as well as the validity of the bio-political category "late-successional related species." The Northwest Forest Plan then applies the pre-determined value judgment that the 1973 Endangered Species Act places on endangered species, namely that they are important enough that the federal government is required to manage its lands in a manner that prevents their extinction. The drafters of the Plan then make the logical link that preservation of endangered species of plants, animals, and other organisms which fall into the category of late-successional forest species can best be achieved by preserving late successional ecosystems in their entirety, rather than focusing on the preservation of each species individually (ROD 1994:18). The task then of the drafters of the Northwest Forest Plan is to lay out a management strategy that allows for preserving late successional ecosystems within the range of the northern spotted owl (ROD 1994:18).

Separation and Enclosure

At this point, the separation and enclosure element of disciplinary power comes into play in the Plan, which requires the Forest Service to establish a system of reserves to address concerns regarding the northern spotted owl and other at-risk, threatened or endangered late successional species, such as the marbled murrelet and the northern bald eagle (FEIS 1994:3&4-206 and 3&4-245). Under the Plan, federal forest lands located within the range of the northern spotted owl are divided into seven management zones: Congressionally withdrawn areas, late-successional reserves, managed late-successional reserves, adaptive management areas, administratively withdrawn areas, and riparian reserves, and matrix (ROD 1994:6-7). Roughly 30% of the federal lands within the northern spotted owl range are classified as late-successional reserves, another 30% are congressionally reserved areas already, 16% are classified as matrix, 11% as riparian reserves, 6% as adaptive management areas, 6% as administratively withdrawn areas, and 1% as managed late successional reserves (FEIS 1994 Vol. I:2-65; ROD 1994:6-7). For all practical purposes, the NWFP limits intensive timber harvesting to lands classified as matrix, permits minimal timber harvesting on lands classified as managed late successional reserves and possibly within the adaptive management areas, and sanctions very little, if any, timber harvesting in the remaining four zones (S&G 1994:C1-C48).² Thus intensive timber harvesting is permitted on only about 18% of the

² Timber harvesting is concentrated in the matrix, but must adhere to rules set forth regarding the amounts of green trees, snags, and down logs that need to be left following any harvesting operations (FEIS Vol. I 1994:S9). Timber harvesting is also permitted under some conditions in managed late-successional reserves, which are all located in eastside forests, such as those on the Deschutes National Forest, where tree mortality has been high and fires are common occurrences (FEIS S-8). Some silvicultural treatments, such as thinning, are allowed in certain stands in late-successional reserves in order to accelerate the development of old-growth structures (FEIS Vol. I 1994:S8).

federal forest land located within the northern spotted owl zone (FEIS Volume I 1994:2-65).

In addition, the NWFP includes an aquatic conservation strategy to address concerns about threatened and endangered aquatic species, particularly anadromous salmon and trout (Tuchmann et al. 1996:72). The Aquatic Conservation Strategy also relies on a spatial zoning system to set apart those portions of watersheds, such as riparian areas and key watersheds, deemed most in need of protection (S&G 1994:B9-B32). Riparian reserves include various bodies of water, such as streams, ponds, wetlands, lakes, and seasonal or intermittent watercourses (S&G 1994:B12-B17). Activities such as camping, firewood cutting, and timber harvesting are restricted in these reserves in order to maintain the water-quality goals for that type of water body (Tuchmann 1996:80). The ACS also divides the northern spotted owl zone into 164 key watersheds which “include refugia crucial to at-risk fish species and stocks and which provide high-quality water” (FEIS Vol. II:B91-92; Lacey 1996:569). The management actions permitted in key watersheds vary, but in general new road construction is prohibited in areas lacking roads, existing roads are to be decommissioned to the extent possible, and a watershed analysis must be done before any commodity production activities can take place within key watersheds (S&G 1994:B12-B32; Lacey 1996:570-571). The key watersheds either offer high quality habitat for at-risk anadromous fish, or they have a high potential for restoration and the ability to provide high quality habitat for at-risk fish stocks in the future (FEIS Vol. II: B-91-92).

A Documentary Apparatus

The Northwest Forest Plan also includes the specifications for setting up a documentary apparatus. However, unlike Foucault’s examples of documentary apparatuses which focus on tracking people, the Plan’s apparatus, in the form of the Plan’s “survey and manage” requirements, watershed analyses, and late successional reserve assessments, is directed at monitoring and tracking population size and spatial distribution of a large number of species associated with late successional forest

ecosystem, the activities taking place in the forest, and the effects of those activities upon late successional ecosystems and species. The watershed analyses represent the broadest level of ecosystem data collection analysis in that these analyses are to encompass the entire range of forest use and management activities that potentially could affect ecosystem conditions (S&G 1994:B20-B30). The Late Successional Reserve Assessments focus on activities and forest conditions located in old-growth ecosystems (S&G 1994:C9-C19). The Survey and Manage data gathering and analyses are oriented toward monitoring and tracking individual species, rather than assessing ecosystem conditions (S&G 1994:C4-C6).

1) Watershed Analyses

Before the Forest Service can authorize land management activities, including timber harvesting and timber salvage operations, in key watersheds or riparian reserves, the NWFP requires the Forest Service to conduct watershed analyses for those areas (FEIS Vol. II 1994:B93). According to the FEIS that was used in preparing the NWFP, “watershed analysis is a systematic procedure for characterizing watershed and ecological processes to meet specific management and social objectives” (FEIS Vol. II 1994:B93). The critical importance of watershed analyses in implementing ecosystem planning and management within the northern spotted owl zone is clear in the minds of the NWFP developers:

Watershed analysis provides the contextual basis at the site level for decision makers to set appropriate boundaries of Riparian Reserves, plan land use activities compatible with disturbance patterns, design road transportation networks that pose minimal risk to aquatic and riparian habitat, identify what and where restoration activities will be most effective, and establish specific parameters and activities to be monitored (FEIS Vol. II 1994:B94).

In the eyes of the plan developers, science plays a central role in the development of the watershed analyses, and thus any subsequent actions that take place in those watersheds:

Watershed analysis is a technically rigorous procedure with the purpose of developing and documenting a scientifically-based understanding of the ecological structures, functions, processes, and interactions occurring within a watershed (S&G 1994:E21).

The scope of the analyses is quite broad, ranging from vegetative patterns and distributions to stream flows to “human use patterns throughout the ecosystem” (S&G 1994:E21). Although the Standards and Guidelines accompanying the Record of Decision stress that “the participation in watershed analysis of adjacent landowners, private citizens, interest groups, industry, government agencies, and others will be promoted” (S&G 1994:E20), the plan developers also maintain that the watershed analyses are “an analytical process, not a decision-making process” (S&G 1994:E20), and therefore not subject to NEPA requirements. In other words, the Forest Service is not legally required to include anyone else in the development of these analysis, nor is it required to solicit public review and comment on the completed analyses.

2) Late Successional Reserve Assessments

In addition to the information gathering requirements under the ACS, the NWFP also requires that the Forest Service prepare a management assessment for late successional reserves prior to designing or implementing any habitat manipulation activities in those reserves (S&G 1994:C11). Like the Watershed Analyses, the NWFP developers consider the LSR assessment process an analytical process rather than a decision making process, and thus it too is not subject to NEPA requirements. The Standards and Guidelines for the NWFP direct the Forest Service to coordinate these assessments with watershed analyses (SG 1994:C-11). Information to be included in LSR assessments includes: history and inventory of the reserve’s vegetative conditions, a list of late-successional species using the reserves, historic and current land uses (S&G 1994:C11). In addition, the LSRAs are supposed to provide suggestions regarding how to protect these areas from fire, criteria for selecting appropriate management “treatments,” and identification of areas that require treatment (S&G 1994:C11).

3) Survey and Manage Requirements

The drafters of the plan developed a set of guidelines, known as Survey and Management guidelines, in response to public and planning team members' concerns about habitat protection for a number of species which had low ratings on the habitat assessment for Alternative 9 (FEIS Vol. II 1994:B143). These species included amphibians, mosses, mollusks, plants, fungi,³ lichens and insects. The survey and manage actions fall into four categories (S&G 1994:C4-C6): 1) Management of known sites where the indicated species are located, 2) surveys for these species in areas in which ground disturbing activities are planned, 3) extensive surveys to locate high priority sites for these species, and 4) general surveys at the regional level to determine what measures are needed to protect these species. The NWFP's Survey and Manage guidelines thus direct the Forest Service to set in place a data collection and assessment structure directed at protecting old growth related species that scientists who were consulted during the planning exercise felt could be at risk under Alternative 9's management direction (FEIS Vol. I 1994: 3&4-113-130. The Survey and Manage guidelines also require that the Forest Service manage recreational sites in ways that will protect the species listed in the plan (S&G 1994:C6). Thus the Plan provides priority to ecosystem protection agendas over both production and playground agendas.

³ Five of the fungal species that appear on the survey and manage list are widely commercialized (S&G 1994:C49-C61): (*Cantharellus cibarius* ("yellow chanterelles"), *Cantharellus subalbidus* ("white chanterelles"), *Cantharellus tubaeformis* ("yellowfoot"), *Sparassis crisps* ("cauliflower"), and *Hydnum repandum* ("hedgehog"). Fortunately for commercial wild mushroom harvesters at Sisters, neither morels nor boletes, the two major species harvested commercially in the area, are included in the list of survey and manage species (S&G 1994:C49-C61). No scientific evidence exists that any of the above commercial wild mushroom species are threatened or endangered.

Professionalization

The Northwest Forest Plan also supports the development of another disciplinary power element, namely the professionalization of ecosystem protection knowledge production and management. The plan is full of references to the importance of and suggestions for developing scientific expertise centered around ecosystem management (rather than merely taking a multi-disciplinary approach to forest management). The implementation section in the NWFP Standards and Guidelines (S&G 1994:E1-E21) lays out some of the key elements of ecosystem management science. The development of an inventory and monitoring system with the capacity to gather data about hundreds of species at multiple geographic scales constitutes the backbone of ecosystem management science (S&G 1994:E1-E-21). This system differs from previous forest planning systems in that it is interdisciplinary, multi-scale, coordinated with other social actors, capable of examining cumulative impacts of management activities and natural events, and focuses on assessing ecosystem conditions, including socio-economic conditions, rather than commodity outputs (S&G 1994:E3-E10). Recently developed spatial analysis technology, such as Geographic Information Systems (GIS), constitute an important element of the new ecosystem management knowledge production system (S&G 1994: E-11)

The Missing Element

The Northwest Forest Plan lacks one key element of disciplinary power: An ecosystem management panopticon. The inventory and management informational database development and maintenance process could potentially serve a panopticon function, if its monitoring and tracking functions can be linked to an enforcement system capable of operating simultaneously at multiple scales. McDonald's research on the implementation of the Endangered Species Act in the Methow Valley suggests that the National Marine Fisheries Service working in conjunction with a broad range of social actors has been able to use the Endangered Species Act as an enforcement "trump card" for an ecosystem protection management system based on the application of

disciplinary power (McLain and McDonald 2000). As yet, however, a region-wide panopticon for ecosystem management is still in the process of being created.

Resisting the Plan

The proposal to put the Northwest Forest Plan into action has met with substantial opposition from a number of directions. Supporters of the concept that the national forests' major purpose was the provision of timber, such as the Association of O & C counties⁴ and the Northwest Forest Resources Council, opposed the draft plan on the grounds that it shut off too much area from timber harvesting and would have substantial negative impacts on rural economies in the northern spotted owl zone (ROD 1994:61). They also claimed that prohibiting timber harvesting activities in the LSRs constituted a danger to the long-term sustainability of the forests themselves, particularly on the eastside forests, such as the Deschutes National Forest and the Winema National Forests where insect and disease had already damaged or killed a large portion of the trees in LSRs (Axline 1996:7). The timber industry took the issue before U.S. Congress, which passed a rider onto the 1995 Appropriations Act to allow the National Forests to conduct salvage sales, even in LSRs (Axline 1996:7-10).

A number of environmental groups, including Northwest chapters of the Audubon Society, Wilderness Society, Oregon Natural Resources Council, and the Sierra Club Legal Defense Fund, also opposed the draft Northwest Forest Plan on the grounds that it offered too little protection for old growth species and their habitat (ROD 1994:64-73; Devine 1994:18-21). The environmental groups unsuccessfully appealed the draft EIS (ROD 1994:64-73), arguing that it didn't adequately address the cumulative impacts on

⁴ The O&C counties consist of those counties in western Oregon where timberland granted by the U.S. government in 1869 to the Oregon and California Railroad Company was reverted by the United States in 1916 and subsequently administered by the Bureau of Land Management (Dickens and Dickens 1979:111). Proceeds from the sales of timber on O&C Lands are shared with 18 counties in Oregon (Dickens and Dickens 1979:111).

the spotted owl. Thus far the Northwest Forest Plan has withstood efforts to appeal it in court.

The Sisters Ranger District provides a good case for exploring the dynamics of ecosystem management politics on the eastside, where social actors supporting the notion that forests should be protected from human activities are caught in a management paradox. In seeking to protect northern spotted owl habitat on the eastside they are advocating that the Forest Service manage for ecosystem structures and processes that are well outside the range of historic variability for eastside ecosystems, and which are products of a century of industrial forest management. By requiring the Sisters Ranger District to protect and restore northern spotted owl habitat in the areas designated as late successional reserves, protectionists set up a management paradox because the ecosystems they wish the District to protect are ecologically very unstable and likely to be destroyed on a wide-scale by either fire, insects, or disease in the near future.

Section 3 - Ecosystem Management in the Metolius Basin

[From 1989 to 1994] we didn't have a large timber sale program at all, we were basically just doing salvage and things that we knew we could do without conflict. We went into a kind of lull, just doing things that we knew could get done without a lot of risk, you know, doing things that we knew were within the bounds of reality basically with the forest planning document. Salvage sales, small sales -- we didn't put out a lot of timber [Vegetation Management Planner].

As the forests as protected space and forests as playground discourses gained political strength at the national and regional level, the pressure on the Sisters Ranger District staff to refocus district priorities to more fully encompass environmental protection concerns continued without letup through the early 1990s. Although the district was able to sell some salvage sales authorized under a Congressional rider to the 1990 Appropriations Act, the Dwyer injunction ground most of the District's timber

management activities to a halt until 1994 when the Northwest Forest Plan and its Standards and Guidelines for addressing spotted owl concerns were published.

Before the District could undertake any new management activities in the portions of the district included in the northern spotted owl zone, however, the Plan required that Forest Service complete LSR Assessments and Watershed Analyses (S&G 1994:B20, C11). As a result, the Deschutes National Forest and Sisters Ranger District staff spent 1995 and 1996 producing the first of these documents. The Forest-wide LSR assessment overview completed in 1995 identified priority LSRs and Watersheds for the Deschutes National Forest (DNF 1995). Of the three LSRs located on the Sisters Ranger District, the Metolius LSR was selected for priority action since roughly half of the Deschutes National Forest's northern spotted owls are located within the Metolius LSR's boundaries (DNF 1995:3-5). The Metolius Watershed, one of seven key watersheds on the Deschutes National Forest, was also selected as a priority due both to the presence of the spotted owl and to the presence of bull trout habitat, a species scheduled for listing as an endangered species, in the upper reaches of the watershed (MWA: 1994:5-6). Coincidentally, the Metolius also contains some of the Sisters District's most productive mushroom grounds. My analysis of the on-the-ground impacts of the Forest Service's philosophical shift to ecosystem management at the national and regional levels thus centers around activities taking place in the Metolius Basin between 1996 and 1998.

Restructuring for Ecosystem Management

As part of the Forest Service's effort to carry out the its new ecosystem approach, the Sisters Ranger District reconfigured its organizational structure between 1994 and 1997.⁵ The new structure eliminated much of the upper-level hierarchy in the district, as well as the disciplinary and programmatic divisions that had characterized the

⁵ Data on the Sisters Ranger District's changing organizational structure were derived from interviews with team leaders and from an examination of the District's organizational charts.

organization during the previous decades. Under the new organizational approach, the District consists of four teams divided according to their major functions: Administration, Community Relations, Natural Resources, and Resource Operations (see Table 6).

Disciplinary specialists from the natural sciences, such as ecologists, biologists, silviculturalists, and soil scientists, work together in the Natural Resources team to develop and manage natural resources projects on the District. Social science specialists, such as the recreation and wilderness planners, the NEPA specialist, and the archeologist, form the majority of the Community Relations team, which manages recreational and cultural resources programs and projects. Both the Natural Resources and Community Relations teams participate extensively in the District's major planning activities, such as the LSR Assessments and Watershed Analyses for the Northwest Forest Plan. They also conduct the analyses for the environmental impact statements and environmental assessments required for the District's regular management projects, such as timber sales, campground improvements, prescribed burns, and watershed restoration activities. In addition members of both teams participate in the day to day activities of resource sales and regulatory compliance associated with the District's activities. The Community Relations team also handles public involvement in planning processes, such as scoping meetings, public hearings, public workshops, and so forth.

The Resource Operations team, which includes fire management specialists, reforestation specialists, and the manager for the District's fleet of vehicles and heavy equipment, handles the day to day kinds of programs that don't require interdisciplinary planning, such as tree planting, timber stand improvement, and fire protection. The Administrative team is in charge of personnel management, payroll, accounting, public relations, and maintaining the District's information base, including the Geographic Information System. Members from all four teams take part in major planning and information production activities, such as watershed analyses and environmental impact statements. The teams are structured to facilitate interaction

within and among teams, with each team crossfunding the expertise needed from other teams to supplement their own areas of expertise.

TABLE 6: SISTERS RANGER DISTRICT ORGANIZATION 1997

Administration	Community Relations	Natural Resources	Resource Operations
Budgeting Computer Personnel Purchasing Mail/File Word Processing Front Desk	Recreation Wilderness Trails Special Uses Lands and Minerals Partnerships Public Affairs Heritage Resources *NEPA	Silviculture/Stand Exam Special Forest Products Botany/Ecology Wildlife Fisheries Landscape Architecture *GIS Presale Sale Administration Special Projects	Fuels Planning Fire Suppression Fire Prevention Fleet/Facilities Reforestation Timber Stand Improvement Tree Improvement Engineering
* Shifted under Administration			

Managing on the Owl Margin

The management strategy laid out in the NW Forest Plan relies on the following three assumptions.

Assumption 1: The northern spotted owl and other indicator species are dependent upon certain types of forest structures and composition for nesting, roosting, and foraging.

Assumption 2: Forest managers can help stabilize the number of spotted owls and other old-growth species by protecting, enhancing, and expanding those types of forest structures and species compositions.

Assumption 3: Healthy and sustainable ecosystems can best be obtained by managing for landscapes that are within the historic range of variability of the managed area. To determine what kinds of forest conditions are likely to be sustainable in the

region on a long-term basis, the Metolius LSR Assessment Team used the conditions present at the time the area was surveyed by the General Land Office in the 1880s, together with any data about forest conditions during the period prior to intensive clearcutting in the mid-1950s.

The MLSR Assessment drafters identify two major types of late successional habitat in the Metolius LSR: climatic climax habitats, which are defined as “late-successional habitats that developed under suppressed or infrequent, high intensity fire regimes” (MLSRA 1996:52) and fire-climax habitats, which consist of “late-successional habitats that developed under frequent, low to moderate intensity fire regimes” (MLSRA 1996:52). Depending upon climatic factors, slope, soil types, and aspect, the composition of species present in fire climax or climatic climax habitats varies. The MLSR Assessment team identified five stand types in the Metolius (see Table 7):

- 1) Fire climax habitat dominated by ponderosa pine, 2) fire climax habitat dominated by a mix of coniferous species, primarily large diameter ponderosa pines, Douglas fir, western larch and occasionally lodgepole pine, 3) climatic climax habitat dominated by ponderosa pine, 4) climatic climax dominated by mixed conifers, including ponderosa pine, Douglas fir, white fir, western larch, and incense cedar, and 5) climatic climax habitat in the upper elevations of the Metolius that is dominated by Mountain hemlock or lodgepole pine (MLSRA 1996:53-54). The key difference between the fire climax and climatic climax habitats dominated by ponderosa pine or mixed conifers are that fire climax stands are much more open, the trees are less densely spaced, and there is much less underbrush and down woody material (MLSRA 1996:53-54). Because of the more open structure in fire climax habitats, fires that occur in such areas are much less intense and most of the larger trees will survive a fire. By contrast, fires in climatic climax habitats can be extremely intense, and in some cases may destroy all or nearly all of the trees in the stand.

TABLE 7: HABITAT TYPES IN THE METOLIUS WATERSHED

Habitat Type	Dominant Overstory Species	Stand Structure	Fire Regime
Fire Climax: Ponderosa Pine	Ponderosa pine	1-2 story, widely spaced trees, open canopy, few snags and down logs, limited understory	Frequent, low intensity fire(8-12 years)
Fire Climax: Mixed Conifer	Ponderosa pine, Douglas fir, western larch, lodgepole pine	1-2 story, widely spaced trees, few snags and down logs, limited understory	Highly variable fire intervals; 9-42 year fire intervals
Climatic Climax: Ponderosa Pine	Ponderosa pine with white fir understory	1-2 story, densely spaced trees, snags and down logs, lots of underbrush, lots of small diameter ponderosa pine	Infrequent, stand replacing fires; fire interval about 150 years
Climatic Climax Mixed Conifer	Douglas fir, ponderosa pine, White fir, western larch, Incense cedar	3 or more stories, dense canopy, dense underbrush, many snags, many down logs	Infrequent, stand replacing fires; fire intervals unknown
Climatic Climax: Mountain hemlock or lodgepole pine (high elevation)	Mountain hemlock or lodgepole pine	Understory species very shade tolerant, few shrubs	Infrequent, stand replacing fires; fire interval 100-300 years

Without fire suppression, high-grading of large ponderosa pine, and clearcutting, the areas that provide nesting, roosting and foraging habitat for northern spotted owls recorded thus far in the Metolius Basin, would contain the wrong mix of tree species, canopy closure, underbrush, and dead organic material for supporting northern spotted owls. The Metolius is at the far eastern margin of the spotted owl's current range, and very likely outside its historic range (MLSRA 1996). The Northwest Forest Plan's

Standards and Guidelines thus place the Sisters Ranger District staff in the paradoxical position of having to maintain and enhance northern spotted owl habitat in an area where, if the historic range of variability in forest conditions is taken into account, owls aren't supposed to be.

Even more problematic from a sustainable forest management standpoint, the forest stands that support northern spotted owls in the Sisters Ranger District are highly unstable and at risk from insects, disease and catastrophic fire. The LSR Assessment team estimated that where 94% of the Metolius LSR overstory consisted of ponderosa pine in 1953, by 1991 that percentage had dropped to 41% (MLSRA 1996:11). White fir, on the other hand, increased from 0% of the overstory to 38% of the overstory, often in the form of very dense stands. When the western spruce budworm and the tussock moth larvae spread to the Metolius region during the 1980s and 1990s, they had a rapid and devastating effect on the dense stands of white fir which had been weakened by prolonged drought (MLSRA 1996:11). Between 1986-1992, a large percentage of the mixed conifer stands in the Metolius had lost much of their foliage to these insects (MLSRA 1996:28). Secondary bark beetles, including the Douglas fir beetle and the fir engraver, and armillaria root disease killed many of the damaged trees (MLSRA 1996:28029). Years of fire exclusion in stands dominated by ponderosa pine also encouraged the growth and spread of dwarf mistletoe in the drier forests on the district, weakening those trees as well and increasing the risk of catastrophic fire in the Metolius Basin (MLSRA 1996:29).

Even with the decrease in canopy cover brought about by the insect and disease epidemics during the 1980s and early 1990s, the canopy cover in the Metolius LSR in 1991 still was denser than it had been historically (MLSRA 1996:15). The LSR Assessment team estimated that at least 60% of the forested land in the Metolius reserve has greater tree densities than can be sustained in the long term (MLSRA 1996:16). Extensive clearcutting in the past 40 years was justified in part as a means for reducing the risk of dwarf mistletoe, pine beetle, spruce budworm, and the tussock moth

infestations in the dense stands created by the previous 50 years of high-grading large ponderosa and fire suppression (MLSRA 1996:28).

In effect, the Late Successional Reserves on the Metolius carry the seeds of their own destruction – a combination of high grading out the fire resistant big pines, clearcutting with inadequate thinning of regenerating stands, and fire suppression have created climatic climax stands in the western parts of the Metolius Basin where previously fire climax stands existed:

The current conditions in the mixed conifer plant associations on the west side of the Metolius watershed and in the Metolius LSR are the farthest from their “historic range of variability” of any of the plant associations in the Metolius LSR. Under the current conditions, these stands are not sustainable in the long term. Many of these stands have high mortality now. The highest level of mortality is in the white fir that is the primary component of the “many storied” stands that are most suitable for spotted owls and other late-successional species (Appendix 4 MLSRA 1996:9).

The LSR Assessment team also noted that a comparison of areas of optimal old growth habitat and areas with sustainable vegetative conditions for the Metolius LSR “show little or no overlap” (MLSRA 1996:58), and that management strategies based on protecting specific areas of owl habitat from change are unlikely to work in the long run:

There are no forest protection options to maintain owl habitat at its current level in the East Cascades sub-region. As noted, the current extensive habitat is likely a result of an historical anomaly: successful fire protection. The structure resulting from this anomaly is inherently unstable, subject to increased fire, wind, disease, and insect damage. Any stand manipulation which will significantly increase resistance to those disturbance factors apparently will result in decreased owl habitat (MLSRA 1996: 63).

To address the management paradox of having to maintain spotted owl habitat in an area where spotted owls should not exist, the LSR Assessment team devised a management strategy that sets into place a “process of cycling suitable (but not

sustainable) habitat with sustainable (but less than optimal habitat) stand conditions across the landscape over time” (MLSRA 1996:58). Thus the LSR would be managed so that different areas cycle from a preliminary vegetation stage into a stable fire climax stage, then into a transitional vegetation stage, and finally into a climatic climax stage with habitat suitable for northern spotted owls and other old growth indicator species (MLSRA 1996:58). A certain percentage of the LSR would thus always consist of habitat suitable for owls. The location of the owl habitat would vary spatially over time, creating an ebb and flow across the landscape to get enough climatic-climax owl habitat functionally distributed at any given time (MLSRA 1996:58). The team justified this cyclical management strategy on the grounds that forests are not static systems:

Forest ecosystems are dynamic. They change with or without active management....A recommendation to implement a strategy that in fact reduces optimum owl habitat may seem a paradox. We believe that such implementation will in the long run better protect owl habitat than a short-sighted attempt to continue total protection...Active management of habitat in the East Cascades sub-region, through protection strategies designed to prevent large-scale catastrophic events, is the most rational management direction (MLSRA 1996:63).

The goals for managing the late successional reserves in the Metolius Basin thus consist of providing “...vegetative conditions within the natural range of variability typical of the Eastern Oregon Cascade Province where succession of vegetation occurred under natural fire regime,” and recognizing that “[t]he presence of specific vegetative conditions on the landscape is not static, and will constantly change over time (MLSRA 1996:64).

“It’s A Fishbowl Here”: The NWFP in Action

When it comes to the first to lose dollars it’s our district, because we’re the most expensive to maintain. We have more complicated projects than anybody else. You go the Bend/Fort Rock or Crescent especially, y’know they almost have to bribe people to come out and see their

projects and even consider their issues, as opposed to, y' know we could sneeze and everybody asks what's happening here! And it's a fishbowl here, y' know? That's one of the biggest problems we run into (Natural Resources Team Leader).

In the spring of 1997, many Sisters District employees felt embattled and embittered after more than a decade of working in a fish bowl where virtually every decision the District made came under scrutiny and attack from either the timber industry, recreational groups, or preservationists. The downturn in timber harvesting after the Dwyer decision and subsequent staffing and budget cuts throughout the Forest Service during the early 1990s added to the District employees' strong sense of demoralization and uncertainty about the future, particularly among those with timber management responsibilities. With a large portion of the western half of the district off-limits to timber harvesting under the provisions of the 1994 Northwest Forest Plan, potential cuts in staff numbers and loss of promotion opportunities continued to loom large in many people's minds.

In 1996 the District's interdisciplinary planning teams completed their first LSRA, and by the spring of 1997 were in the midst of finalizing their first Watershed Analysis. Both documents focused on the Metolius Basin area. Once the planning team completed the Metolius Watershed Analysis, the District would be free to develop new forest management projects in the Metolius Basin, in addition to continuing its assessments and analyses for the rest of the District. For the first time since the Dwyer decision, District employees began to feel as if things were back to normal -- that they could develop and implement projects that would likely not be appealed, and that if appealed, would likely be upheld in the courts.

The District's projects for the years 1997 and 1998 fell into five major categories: recreation, vegetation management and restoration, road closures, salvage and hazard tree removal, and urban/wildland interface fuels reduction. Other miscellaneous projects included a small land exchange, an environmental assessment for a grazing allotment,

and the development of an information kiosk along one of the area's scenic byways (USDA/FS DNF SOPA 1996: 17-18).

As the snows melted off the mountains in April 1997, District employees in the Resource Operations shop started implementing vegetation management and restoration projects in the Jack Creek drainage. Further up in the Cascades along the Santiam Highway, Forest Service crews laid the groundwork for restoration projects in the Santiam LSR and Santiam Corridor. Over the next two years, crews also worked on several smaller projects, including small scale hazard tree removal and timber salvage projects in the McKenzie Pass area, the Pole Creek Drainage, and along several major roads in the Metolius Basin. The Fuels Management program also embarked on two major projects aimed at reducing the risk of catastrophic fire in the area adjacent to the Black Butte Ranch, a major tourist resort, and along the heavily traveled Highway 20 corridor that crosses the District from east to west. The District's recreational program staff continued developing and analyzing different management alternatives for the Metolius Wild and Scenic River and the Suttle Lake Resort Expansion. The District's other major project during the 1997-98 period consisted of an ambitious and contentious effort to shut down a large number of roads in the area, for both water quality protection and wildlife protection reasons.⁶

⁶ The question of road closures emerged as a major forest policy issue in the Pacific Northwest in the 1980s. Three major factors contributed to the logging road closure movement: In a time of government budget cuts, the costs of maintaining the ever-expanding network of logging roads on national forests became an easy target; wildlife preservation proponents complained that the existing road network had negative impacts on nesting, reproduction and foraging conditions for certain species; and fish and aquatic species conservationists pointed out the negative impacts of roads in terms of increased sedimentation and changes in water flow regimes. The winter of 1997 brought the road closure issue onto Sisters District's policy table in a major way. That winter, a series of unexpectedly heavy rains in January and February washed out and undermined miles of back roads. The roads themselves contributed to flooding and sedimentation problems by channeling waters through highly erosive materials. When the snows finally melted and the District began assessing the damage that had been done, it was clear that the

Applying the Northwest Forest Plan's Standards and Guidelines to on-the-ground forest management resulted in a substantial shift in the types of forest management activities that the District engages in compared to the previous forty years. This shift is reflected in the change in name for the Sisters District's former timber management shop, which is now known as the vegetation management shop. The new name emphasizes the District's intention to focus its forest management activities on a broad spectrum of plant species and possible uses, rather than emphasizing timber species and timber production.

The Metolius Late Successional Reserve Assessment (MLSRA 1996) calls for vegetation management that maintains and enhances northern spotted owl habitats through the creation of forest stands with suitable species composition and structures for owl nesting, roosting, and foraging. At the same time, however, the MLSRA emphasizes the importance of protecting, to the extent possible, remaining spotted owl habitat from fire, insects, and disease. To accomplish these sometimes contradictory tasks, the MLSRA suggests that the district make use of thinning, harvesting, and controlled burns to transform the LSR into a mosaic of fire climax and climatic climax stands. This requires thinning overly dense, early seral, and fire and climatic climax stands, retaining large diameter trees, especially ponderosa pine and Douglas fir, removing excess white fir, planting some understory species while removing others to create multistory stands, and removing standing and dead trees where mortality rates pose a risk for intense fire:

Forest Service lacked the financial resources needed to reconstruct the system. More importantly, as hydrologists and soil scientists pointed out that the rain-on-snow events that led to the massive flooding were inevitable, but unpredictable in occurrence, the District reached the conclusion that it might make more sense from a financial, aquatic species protection, and water quality protection standpoint to close and obliterate a substantial portion of the District's road system. Beginning in April 1997, the District began scoping meetings to determine which roads to shut down over the next few years.

What they're trying to do is do a mosaic of different layers. That's why the emphasis on the forest is right now what they call thinning, mowing and burning. And that's the main forest restoration strategy. You know the bitterbrush and all that, some of it is so thick and so heavy, you got to mow it down before you burn it, otherwise it will be too long. The same thing with precommercial thinning, because if you get too many doghair stands, that creates enough heat to go up to those crowns, and then to burn and so those are the three emphasis areas for this next year (Natural Resources Team Leader).

To the extent that any timber is harvested as a result of LSR management, it is incidental to the management objectives. Even in the matrix areas, where timber harvesting still constitutes one possible management objective, the NWFP calls for harvesting practices that retain old-growth components, such as large green trees, snags and down logs (FEIS 1994:B47). The MLSRA (1996) also calls for greater use of prescribed fire to reduce fuel loadings, ladder fuels, and brush, and to encourage the development of fire-resistant species such as ponderosa pine in both LSRs and Matrix stands.

The MLSRA also signals the District's road network as a potential threat to meeting the NWFP's aquatic conservation strategy objectives. The watershed as a whole has nearly 900 miles of road, most of them graveled (MWA 1996:35). As a result, the watershed's road density, even including wilderness areas in the calculations, is roughly twice that recommended in the 1990 Deschutes Forest Plan, and far in excess of that need to conform to the Aquatic Conservation Strategy Standards and Guidelines under the 1994 Northwest Forest Plan (MWA 1996:77). To reduce the stream sedimentation and high peak streamflows resulting from excessively high road densities, in 1997 the District embarked upon a program to shut down a large number of miles of road, particularly in the western half of the basin (DNF SOPA Spring/Summer 1997).

A third human activity that the Metolius Watershed Analysis identifies as contributing to riparian area degradation is recreation, primarily in the form of camping and walking (MWA 1996:77). The District had already taken steps to address riparian degradation along the Metolius and its tributaries due to recreational activity prior to the

development of the Northwest Plan (see Chapter Six). For example, in 1991 the District closed Riverside Campground near the Head of the Metolius to motorized vehicles in order to decrease soil compaction in and around the edge of the river.

In short, ecosystem management as the District began to practice it during 1997 and 1998 in the Metolius means that a much smaller volume of timber will be removed from the District per year, and the timber that is removed will more likely be smaller in diameter than in the 1980s. Timber sales will consist of smaller contiguous areas, and require more green trees, logs, and snags to be left than would have been the case a decade ago. Controlled burns and thinning are more widely used to control tree spacing and species composition. Road access within the Metolius will be more limited, as the District begins to decommission or shut off roads. Fewer people will be allowed to camp at undeveloped camp sites, such as Jack Creek and Candle Creek; and dispersed campers will be required to camp further away from creeks, lakeshores, and rivers. The District's changes in forest management over the long term will affect the forest landscape, the types of human activities that occur on that landscape, and the spatial distribution of human activities over the District.

Managing Special Forest Products

The Northwest Forest Plan's focus on protecting and restoring the health of late successional ecosystems in the northern spotted owl zone brought the hodge-podge of species and products included under the Forest Service's "special forest products" categorization out of total obscurity onto the fringes of the agency's list of forest species needing closer attention. Although the FEIS for the Northwest Forest Plan devotes only two pages to the topic of special forest products, it was the first region-wide planning document published by the U.S. Forest Service to formally their existence and to note that the agency needed to take them into account when developing and implementing management activities (FEIS 1994:3&4;276-277). It thus set the stage for further elaboration on special forest products management in the Record of Decision and the Standards and Guidelines that constitute the Northwest Forest Plan.

Special Forest Products and the Northwest Forest Plan

The drafters of the FEIS draw particular attention to the potential economic value of special forest products. They also make the claim that the prices the agency currently charges for special forest products are too low.⁷ In particular, wild mushrooms are singled out as one type of special forest product that is sold much too cheaply by the agency. The FEIS also points out that special forest products related activities can affect late successional reserve and riparian reserve goals (FEIS 1994:3&4-277), noting that the agency may need to impose restrictions on their harvesting:

Activities will be evaluated, in all cases, for effects on Late-Successional Reserve and Riparian Reserve objectives. Protection of other resource values, special status plants and animals, and resource sustainability must be insured. Where these activities are extensive, it will be appropriate to evaluate whether they have significant effects on late-successional and riparian habitat or species. Restrictions may be appropriate in some cases (FEIS 1994:3&4-277).

Importantly, however, the FEIS notes that the agency needs to pay attention to the interrelationship between special forest products production and various silvicultural management regimes:

Silvicultural prescriptions can enhance the production of special forest products. Most floral greens thrive in management regimes that maintain the forest in mid-to-late seral stages and maintain semi-closed canopies. Thus, the value of these products can be enhanced through maintenance of stands in this condition. Christmas ornamentals are less sensitive to stand structure, and information is not yet available on management associations of other special products (FEIS 1994:3&4-277).

The section ends with a warning that “Use of special forest products could be restricted by alternatives that designate more forest areas to northern spotted owl habitat and other protected areas” (FEIS 1994:3&4-277), illustrating the agency’s position that

⁷ No scientific evidence exists to support these claims.

LSR and Riparian Reserve objectives take precedence over other commodity production activities in the future.

The ROD for the Northwest Forest Plan also includes several references to special forest products under the mitigation measures for invertebrates and plants (ROD 1994:31-33). An entire paragraph is devoted to fungi. It addresses primarily the possible mitigation measures in the matrix zone that could have a positive effect on the fungal species listed as potentially at risk in the ROD:

The possible mitigation measures that could benefit fungi include: identifying additional stands for development into old-growth forests in areas where late-successional stands or old-growth stands are limited; determining appropriate levels of sustained harvest for commercial species; and providing a mosaic of forest, age-class distributions, successional stages and habitat types in the matrix (ROD 1994:32).

The Standards and Guidelines attached to the ROD provide direction regarding special forest products management. The section outlining management activities allowed within the late successional reserves includes a paragraph specifically addressing special forest products (ROD S&G 1994:C-18). Managers are directed to “evaluate whether activities have adverse effects on Late-Successional Reserve objectives” and to make certain that sales of such products “will ensure resource sustainability and protection of other resource values such as special status plant or animal species” (ROD S&G 1994:C-18). The plan developers target wild mushroom harvesting in particular as potentially problematic for late successional reserves:⁸ “Where these activities are extensive (e.g., collection of Pacific yew bark or fungi), it will be appropriate to evaluate whether they have significant effects on late-successional habitat. Restrictions may be appropriate in some places (ROD S&G 1994:C-18, *italics added*).” Significantly the ROD, the Standards and Guidelines, and the Final Environmental Impact Statement all imply that special forest product

⁸ No scientific evidence exists to support the notion that wild mushroom harvesting at current levels is harmful to late successional ecosystems.

harvesting is likely either neutral or negative to LSR objectives, and do not consider the possibility that allowing such activities might make a positive contribution to management goals for those areas.

Sisters' Special Forest Products Program

Then there's special forest products which takes into account mushrooms, boughs, pine cone, all those things that are really not what they call convertible products. Everything is converted into board feet...The region and the Forest Service really didn't take into account how big a program this was until about 10 years ago. Before that it was basically a program of theft. Until the Forest Service realized how much value was in this theft -- then they started investing in it. And now we invest a good share of money to make sure that we get compliance and that we can get a return on what's being sold on the market (NR Team Leader).

The District's legal authority to create and administer rules governing special forest products harvesting and related activities, such as buying and camping, on national forest lands stems from the "use and occupancy" and "protection" provisions of the 1897 Organic Act.⁹ The principal regulations within the Code of Federal Regulations that authorize how the Forest Service can dispose of special forest products, including wild mushrooms, on national forest reserves include 36 CFR 223.1, which sets forth the procedures for disposing of forest products, 36 CFR 223.5, which covers the circumstances under which free use of forest products is permitted, and 36 CFR 223.6, which sets forth appraisal and fair market value requirements for forest products harvested on national forest lands.

⁹ USC 473-478, 479-482, 551 authorizes the Secretary of Agriculture to regulate "occupancy and use and to preserve the forests" administered under the forest reserve system; it also authorizes the Secretary of Agriculture to sell timber from the reservations, a provision which has been interpreted as applying to a broad range of forest products in the code of federal regulations. In addition, the act authorizes the Secretary to set forth regulations governing the free use of timber and stone (and by extension, other forest products) for domestic purposes.

Sisters' special forest products program focuses almost entirely on regulating the public's access to forest understory products such as firewood, Christmas trees, wild mushrooms, and ornamental cones. The District both sells these products (usually only if the person intends to sell the products, with the exception of firewood) and allows people to harvest certain products in small amounts for personal and incidental use without paying a fee. Firewood is by far the most widely sought after special forest product on the district, followed by wild mushrooms.

Prior to the Northwest Forest Plan, the Special Forest Product program was very much a commodity production type of program. Historically the program has been run by the District's small sales administrator, who worked within the timber sales administration program. The NWFP-related analyses that the District has developed since the Plan's adoption in 1994 include brief mentions of possible SFP harvesting concerns relative to meeting the NWFP's goals and objectives of protecting and enhancing late successional ecosystems. For example, the Metolius LSRA briefly touches on possible changes in the District's SFP activities, including wild mushroom harvesting. Two major areas, both related to wild mushrooms, are identified as potential concerns: the fall matsutake harvest and the spring morel and bolete harvest. In 1994, the Deschutes and the Winema National Forests published a Matsutake Mushroom Environmental Assessment, in which the harvesting of matsutake within LSRs was advised against until the Forest Service could determine the impacts of such harvesting on late-successional habitat (MLSRA 1996:86). The MLSRA team, however, noted that "[t]here is no information on the status of this mushroom [matsutake] in the LSR" (MLSRA 1996:86), and that therefore they could not "determine the effect of commercial harvest on late-successional species" (MLSRA 1996:86-87) in the Metolius reserve. In keeping with the risk-averse management strategy advocated in the Northwest Forest Plan, the MLSRA team recommended "that no commercial harvest of matsutake mushrooms be permitted without a specific

monitoring program that includes surveys for the associate species, *Allotropia Virgata*” (MSLRA 1996:86-87).

The Assessment Team also notes that with respect to morels and boletes, the Forest Service has “very little information on the amount and location of mushroom picking in the MLSR” and that “very little is known about the impacts of mushroom picking on late-successional species” (MLSRA 1996:87). The team suggests that the Sisters District undertake steps to accumulate this type of information through the use of informal monitoring efforts (MLSRA 1996:87). They recommend more intensive monitoring and restrictions on morel and bolete harvesting if the District staff begins to notice “unacceptable resource damage” and “perceived decline in fruiting body abundance over a specified period of time.” (MLSRA 1996:87)

Despite the precautionary tone of the NWFP and the MSLRA with respect to wild mushrooms, in the late 1990s, the Sisters District’s Special Forest Products program continued to have a strong commodity production orientation. The Special Forest Products program is part of the Vegetation Management section of the Natural Resources Team. Many of the Vegetation Management staff came up through the ranks of the timber sales and administration program that dominated the District for almost a century. The two staff members with key decision-making authority over the wild mushroom program both deal primarily with commodity production activities. Dale, the person directly in charge of the special forest products program, also administers small sales (i.e. timber) and the timber sales appraisal program for the District. Joel, head of the Vegetation Management section and Dale’s direct supervisor, is responsible for the District’s timber sale planning and administration program. The Special Forest Products program does not receive any funding directly specifically to it. Instead, Dale and Joel have had to juggle funds from other programs, such as salvage sales and timber management, to administer the program. More recently, as timber sales have dropped off, the District has used reforestation and thinning money to support special forest products program activities.

In 1996, Dale managed to obtain enough funding for the program to hire a special forest products technician, Pat, to carry out the day-to-day aspects of making sure that forest users understand and comply with the District's regulations on harvesting and buying forest understory products. Pat works full-time from March through December, which is when most of the District's special forest product activity takes place. Amy, one of the people who takes care of people who come to the front desk to ask questions, also assists the SFP program. She, and occasionally other front desk workers, issue special forest products harvesting permits, buying permits, and industrial camping permits to the public. Monty, the law enforcement officer assigned to the District, also works closely with Dale and Pat to patrol the woods and mushroom camp and enforce the District's laws and regulations pertaining to special forest products harvesting and related activities.

In summary, my analysis of the Northwest Forest Plan and the planning documents, such as the LSRAs and the WAs that it requires Districts to develop before undertaking and management actions in the northern spotted owl zone, suggests that the Plan is much more than a guideline for how to manage late successional ecosystems. Rather, the plan sets into place a disciplinary power framework aimed at enhancing the Forest Service's capacity to exert control over a much broader array of species and products than it has historically sought to control. The Plan contains within it four of the five elements of disciplinary power; all it lacks is a panopticon structure that provides the state with the ability to coordinate the interaction of the other four elements. An examination of the changes that have taken place on the Sisters District in response to the Northwest Forest Plan's provisions, including reorganization and a significant shift in the types of forest management activities that the District engages in, support the idea that the Plan is more than rhetoric and is already beginning to substantially change the ways in which the District functions. The wild mushroom program, like the other elements of the Special Forest Products program, is targeted by the Plan as one area where the District needs to develop additional expertise if the District intends to allow

commercial harvesting to continue, particularly in the LSRs. After providing a closer look at the activities and concerns of people who make their livings harvesting wild mushrooms at Sisters in the next chapter, I will explore more thoroughly the process by which the District is developing a panopticon that encompasses wild mushrooms in Chapter Six.

CHAPTER 5 - LIVING IN A WORLD OF UNCERTAINTY

Introduction

In the preceding chapters I sketched out historical and contemporary American forest politics at the regional and national level in order to establish a basis for understanding the macro-level power dynamics that have helped shape the contours of wild mushroom politics on the Sisters Ranger District. Before examining the specifics of wild mushroom politics, however, it is equally important that I provide a view of what life is like from the standpoint of the people who make their livings from the harvesting and buying of wild mushrooms on the District. As the political ecologist, Piers Blaikie (1987) would put it, any understanding of resource politics has to begin with an understanding of the “land managers.” He uses the term “land manager,” not in the sense of government agencies, such as the U.S. Forest Service, but rather in the sense of the people who till the soil, harvest crops, hunt and gather forest products, herd livestock, prune trees and bushes, and otherwise modify their environment. I thus devote this chapter to developing an understanding of the “wild mushroom manager” in the Blaikien sense of those who pick mushrooms and modify the forest in ways that affect wild mushroom distribution and productivity.

I have divided this portrait of the wild mushroom world into three sections. Section One provides a bird’s-eye view of Sisters’ wild mushroom world. I begin with a broad-brush depiction of how Sisters became a commercial “pick,” who participates in the pick, the different ways in which people participate, the degree to which they are financially dependent on wild mushrooms, and the reasons they provide for taking part in the Sisters pick. I then describe the mushrooms themselves, from both a scientific and experiential perspective, including an overview of wild mushroom biology and ecology. “big science” and “little science” classification systems,¹ and the flow of mushroom

¹ I borrow the distinction between “big science” and “little science” from Smith and Jepson’s (1993:45-47) discussion of the different forms of knowledge utilized by professional fisheries managers

crops across the Sisters spring season landscape. An inescapable conclusion from this overview is that Sisters wild mushroom world is a world of ebbs and flows, and full of uncertainty and risk.

In Section Two I move into the Sisters mushroom camp and the lives of the pickers and buyers themselves to explore further the sources of uncertainty and to better understand the degree to which various elements of uncertainty pervade the every day lives of pickers and buyers at Sisters. Though there are no doubt other sources of uncertainty in people's lives, I identify four as paramount: weather and climatic conditions, mushroom-seeking competitors, forest management practices and policies, and market events and conditions.

In Section Three I develop the argument that pickers and buyers are not passive ecological, economic, or social actors thrown to sink or swim in the waters of uncertainty. Rather they have as individuals and groups developed adaptive strategies that allow them not only to cope with the uncertain world in which they live, but also that permit them to take advantage of the opportunities that living in an uncertain world offers them. As a participant observer in the camp, I identified the following adaptive strategies as paramount in many pickers' lives: spatial mobility, occupational mobility, information and resource sharing networks, the production and dissemination of knowledge about mushroom fruiting patterns and stewardship practices. Using these strategies or, more commonly, a combination of them, pickers and buyers are able to maintain a livelihood through the ups and downs of the wild mushroom cycles.

and professional fishers. Smith and Jepson note that over time, fishers have built up a detailed body of knowledge about their environment and the species for which they fish. This knowledge, which is based on close observations of the links between weather conditions, water conditions, fishing activities and fish population distributions and conditions, they term "little science." Smith and Jepson describe this little science as "based on local knowledge; geographically-specific information; and fluid, holistic models. By contrast, marine biologists and fisheries managers rely upon knowledge constructed through the use of controlled data-gathering methods and reductionist models which Smith and Jepson label "big science."

Section 1 – Sisters' Wild Mushroom World

Introduction

Identifying a precise date for when commercial harvesting began at Sisters is impossible, but pickers, buyers and Forest Service employees all agree that commercial pickers started to work the area more intensively beginning in the late 1970s. The number of pickers involved in the Sisters pick increased slowly through the early 1980s, with perhaps a few dozen pickers coming to the area every spring. In the late 1980s, the number of people picking at Sisters expanded rapidly, with as many as 700 to 1000 pickers passing through every spring. The increase in picker numbers coincided with a massive white fir die-off along the eastern front of the Cascades, a series of major fire years in eastern Oregon, and the entry of several thousand Southeast Asian harvesters into the mushroom labor market.

The boom in the Sisters spring mushroom crop lasted only until 1993. It was followed by a series of poor and mediocre mushroom crops in the mid and late 1990s, and a rapid and major decline in the number of pickers attracted to the area. Between 1996 and 1998, the years for which I found relatively accurate data on picker numbers, a total of 271 different pickers obtained permits from the Sisters Ranger District to pick in the area. Taking into account that some pickers either didn't get permits, or obtained them at other districts which are part of the same permit-issuing system, the total number of pickers who picked in the area over that three year period was likely in the neighborhood of 350-400 pickers.²

² I base this estimate on my observation as a buyer that roughly 15-20% of the people who came to sell mushrooms to us in 1997 and 1998 did not have permits, and my observations that a certain percentage of pickers (which I estimate to be roughly 10-15% of the total) bypassed the mushroom buying camp entirely and sold their mushrooms directly to buyers located on the west side of the Cascades.

Many of the first pickers in the area were people who started out picking in the Willamette Valley and gradually expanded their range to include the east side of the Cascades. To cut their daily travel time to and from their picking sites at Sisters, they established temporary camps where they would stay anywhere from a few days to four to six weeks at a time. When buyers came to the site, they tended to congregate in Jack Creek Campground, which is easily accessible from the main highway connecting Sisters to the Willamette Valley. In the early 1980s, the Sisters Ranger District made no effort to regulate wild mushroom activities in the area and pickers and buyers were free to come and go as they pleased. Beginning in the late 1980s and early 1990s, however, the District followed the example of ranger districts to the south and west of Sisters and began to implement pre-existing requirements that commercial users of forest products obtain permits.

During the 1990s, the District developed an increasing number of regulations to control picking and buying at Sisters. The first major change occurred in 1993, when a local environmental group concerned about damage to riparian habitat near the Jack Creek campground, asked the Forest Service to prohibit commercial harvesters from camping near streams and to move the buying camp to a site located several hundred yards from the nearest permanent watercourse. The Forest Service responded to this request by moving the buying camp five miles southeast of Jack Creek to an area known as Jack Flats. They also instituted a variety of new restrictions including requiring buyers to obtain buying permits and requiring pickers to obtain industrial camping permits. In 1996, the district increased its regulatory presence even further by hiring a full-time seasonal employee to monitor and enforce the district's wild mushroom regulations. The district did not invite input from either buyers or pickers when making these decisions, an omission which has contributed to feelings of resentment among pickers and buyers.³

³ In Chapter Six I provide more detail on the regulatory system, the process by which the Sisters District established its regulatory system, the roles that various social actors played in that process, and

Who Picks At Sisters?

The people who pick at Sisters are a diverse group in terms of where they come from, their demographic characteristics,⁴ the roles they play during the harvest, and their reasons for participating in the commercial wild mushroom harvest at Sisters. Of the 200-400 pickers who work at Sisters every spring, most come from somewhere else (see Figure 4). The majority of pickers (about 59%) reside in small towns or cities located in western Oregon, a two to three-hour drive to the west. About 14% of pickers live in towns or settlements, such as Sisters, Bend, Redmond, or Gilchrist, situated along the front range of the Cascades. The remaining 27% of the pickers at Sisters live outside Oregon, mostly in large urban areas in Washington or California.

Pickers at Sisters range in age from young children to people in their 70s and 80s. However, most are between 35-55 years old, and the vast majority of Euroamerican pickers are men.⁵ In contrast to most of the widely publicized mushroom sites, such as Crescent Lake and the eastern Oregon burns, where southeast Asian pickers predominate, the picker population at Sisters is roughly 70% Euroamerican, 20% southeast Asian (mostly Laotian and Cambodian), and 10% Hispanic (mostly from Mexico) (see Figure 5).

the responses of pickers and buyers to efforts to extend and intensify state control over their everyday lives during the Sisters spring mushroom harvest.

⁴ These figures are derived from my analysis of wild mushroom permits issued at Sisters for the years 1996-1998.

⁵ I was able to get a fairly accurate picture of gender distribution among Euroamericans and Hispanics by analyzing the first names on the permits issued by the District during 1996-1998. A Laotian colleague of mine, who also speaks Khmer, attempted to analyze the gender distribution among the Asian pickers, but the names are not sufficiently gender dependent to be able to arrive at a very accurate assessment.

STATE OF RESIDENCE	NUMBER OF PICKERS	PERCENT OF PICKERS
Oregon		
Westside	160	59
Eastside	38	14
Washington	29	11
California	29	11
Other States	13	5
TOTAL	271	100

Figure 4: Residence of Pickers at Sisters

PICKER ETHNICITY	NUMBER OF PICKERS	PERCENT OF PICKERS
Euroamerican	169	62%
Southeast Asian	75	28%
Hispanic	26	10%
Other	1	<1%
TOTAL	271	100%

Figure 5: Picker Ethnicity

Anywhere from one to six field buyers set up buy stations in the Jack Flats buying camp during Sisters spring season, depending on how productive the Sisters crop is and what the mushroom crops in other places are like. Like most of the pickers, most people who buy out of the Jack Flats camp live in the Willamette Valley. All of them work for buying companies based in the cities and towns on the west side of the Cascades.⁶

Although the majority of the buyers at Sisters are Euroamericans, a few Asians also buy out of the mushroom camp. In the two seasons I worked at Sisters one Japanese woman and one Laotian man bought mushrooms. The four other buyers other than myself were all Euroamerican, one woman and three men.

The buyers at Sisters are also diverse in terms of the size of the companies that they work for. One buyer bought for Cascade Mushroom Company, at the time the largest American-based company in the Pacific Northwest, but which has since gone out of business. Of the remaining six buyers, two (including myself) bought for a small family-operated company, three bought for medium-sized buying companies, and one bought for a very large and economically powerful mushroom company based in Canada. The two nearest permanent buying stations are located more than a hundred miles west of Sisters, an hour and a half drive one-way from the Sisters buying camp when the mountain passes are clear. Consequently most pickers who work at Sisters sell their mushrooms to on-site field buyers, rather than trying to market them elsewhere.

How People Participate

People participate in the Sisters pick in several ways: some pick mushrooms, others buy mushrooms, some both buy and pick, and still others can best be described as helper-companions. These categories are by no means mutually exclusive and people shift in and out of the various roles. For example, with the exception of one other buyer

⁶ During the years that I bought out of Sisters, mushroom buyers bought for companies based in Vancouver, B.C., Vancouver, WA., Portland, OR, Lyons, OR, and Sweet Home, OR. All of these are towns located on the west side of the Cascades.

and myself, all of the buyers at Sisters regularly picked mushrooms during the days as a way to increase their income and knowledge of the ground. A small number of people who come to Sisters primarily to pick also occasionally buy mushrooms while camped in the area, generally when the prices at Sisters are low relative to the prices in other harvesting sites in Oregon. They usually bought only from a small number of friends or family members, and then transported the mushrooms “over the hill” to get a higher price from the Willamette Valley buyers.

Helper-companions constitute an important, but less obvious category of people involved in Sisters wild mushroom harvest. Pickers’ helper-companions tend to be women, often with physical disabilities, who can not keep up the pace in the woods or carry a large amount of poundage. They make a vital contribution to the group’s overall income by serving as extra eyes for locating patches along the road or on trails. They also free up time for other members of the group to pick longer hours by cleaning the daily harvest of mushrooms, gathering firewood, doing laundry, and cooking meals.

Buyers’ helper-companions at Sisters include both men and women. They provide companionship, perform chores around camp, and assist with buying. Many buyers’ helpers pick during the day, serving as scouts for the buyer. This frees the buyer to make deliveries to the airport during the morning and to do the station paperwork late at night. They also grade and weigh mushrooms when the station gets busy, and buy when the buyer is sick or called away for a few days. Buyers’ helper-companions also participate in setting up and maintaining the camp, taking on such tasks as constructing fire pits, picking up litter, cutting firewood, hauling water, and running errands.

Dependence on the Sisters Pick

The degree to which pickers must rely upon the money they make at Sisters varies. For some, mushroom money is their main source of income during the spring and early summer months. For others, money from picking at Sisters supplements steady but meager incomes from disability, welfare payments, retirement benefits or social security. For still others, the money they earn at Sisters is primarily a way to cover the

costs of what they consider an extended vacation or to provide them the opportunity to acquire extra cash to purchase non-essentials.

In terms of money making opportunities, Sisters is a minor harvest site in the region due to its small area and short season. However, it is one of the few reliable early spring season sites and thus plays an important role as a place where pickers can build up some working capital to participate in late spring, summer, and fall harvests. Sisters also functions as a fallback zone in years when the morel harvests in eastern Oregon and the Rockies are poor. For pickers who work the longer mushroom circuits, Sisters makes a good resting place where pickers can make a little bit of money while they wait to see whether they should head over to the coast to begin picking early chanterelles or head east on the morel circuit. Finally, for the few pickers who either have their own markets or are willing to transport their mushrooms to Willamette Valley buy stations after the field buyers close up shop, there is money to be made in picking the upper elevations through the summer and into the early fall.

Non-Financial Reasons for Picking

Although the people who participate in the commercial mushroom harvest at Sisters all share a desire to make some money, few participate solely for financial gain. Other reasons pickers cited for taking part in the mushroom world at Sisters included: building and maintaining social networks; having the opportunity to relax and gain a sense of self-fulfillment in the forest; putting a little adventure and excitement into their lives; and having control over the conditions of their work.⁷

Mushroom Species Harvested at Sisters

Commercial pickers come to Sisters in the spring primarily to harvest two types of wild mushrooms: morels (*Morchella spp.*) and boletes (*Boletus spp.*), both of which are marketed domestically and internationally. At Sisters, morels and boletes fruit primarily

⁷ I develop the discussion of reasons for participating in the Sisters harvest in more depth in Chapter Six.

in the spring and early summer, although a few pickers also pick high elevation boletes into late summer and early fall. Although other commercial wild mushroom species, including matsutake and chanterelles, fruit in the area during the late summer and fall none fruit in sufficient abundance or consistency to attract large numbers of commercial pickers for the fall season.

A Scientific View of Morels and Boletes

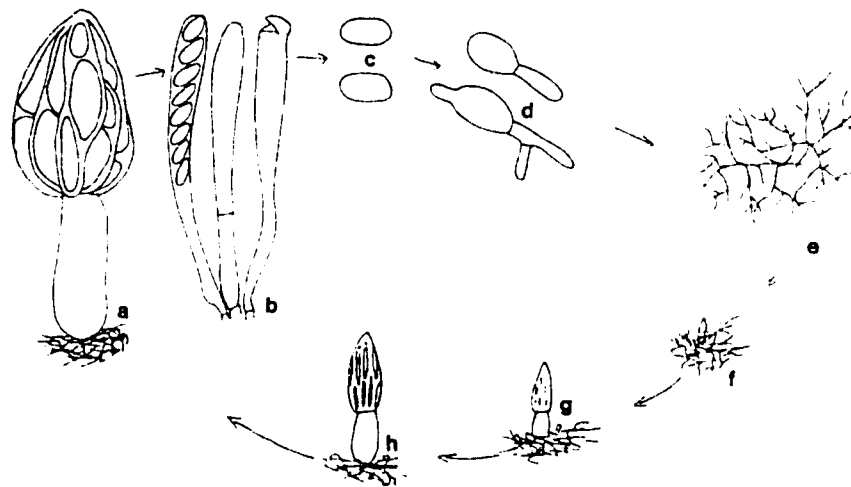
Morels and boletes differ greatly in how they obtain nutrients and reproduce. From a picker's perspective these differences are important because they affect the types of harvesting strategies that are most effective. Scientists generally classify morels as saprophytic organisms and boletes as ectomycorrhizal organisms (Molina et al. 1993:2-7). Saprophytic mushrooms obtain nutrients by breaking down dead woody organic matter, such as fallen logs and leaves (Molina et al. 1993:3-4). By contrast, ectomycorrhizal mushrooms live in a symbiotic relationship with host plant species, exchanging critical nutrients with the host organism (Molina et al. 1993:4-7).

The scientific classification of morels as saprophytic organisms, however, is currently breaking down as a result of recent studies which indicate that some species of morels are ectomycorrhizal under some conditions (Buscot 1994). One recent overview of wild edible mushroom management in eastern Oregon suggests that ectomycorrhizal morels may be more likely to fruit in undisturbed forest habitats, while saprophytic morels may dominate in burned over areas or in forests where tree mortality rates are high (Parks and Schmitt 1997:11). From the picker perspective the difference between ectomycorrhizal and saprophytic mushrooms matters tremendously, as how mushrooms obtain nutrients affects their distribution patterns in time and space. My interviews with pickers who have been working the Sisters area since the mid-1980s indicate that a few pickers arrived at a similar conclusion independently, and adjusted their harvesting strategies accordingly.

Both saprophytic and ectomycorrhizal mushrooms consist of two interconnected parts, the mycelium and fruiting bodies (Arora 1986:4-6). The mycelium is an

underground mat made up of microscopic threads of cells, known as hyphae (Arora 1986:5). Fruiting bodies are protrusions that emerge from the mat as part of the reproductive cycle, and function as sites where mushroom spores are formed and released (Arora 1986:5). The fruiting bodies are what we commonly refer to as mushrooms, although technically the mushroom organism includes the mycellial mat as well (Arora 1986:4-6).

Scientists divide macrofungi, such as boletes and morels, into two classes, Basidiomycetes and Ascomycetes, depending on whether the spores are carried on the outside of mother cells (basidia) or within mother cells (asci) (Molina et al. 1993:3). Boletes are classified as basidiomycetes, and their spores are released through the pores in the spongy material, known as spore mass, located underneath the mushroom cap (Arora 1991:152) (see Figure 6 for a sketch of the reproductive cycle for macrofungi belonging in the basidiomycetes class). As the spores germinate, the threadlike hyphae grow and eventually merge to form a mycelial mat (Arora 1986:5). Being an ectomycorrhizal species, bolete spore germination and mycelial development take place in symbiosis with the roots of host species (Molina et al 1993:4-7). When the mycelium is established and has plenty of nutrient reserves built up, it begins to produce the fruiting bodies that we call boletes (Arora 1986:5). These form from knots of hyphae that eventually develop into mushroom primordia or buttons, consisting of a stalk and an unexpanded cap (Arora 1986:5). As the stalk lengthens, the cap is pushed above the ground and expands until the pores in which the spores form are exposed (Arora 1986:5). Spores form on cells known as basidia, which line the tubes that constitute the spongy surface underneath the bolete cap (Arora 1986:5). The fruiting body releases the spores when environmental conditions are right and the development and reproductive process starts anew (Arora 1986:5).



Hypothetical life cycle of the common morel, *Morchella esculenta*:
 a, mature specimen; b, asci and a paraphysis from the hymenium;
 c, discharged spores; d, germinating spores; e, mycelium, f-h, stages in
 fruiting body formation.

Figure 6: Morel Reproductive Cycle
 (Source: Weber 1995:94)

Morels belong to the scientific class of macrofungi labeled ascomycetes. Like the basidiomycetes, spores from mature morels are released and germinate into long thin structures known as hyphae (Weber 1995:94-100). The hyphae form an interconnected mass called the mycelium (Weber 1995:100). The mycelium grows as it gathers water and nutrients, and eventually produces the fruiting bodies we call morels (Weber 1995:100). Once the spores have germinated, the mycelium grows vegetatively until it receives a signal to form sclerotia (Weber et al. 1996:63-64). The sclerotia is the form in which morels survive the winter (Parks and Schmitt 1997:10). The sclerotia store food reserves that become available when environmental conditions are favorable for fruiting (Parks and Schmitt 1997:10). Sclerotia are activated by disturbances, such as fire, and either germinate into another vegetative mycelium or become the fruiting bodies we know as morels (Parks and Schmitt 1997:10). The pits in the morel's head are the sites where ascospores are produced, inside large cells known as asci (Weber 1995:94). When the ascospores are mature, they are released from the ascus and dispersed into the woods (Weber 1995:95-100). The presence of fires, fire intensity levels, the timing of fires, levels of tree mortality, and weather patterns all appear to influence morel fruiting (Weber 1995:95-100).

Both morels and boletes occur on the landscape in discontinuous concentrations, known by pickers as "patches;" and both fruit in a series of flushes over the 10-15 week commercial season. Although it's difficult to predict exactly which patches will fruit and when a flush will start, pickers and buyers who've worked the area for a number of years possess highly detailed mental maps of patch locations and a highly developed understanding for the combination of climatic, soil moisture, and vegetation conditions that indicate that patches in a given area are likely to begin or continue fruiting.

An important point that mycologists emphasize, is that the vast bulk of the mushroom organism consists of the large network of microscopic hyphae that exist in the soil, dead organic matter, and on plants (Arora 1986:4-6; Parks and Schmitt 1997:9). This mycelial mat remains alive throughout the year, even though the fruiting bodies are

present for only a few weeks (Parks and Schmitt 1997:9). As a result, picking a mushroom doesn't necessarily change the mycelial mat or negatively affect the organism as a whole (Redhead 1997:34). In this sense, picking mushrooms is much less like cutting trees and much more like picking apples or huckleberries (Parks and Schmitt 1997:9). Mycologists, pickers, and buyers often emphasize the importance of gathering mushrooms in ways that don't injure the mycelial mat on the theory that just as a damaged tree or bush produces less fruit, so too will damaged mycellia produce fewer of the fruiting bodies we call mushrooms (Redhead 1997:34).

Mushroom Biology and Picker Behavior

The morphological and biological differences between morels and boletes have practical consequences for commercial pickers. Because boletes exist in a symbiotic relationship with a host species, pickers can often locate bolete patches by looking in areas where known host species grow. In addition, because the hosts tend to be trees and have relatively long life-spans, bolete patches tend to fruit more or less regularly in the same places year after year as long as the trees aren't cut down or damaged by insects, fire, or disease. Thus, assuming that other factors such as rainfall, snowpack, and soil temperatures have been favorable to mycellial growth and the development of fruiting body precursors, a bolete picker can generally expect to find boletes in areas where she has picked in the past. However, the timing of the fruitings of a given bolete patch may vary from year to year.

In contrast, morels depend less, if at all, upon the co-presence of a particular tree or plant species. Pickers are most likely to find commercially viable morel patches in areas where there are large amounts of decaying organic matter, such as the site of a wildfire, a logged over area, or a forest that has a high percentage of dying trees, regardless of forest composition. Moreover, while morels sometimes fruit in the same areas in

successive seasons, they are less likely than boletes to reoccur in the exact same location from one year to the next.⁸

The fruiting characteristics of morels and boletes also have consequences for commercial pickers' behavior. From the commercial picker perspective, morels are relatively easy to locate since they reach their commercial form after they emerge above the ground. In contrast, boletes are at their most commercially valuable form, the "button" stage,⁹ while still underground. It thus takes a very sharp eye to detect the cracks and small humps that are the telltale signs of a maturing bolete patch, particularly in areas where competing pickers have removed the more mature specimens that have already emerged from the ground. As a result, inexperienced pickers or pickers who are new to Sisters can rarely make good money off boletes if there are many experienced pickers in the area. In contrast, an inexperienced picker can sometimes do well on the morels even when there are experienced pickers around.

Commercial Mushroom Classification Systems

Participants in the commercial mushroom world in the Pacific Northwest use two systems to classify the morels and boletes they pick and buy. One system is based on the morphology and color of the mushrooms (see Table 8); the other is based on characteristics that affect the shelf life and price of the mushrooms, such as the color of the spore mass (an indication of how old a bolete is), presence of insects or moisture content. Both classifications have links to market prices, although the second system, which is known as "grading," is entirely geared toward value differentiation while the

⁸ This generalization may apply more to morels that grow in response to fire, as some pickers at Sisters have identified morel patches in undisturbed forest stands that fruit relatively consistently year after year, barring any major temperature and moisture fluctuations.

⁹ Button is the commercial category for immature boletes, whose caps remain curled under. The category is not based on size. Buttons vary greatly in size, and can weigh as much as a pound or more depending on their size.

first system, which applies mostly to morels, is less clearly linked to differences in prices.

TABLE 8: BOLETE GRADING CRITERIA (MAY, 1997)

#1	No worms Spore mass white to beige, no yellow Cap and stem solid all the way through, including edges Closed buttons - do not cut unless signs of worms Open buttons – cut all open buttons in half No deer bites No split caps or stems No waterlogging
#2	No worms Spore mass healthy yellow, no greenish tinge Remove spore mass on all two's unless very firm with no worm damage Deer bites – downgrade to three Split caps and stems – downgrade to three depending on severity Cap and stem solid all the way through, including edges (no Marshmallows) No oversize caps No waterlogging
#3	Five worms or less Spore mass dark yellow to light green Remove spore mass on all threes before weighing Deer bites – depends, remove unusable portion Cap and stem solid all the way through, including edges (no marshmallows) No oversize caps No waterlogging
#4	Some worms, no condos Remove all spore mass No marshmallows – must be able to slice cleanly with a knife without tearing Remove unusable portions Slice at station before transporting No waterlogging

Classifications According to Form and Color

1) Morels

Buyers and pickers classify morels found in the Sisters area into four major types: burn morels, naturals, blondes, and grays (see Table 9).¹⁰ Burn morels, also called fire morels, fruit abundantly in areas burned by wildfire or controlled burns for one to three years following the fire. Large wild fires have been infrequent in the Sisters area during the past twenty years, and thus the area has not attracted the very large numbers of pickers found in the Blue Mountains and the Wallowa Hills, where extremely large wild fires have been common through since the mid-1980s. Grays also are apparently linked to fire, appearing late in the season after the burn morels have played out. Naturals and blondes are found in areas undisturbed by fire, and some pickers feel strongly that they are ectomycorrhizal species. Naturals and blondes tend to grow in mixed conifer forests with relatively open canopies or in meadows and small clearcuts. Both types tend to be associated with soil disturbance and dying or damaged trees.

¹⁰ The commercial classification of morels lumps together morel species that scientists generally consider distinct species. There is, however, still considerable scientific debate over the classification of morels, and determining scientific names for the commercial species is not a straightforward task. Weber (1995), groups true morels into two major groups: "one in which the ridges are dark to deep gray, brownish gray, or black by maturity; and another in which the ridges are white, ivory, or dull yellowish brown at maturity" (p. 18). She refers to the first group as "black morels," and to the second as "common morels." These groupings correspond with the commercial categories of naturals and blondes. Species that scientists have defined (but continue to debate about their distinctness) for the black morel group include *Morchella conica*, *M. angusticeps*, and *M. elata*. Species that fall within the common morel group include *Morchella esculenta*, *M. crassipes*, and *M. deliciosa*. Commercial pickers consider fire morels as distinct from naturals and blondes, but Weber et al. (1996) classify them as variations of either *M. esculenta* and *M. conica*. Grays, which pickers distinguish from naturals, blondes, and fire morels, Weber refers to as "nothing more than immature common morels" (Weber 1995: 103).

TABLE 9: COMMERCIAL CLASSIFICATION OF MORELS AT SISTERS

Burn or fire morels	Burn morels have a dark, almost black color, cylindrical shape, solid wall construction, and small exterior ridges on the caps. Burn morels sold commercially are often much smaller in size than the naturals, blondes, and grays. Pickers and buyers attribute the small size of burn morels to intense picking pressure and the subsequent tendency for pickers to pick everything they see, even very small fruiting bodies, rather than to the inherently smaller size of burn morels relative to other forms of morels.
Naturals	Naturals, also called conicas and blacks, are lighter brown in color than the burn morels, conical in shape, have deep exterior ridges, and thin double-walled construction. They tend to be less uniform in shape, are more likely to have worms, and hold up less well in storage and transport than burn morels.
Blondes or Golds	Blondes, also called golds, golden morels, and whites, have the more cylindrical shape and deep ridges of the naturals, but are beige to golden in color, and much denser than naturals. Blondes, fresh and dried, are often sold to domestic restaurants where they are stuffed and served whole. Blondes rarely have worms and thus tend to command a higher price than naturals.
Grays	Grays, like burn morels, are associated with fires, and the consensus among pickers is that they are a later stage of burn morels. Grays are a strikingly deep smoky color, and are much more spherical in shape than naturals, blondes, and burn morels. They are very dense, with thick double-walls, and, like blondes, are much less likely to have worms than naturals.

2) Boletes

Pickers classify the boletes found at Sisters into two categories: king boletes (often called “kings”) and queen boletes (often called “queens”).¹¹ Pickers often refer to both kings and queens as simply “boletes” and buyers pay the same price for both types. Buyers, however, observe that queens tend to have fewer worms than kings. They are thus less likely to cut immature queen boletes open to check for worms, which effectively increases the price per pound paid to the picker. In the Sisters area, bolete patches tend to be most commonly located in wet and dry mixed conifer forests, although a few pickers report having found boletes in areas where the overstory consists predominately of ponderosa or lodgepole pine.

Commercial Grading System

Commercial pickers and buyers also categorize mushrooms according to their commercial qualities, a process known as grading. Morels come in two basic grades: fresh market and drier. As a rule, morels that are firm, fresh, and free of worms or hoppers are classified as fresh market. Wormy, dried out, soft, or very dirty morels are graded as driers. As indicated by the names, fresh market morels are intended for distribution as a fresh product, whereas the drier grade morels are generally dried within 24-48 hours of being picked. Fresh market grade mushrooms generally command a much higher price per pound than drier grade mushrooms.

The grading system for boletes is vastly more complicated than the morel grading system. Differences over how boletes are graded are a source of constant tension between pickers and buyers, and between field buyers and buying companies. Buyers group boletes into three main categories: fresh market, freezers, and driers. The key distinctions between these categories are whether or not the boletes have worms in them, how tight the cap is against the mushroom's stem, how large the cap is in

¹¹ The boletes pickers and buyers at Sisters refer to as “queens” probably fall into the scientific category *Boletus barrowsii* (also known as the white king bolete), rather than the category *Boletus aereus*, which is known elsewhere as queen bolete.

diameter, and how dark the spore mass is. In the past, all boletes with worms were classified as driers, and were purchased at a price substantially below even the lowest fresh market grade. In the past ten years, however, a few buyers have started a “freezer” grade where they will purchase boletes that have a few small wormholes at a price in between the fresh market and drier price.¹²

Buyers group fresh market boletes into three grades -- number ones, twos, and threes. Number ones command the highest prices, followed by twos, and then by threes. The price differential between the fresh market grades is often substantial, particularly early in the season when the risk of worms is low. A ratio of 18:12:6, for example, is not uncommon in the early part of the season. As the risk of worms increases, and as more boletes enter the market, the price spread decreases substantially.¹³

The main criteria buyers use to distinguish the different grades of fresh market boletes are cap tightness, spore mass color, and presence of stains or blemishes. Number ones, often called buttons, ideally have caps that are still curled against or almost touching the stem, spore mass that is a whitish color with no yellow, and no stains or blemishes. Number twos have less tightly curled caps and the spore mass can have a tinge of yellow to it. Number threes can have even flatter caps, as long as the edges aren't curling up and the spore mass is a richer yellow color. A bolete with a hint of

¹² Even if a bolete is worm-free, it still may not meet the other major criteria for fresh market boletes -- boletes with caps exceeding 3 inches in diameter, dark green spore mass (rather than a light beige or yellow), or with caps that no longer curl under toward the stem are generally purchased at a lower price than fresh market boletes. All of these criteria are physical features generally associated with older mushrooms, which are much more likely to have worms or their larvae in them even though neither may be visible to the naked eye. By selecting out mushrooms that have these criteria from their fresh market purchases, buyers reduce the risks that their shipments will lose value in the time it takes to ship the mushrooms from the harvesting site to domestic and/or export markets.

¹³ Late in the season, a price ratio of 5:3:1 would not be uncommon; in the late part of 1997 the price ratio on fresh market boletes in eastern Oregon dropped to 3:2:1.

green in the spore mass is generally classified as a four, or drier, even if it has no worms.

Determining whether or not boletes have worms is a fine art, particularly with young, firm mushrooms where worm activity isn't readily detectable by looking at the mushroom's exterior. To reduce the risk of paying fresh market prices for mushrooms that later turn out to have worms in them, and which thus will have to be sold at much lower freezer or drier prices, most buyers in the Pacific Northwest cut boletes in half to see whether any worms or wormholes are visible on the inside. The buyer will also look for clues that the picker has "chased worms" --- i.e. cut out the part of the stem with pinholes where worms have burrowed into the flesh -- and then tried to cover up the signs by carving away large chunks of the stem to clean it rather than peeling it like a potato as is customary.

Where and When People Pick

Although the pickers who work at Sisters occasionally pick on private and state-owned land, most spend the bulk of their picking time working on land administered by the Sisters Ranger District. A small number of pickers pick on the Warm Springs Reservation, which borders the northern boundary of the Sisters District. All but a few non-tribal members avoid the reservation, which is legally off-limits to outsiders, and trespassers are subject to a heavy fine (reportedly \$5000). Morels and boletes apparently did not figure importantly in the culinary or cultural traditions of the Wasco, Tenino, or Northern Paiutes, the three groups who occupy the reservation. Although the Warm Springs Confederated Tribes have pressed their hunting claims within the boundaries of the Deschutes National Forest, they have not pursued claims to wild mushrooms on the same land. Only a handful of tribal members are active in the spring

mushroom harvest, and of those who sold to our buy station, they clearly were unfamiliar with how to pick both morels and boletes.¹⁴

In terms of the “flow” of mushrooms across the landscape during the spring season, the main season begins with a first flush of morels in the “low ground” in the central and eastern part of the District and ends with sporadic flushes of boletes in the “high ground,” in the mixed conifer forests that blanket the slopes of the western half of the District. Naturals are the first morels to appear, generally fruiting first on southeastern facing slopes in the lower elevations of the area known as Green Ridge. As the weather warms up, they start appearing in the Metolius basin flats and finally, as the soils of the mid-slopes of the Cascades warm up, they fruit in higher elevations and on north-facing slopes. Golden morels tend to fruit slightly later than the naturals, although they also can occur simultaneously. If there have been any major fires or controlled burns, burn morels begin to fruit somewhat later than the naturals. Grays appear late in the season, and their appearance is a sign for many pickers and buyers to move east, south or north to other spring and summer harvesting sites. Pickers working at Sisters focus their morel harvesting efforts in areas with insect damaged or dying trees, or in the few areas where small wildfires occurred the previous year, or where the Forest Service or Willamette Industries, the only major private timberland holder in the area, have recently carried out controlled burns, thinnings or selective cuts.

¹⁴ The Warm Springs tribal members who sold mushrooms at our buy station in 1997 and 1998 brought in morels that they had pulled out of the ground and collected in buckets without cutting off the dirt covered stems. This is a common practice among first-time pickers who aren’t aware that most buyers won’t buy morels unless the stems are clean and less than a quarter-inch long, and who don’t realize that leaving the dirty stems on the mushrooms contaminates the whole bucket of mushrooms with dirt, and thus renders the product commercially undesirable. The tribal members also brought in a few overmature boletes that they had found while picking the morels and asked whether anyone bought those types of mushrooms.

Boletes begin later in the season, with the first major flush beginning roughly three to four weeks after the first naturals appear. They fruit first in large quantities in the flats of the Metolius Basin, then in patches at the middle elevations on the Basin's slopes and Green Ridge, with a final large commercial flush in the higher elevation forests south of Highway 20 in early summer to mid-summer (Figure 7). Bolete pickers focus their attention in mixed conifer forests, looking especially for the white fir that seem to be the dominant host species for boletes in the area.

A few “hard-core” Sisters pickers continue to pick the Sisters area through the summer and into early fall, when the last flush of boletes appears in the high ground, and chanterelles and matsutake crops begin to flush. By late September-early October even the hard core pickers have either moved over to the west side to pick chanterelles or south to pick matsutake where they can make more money. Thus from October to March, the Sisters mushroom world lies dormant, waiting for the first prolonged period of warmth in the spring for the cycle to begin anew.

Section 2 - “It’s Just Like Farming”¹⁵

It's just like farmers, you know. One year they have a good crop and the next year they don't. You just hope it's gonna be there (Ray).

I've seen a time when me and Jane went out and picked \$200 a day. And then for 14, 15 days, you don't make a dime (Mark).

Introduction

Sven, had a favorite saying about making a living in the mushroom business: “The only thing certain about mushrooms is you can never be certain when or where they’ll come on.” This statement came from a man who had picked and bought mushrooms in

¹⁵ For privacy purposes I have changed names of pickers, buyers, and others throughout this document.

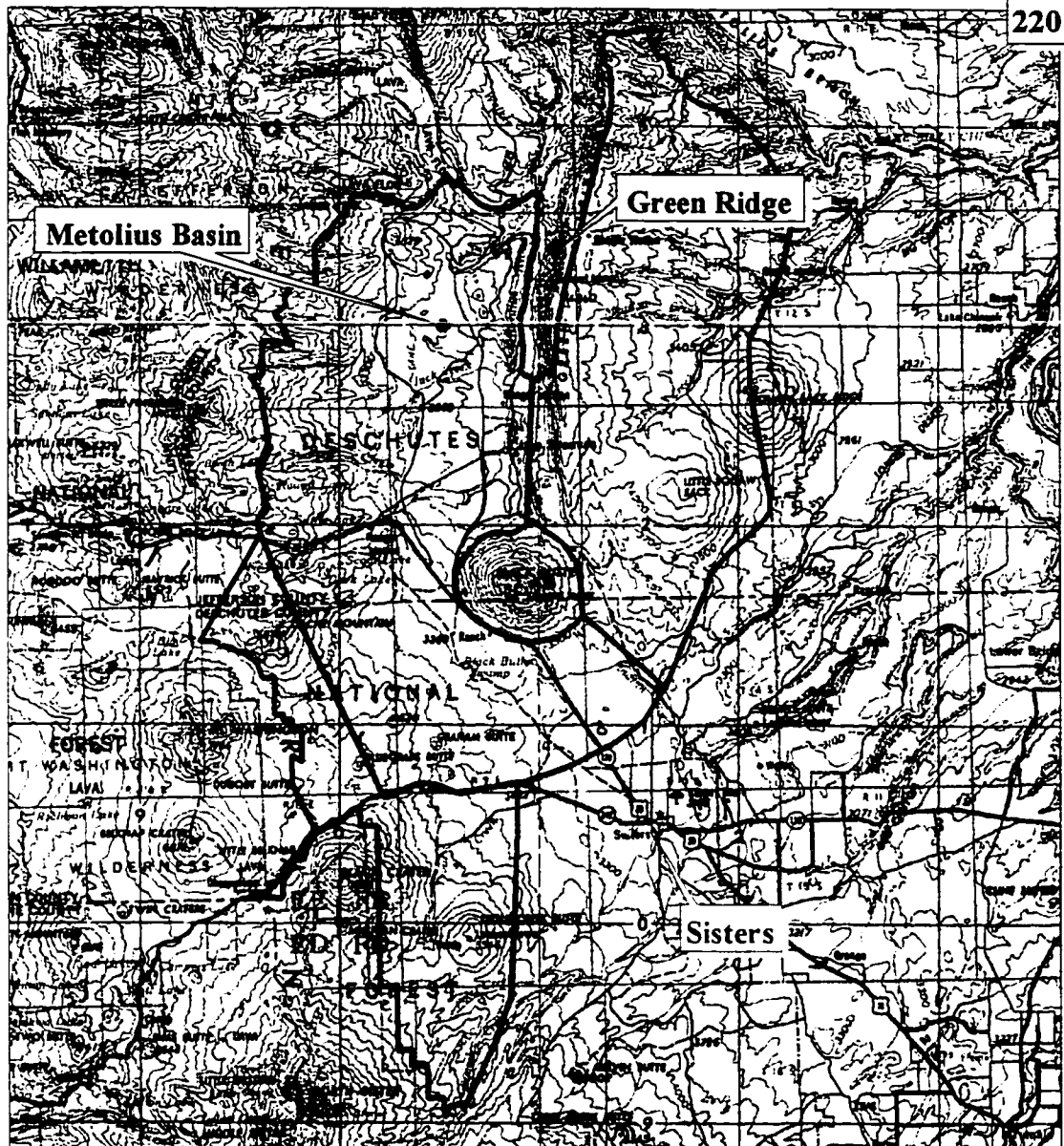


Figure 7
Sisters Mushroom Grounds

the central Cascades every year for the previous 14 years, and who knew the ground at Sisters so well that after a four-year absence he could still remember the areas around specific trees where he had found bolete buttons in years past. If someone with as extensive knowledge of the mushroom ground as Sven thinks that the mushroom business is a never-ending gamble, then an understanding of what types of uncertainties mushroom people face, as well as the ways in which uncertainties both constrain and open up opportunities for pickers and buyers is clearly important in understanding the dynamics of Sisters wild mushroom politics. This section explores the contours of uncertainties that pickers face; the following section examines the strategies that people use to cope with and take advantage of uncertainty.

The sources of uncertainty in mushroom pickers' lives are many. Some have to do with aspects of life that everyone faces such as deaths in the family or major illnesses. But other sources of uncertainty in pickers' lives stem directly from the characteristics of the wild mushroom world itself. The following account focuses on four major sources of uncertainty that I identified as important in Sisters wild mushroom world in the late 1990s: 1) Seasonal and annual variations in fruiting patterns and productivity linked to weather and climatic conditions; 2) competition for mushrooms from other pickers as well as animals, such as squirrels, deer, and elk; 3) Forest management practices and policies, such as Forest Service decisions to sell timber in areas with highly productive patches, or to shut down late successional reserves to commercial wild mushroom harvesting; and 4) market events and conditions, including sudden fluctuations in prices or an extended period of low prices relative to costs.

Fruiting Patterns

An important part of the mystique of wild mushrooms is their unpredictability. In a world where business, government, and science have joined forces to control nature, science-based forest management systems lack information on the biology and ecology of many of commercially valuable wild mushrooms. Scientists are unable to predict

wild morel and bolete fruiting patterns with any accuracy, and know little about how different levels of harvest affect either the mushrooms or the surrounding environment.

Though often quite knowledgeable about the sequence and productivity rates of specific patches, even extremely skilled pickers with years of experience admit to a high degree of uncertainty about when and where crops will be commercially viable. Dale, a picker and sometimes buyer who has picked the central Cascades for more than a decade, points out the unpredictability of mushroom fruitings within the relatively small area that constitutes the Sisters pick. Not only is the timing of a flush difficult to predict, but so are their locations and their productivity:

Green Ridge flushes first, the morels, and it's just about over up there now. And basically again they'll follow the morel up in elevation but it's hard to say whether the higher stuff will flush or not, because again it just depends on the weather and the conditions. Now there's some years that you can go clean up to the top of the pass and they'll be all over the place and other years they just don't. There's no guarantee that because it flushed down here that it's going to flush up high. And these cuts, these thinnings and cut units, that's a hit and miss program, you never know. You can look at them and say, God, they're gonna come on in there, and sometimes they do and sometimes they don't. But when you hit the right one, it's a field day because they'll grow in just clusters all over. And you can go out there and pick eight, ten baskets in a half a day. You can't get off your knees, if they really come in hard, and I've seen it, but this year it's been spotty. It's just, I don't know that anybody can predict that. It's nature, it does what it wants to do.

Dale also noted that even the types of morels that fruit vary from year to year. In 1997, for example, pickers brought in mainly naturals and a few grays toward the end of the season. In 1998, however, pickers sold nearly as many goldens to us as they did naturals. In Dale's experience at Sisters, the large percentage of goldens is a relatively new phenomenon which he and others are unable to explain:

Now you saw those blondes? We call them blondes or the golden morel. Two years ago we had a good flush on them here and no one ever saw them like that before. We used to get them late in the season up high and just small amounts. Two years ago was the first time I ever saw huge

quantities of that mushroom coming in here, and here again this year, there's a pretty good flush on them. And that's something that we've never seen here before. So what caused that change, I don't know.

Brent, a circuit picker new to Sisters but who has picked mushrooms commercially for more than 15 years, also stresses the unpredictability in general of mushroom crops. As he notes, weather not only affects when and where mushrooms fruit, but it also influences the population of mushroom worms, and thus the marketability of the product. Moreover, mushroom picking is often a feast or famine type of business – one day there are more mushrooms than a person can pick in a patch and the next a sudden snowfall can bring the show to a halt:

But it can be a bad year [for boletes] real easy, depending on the weather. If it all of a sudden got hot really bad and just burns them out or if it rains too much, it's just got to be perfect conditions. And you'll know it because the decline happens so quick. But the morels won't even come if it's too dry for them, or they'll burn up on the stalk before they even get big. The matsis, the coldness brings the sap down into the root system of the trees and if it keeps warming up and getting cold and what not, you'll have a lot of worm content. It always comes and then if it snows before this happens, then your patch is buried. That's what happened to us the year before last in Crescent. There was so many, you were stepping on them everywhere but the next day it had 18 inches of snow.

Though many pickers like to brag about their picking abilities, most also acknowledge that every year brings its surprises. For example, Butch, a resident of Bend, has spent the past 11 spring seasons picking at Sisters. Over the years he has developed his own markets, selling directly to restaurants and stores in Bend during the season and continuing to market his mushrooms into the summer after the westside buyers at Sisters have pulled out their field buyers. By working the beginnings and ends of the seasons, as well as the main flushes, Butch has accumulated substantial knowledge about the locations and fruiting patterns of morels and boletes. Yet even with that level of experience, he is still capable of being surprised:

It's kind of driving me crazy because usually if you have places that go off at the same time, it can be 10, 15 miles apart, but they seem to present the same condition and when you find them here, you need to go here and look there because they'll probably be out there too. You may miss it by a few days or a week, but this has been - the edge will come out here - I've had patches that have been going off for two months now. The edges came off and the inside came off at the same time, then the edges went off again. And then the north side, the shady side, just kind of drives you crazy because you're used to going and find them in a certain spot and then that place will usually flush out, trail off and then it's done. But these places, there's a place at 4500 that's got boletes today that are growing in the shade. And then up here at six thousand they're growing in the sun. But nothing in the shade and then back down. But there's boletes and blacks growing fresh at the same time which I really don't see that much. I don't know, it's unpredictable. You just have to go out and look. It's like that even more this year, it's like that every year.

Many pickers, including Ray and Gary who have both picked at Sisters since the early 1990s, liken mushroom picking to farming, where the weather one year can result in a bountiful harvest while the next year a drought or too much rain can ruin the entire crop:

Yeah, you know, I'm learning more and more so with the knowledge that I'm learning, I should be able to find mushrooms a lot easier. And the thing is, the naturals that come up, spots that always have mushrooms in them have no mushrooms this year. And that you know, that's just like being a farmer, you know. A farmer grows his crops and the weather's gonna affect that and if you get bad weather, you may not get any crop (Gary).

There's one year there that the patch there that I have put on a little but not hardly anything like the year before when you could get baskets full out, you know. I'd take two or three baskets out and then that year I'd just take out 10 or 20 mushrooms, you know, and that would be it. And then it was over with. But I'd guess it's just like farmin', I guess, is what it is (Ray).

The mushroom world also has parallels to agriculture in the sense that mushroom crops follow a boom and bust cycle, with periods when a lot of patches come on at

once, followed by “dead times” when there is little to do but wait for the next flush or move on. As Daniel, who has picked the area since the mid-1980s notes, the cyclical fruiting pattern and the uncertainty of when the next flush will come on puts tremendous pressure on pickers to put in very long hours when a flush is on:

We'll work sunup to sundown, no breaks, eat and run, go, go, go. Well, it's kind of like farming, you got to harvest while they're there.

The unpredictability of the mushroom world, however, has its limits. Although the timing of a flush and the fruiting of a patch are difficult to predict precisely, over time pickers working year after year in the same area have noticed patterns in the timing of flushes and the sequence in which patches in different parts of the landscape fruit. They have also begun to develop an understanding of how different combinations of temperature, moisture, and soil disturbance activities at different times of the year influence the quantity and quality of the different crops of commercial mushrooms.

As a result, pickers who take the time to learn a variety of patches, the circumstances under which they fruit, and the sequences in which they tend to fruit can do well, even in a bad year. Those who do well at Sisters tend to be bolete pickers like Butch, who build up portfolios of bolete patches that they treat like traplines, visiting specific patches on a regular basis to see whether the ground is ready to pick or not:

Boletes are faithful. Morels are kind of faithful, you got places where you get natural morels. They're not - they're probably the most fickle of all the black morels because they'll just come out wherever the conditions suits them or whatever. The boletes, that was probably my money mushroom, because you can accumulate patches of those and if you keep on top of them and you have your timing right, you can do pretty good with those.

Pickers who develop patchlines often refer to this practice as “farming,” a practice that allows pickers and buyers exercise some degree of control within a relatively unpredictable environment.¹⁶

The depth and breadth of knowledge of some pickers is phenomenal. For example, Mayumi had learned the mushroom grounds at Sisters during the 1980s. An avid picker, as well as buyer, even after an eight year absence from the area, Mayumi could locate the precise trees near which she had found boletes 8 years earlier. On the scouting trips that I took with her, we never came home empty-handed even when other fairly skilled pickers came in with nothing to show for their day’s efforts.

My observations of and pickers comments about wild mushroom fruiting patterns clearly indicate that morel and bolete fruitings vary considerably from year to year, from patch to patch, and even within seasons. There is, however, a limit to the variability, and pickers who take the time to “learn the ground” very rarely come home at the end of the day with no mushrooms at all. Coming home with mushrooms on a regular basis, however, requires that pickers acquire a very detailed knowledge of where patches are and when they are likely to fruit. Acquiring that knowledge requires a considerable investment in time and energy travelling over the rough gravel roads and walking through the woods over a period of many years.

Competition for Mushrooms

Course you're always gonna have an area you consider your patch and you go back and hit it again and again and people will deal, tryin' to beat somebody else to it, you know, again and again so that you're gettin' the mushrooms and somebody else isn't (Gary).

Competition for mushrooms, whether from other humans, wild animals, or insects constitutes a second major source of uncertainty for pickers and buyers at Sisters.

¹⁶ I discuss the practice of “farming” in the wild mushroom world in more detail in Section Three of this chapter.

Boletes are especially vulnerable to competition from wildlife, since a variety of animals, including deer, elk, rodents, and bears also eat boletes. When picking the lower elevation bolete patches in the Metolius Basin, an important early spring elk habitat, pickers often face stiff competition from their four-footed competitors. Pickers knowledgeable about animal signs and tracking, however, can use this competition to their advantage by following the deer and elk to patches or by looking carefully for “deer bites,” (boletes that have been gnawed on by animals) and areas where deer or elk have pawed up the ground in their search for boletes under the ground.

Pickers also must compete with insects that lay their eggs in wild mushrooms, producing the “worms” and “hoppers” that drive down the value of the mushrooms on the market. Worm damage shifts a bolete button from grade number one to grade 3 (freezer quality) or grade 4 (drier quality) with a price decline as much as three to six-fold. Buyers pay drier prices for morels with hoppers or worms, which can fall to as much as a fifth of the price of fresh market morels. To beat the insects, pickers have to be on top of their patches, weeding out worm-infested “blows” and “flowers” and picking buttons before any fly larvae inside the mushrooms have had a chance to hatch.¹⁷

Buyers are very vulnerable to losses from worms, which can spread rapidly to the more expensive grades if the mushrooms aren’t kept cool. Randy, a commercial picker and sometimes buyer from the Willamette Valley, commented on the consequences of storing mushrooms over the Memorial Day holiday¹⁸ at temperatures that aren’t cold enough to keep the fly larvae from hatching:

....if the mushrooms aren't cold they'd be gone - how are you gonna keep 'em? You could separate 'em. If you got one worm in that, in your

¹⁷ Blows is a term pickers use to refer to boletes that are overmature to the point of being valueless. Flowers refers to boletes that have matured, but which may still have some value as driers.

¹⁸ Most holidays, including Memorial Day, are slow times for mushroom pickers and buyers since many produce buyers will not accept shipments until after the holiday.

ones and twos, you got the whole basket by the end of the holiday full of worms, the whole thing. It's worth nothing. If you put 'em in the cooler, worms stop eating, they stop multiplying. If you only got one or two in there by accident, you still got only four or five maybe. They might have spread a little bit, but not that much. And they wouldn't go through the basket, they'd go through the mushrooms. And then you'll have number ones that are number fours that you'd paid \$6 a pound for dryers.

Competition for mushrooms with other pickers and buyers can be fierce at Sisters, adding to the uncertainty of picker and buyer livelihoods. Sisters is a relatively small pick both in terms of the physical area over which it takes place, and in terms of the poundage of mushrooms available for harvest every year. Moreover, as an early spring pick, Sisters attracts both people who are interested specifically in spending the season in the area and people who use the area as a fall-back zone when other sites come on late or do poorly, or as a staging area before heading east to pick or buy on the burns in eastern Oregon, Idaho, and Montana.

Competition among pickers is heightened by the topography of the harvest site. The low ground bolete patches in the Metolius Basin, a wide relatively flat valley surrounded by a steep ridge to the east and by jagged mountains to the west, south and north, usually come on just prior to the first morel flush in the eastern mountains when the picker population at Sisters is at its height. If the middle and high ground are slow to come on, as they were both seasons I worked in the camp, pickers are forced to focus their efforts on a very small area. As Gary, a resident from Bend noted in spring 1997, finding enough mushrooms to make a decent day's wage under such circumstances is difficult for all but the most knowledgeable and persistent pickers:

And this area is so small, and the flushes are you know, basically pockets, that unless you're right on top of it, you're not gonna make a lot of money.

From the descriptions that pickers and buyers provided of the changes they'd experienced during the years that they've been harvesting at Sisters, it is clear that the number of people taking part in the spring season has risen dramatically over the

previous decade. Many pickers note that the increased number of pickers has made it more difficult for them to make a good living picking mushrooms, as more and more people compete for the same number of mushrooms:

And seems like the mushrooms are not as plentiful now 'cause, well there's more pickers. A lot more pickers. When I first started this, well I've been doin' it longer than 6 years but I mean professionally for 6 now and there's just a lot more pickers than when I first started. The mushrooms are still here it's just more people doin' it so you don't find as many (Randy).

I been chasin the morels around the country around here, you know, if there's any around, you know, I can usually find em. Not so much anymore. You can get out there all day, you'd been lucky to make 30 dollars or something and you've lost 8,9, 10 hours (Dale).

Some people, such as Dale, a picker and sometimes buyer who got into the wild mushroom business in the early 1980s, attribute the decline in the poundage being taken out of Sisters over the past five years to the presence of too many pickers in too small of an area:

This is not a very big area and the pickers, if you get a huge amount of pickers in here, they really pick it out. It's suffering from over picking in some areas. You see this bolete business down in this Jack Creek area? It's being hammered and hammered and hammered down there. I can remember eight, nine years back that you could walk down Jack Creek, down that old mud road, and there'd be little patches of boletes as far as you could see in different directions. And now when you walk down through there, you're lucky if you find one or two itty bitty ones. Because there's so many people going through there and constantly picking it. And it's suffering from being over picked, it's just an area that's easy and it's flat and everybody, all the people that don't know what they're doing, they all run right down there.

Though many pickers complain that too many people are harvesting wild mushrooms at Sisters, they are equally aware that climatic cycles and forest

management practices may be underlying causes of the observed recent declines in mushroom productivity at Sisters:

I really think that [overpick] could be possible. Because I think you need the new spore and stuff like that for years, when it does dry out and a lot of mycelium does dry or die, but I think you really have to observe a whole cycle which I've heard some people say 11, some people say 13 years of the growth pattern. I know that picking in some places isn't as good as it used to be, but then a year will come along and they'll come out real good (Butch).

As the number of pickers at Sisters and elsewhere has increased, people have noticed increasing tension over claims to patches. Ray, a picker from the Willamette Valley who picks boletes in the spring and matsutakes on the Oregon coast in the fall, notes that some people who have been picking for a long time think of the patches that they pick as "theirs" even when they are located on national forest lands:

Some of these pickers, because they picked it one time, that's theirs, you know. Some people get that way. It's their place. And I've seen that over on the coast a couple times where some guys had picked this area for, you know, 10 years and well, since the permit says, everybody else is startin' to go into those areas too. And then those guys get pretty upset, they think it's theirs. They call it "their ridge" or "their patch."

People who started picking before the mushroom rushes of the late 1980s and early 1990s often note with a hint of nostalgia in their voices that the increased number of pickers has transformed the nature of commercial wild mushroom picking. Instead of being an enjoyable way to make good money, the uncertainty of being able to make a good wage during a day as more pickers compete for the same or fewer mushrooms has transformed an occupation that people once found fun into something that looks increasingly like hard, poorly paid work. Though it is possible to earn enough money to survive, people like Daniel, a year-round picker from the Willamette Valley, note that it is becoming increasingly difficult to make a family wage:

It was fun when it was a handful of people and you could make money. But it's not so fun now. You can't make any money when there's that many people.... Wherever there are large volumes of mushroom pickers you can't make any money. I mean you can make enough to live on the quote/unquote "mushroom circuit," but I have family to support so I have to make pretty good money.

Not only are pickers feeling a wage squeeze as competition increases, but buyers are less trustful of leaving their gear in the woods unattended and are increasingly worried about the likelihood of being robbed. All of the buyers who bought out of Sisters made a point of letting pickers and camp visitors know that they carried handguns and knew how to use them. Dale, a picker who also bought occasionally at Sisters explained why he'd found it necessary to start carrying a gun with him while at his buy station:

I used to never pack a gun. Never did, for years and years and years. Well, then all of a sudden you see everyone running around with a handgun. Well, I don't want to be the only guy out there without one so I went down and got myself a permit so I could walk around with a handgun. I mean I hate them - I think they're made for one purpose and I don't really like them at all. I love to hunt but if it was up to me I wouldn't have anything to do with handguns. But what are you going to do?

As the above comments indicate, pickers at Sisters clearly perceive that an increase in the number of pickers has occurred over the past decade, a situation that has left many feeling economically squeezed as their ability to find untouched patches declines. Equally important many pickers note that the increase in pickers has brought with it an increase in social tension, creating an environment in which many no longer feel safe. Thus not only are pickers less certain about whether they will be able to find enough mushrooms to make a decent day's pay, but in addition, they are also experiencing uncertainty about their personal well-being.

Uncertainty due to Forest Management, Policies, and Regulations

[Mushrooming] is actually a lot harder, I think, right now. The forest's gettin' cut down, there's not near as many areas to work in and you're gettin' a lot more gates put up, you can't get back in to where you want to. It's gettin' a lot tougher. In the morels you used to be able to go out and get a bucket and half, two and a half buckets of naturals a day. Now you're lucky to get half a bucket or three quarters on a decent day, it's pretty tough. And it's gettin worse every year (Willy).

Forest management practices, policies, and regulations contribute additional uncertainty to pickers and buyers lives at Sisters. Pickers identified the following management decisions and policies as key sources of uncertainty: widespread road closures, area closures, insect management policies, reforestation policies, and timber cutting practices.

As noted in Chapters 3 and 4, the Sisters area has an extremely high density of roads, which allow forest users to gain access to recreational, hunting, fishing, and harvesting sites. The movement to many of the District's roads gained momentum after heavy winter floods in 1997 washed out many roads, filling the area's creeks and streams with large amounts of sediment. In order to meet the objectives of the Northwest Forest Plan regarding maintaining or improving aquatic species habitat, the District mounted a massive road-closure program in the spring of 1997 to reduce the amount of sediment entering the District's streams and rivers during future floods. Because many pickers learned Sisters mushroom ground before the District started to shut down roads, the road closures have had the effect of increasing pickers' uncertainty about whether they will be able to reach their patches, and also their uncertainty about how long it will take to reach their patches since they may need to use a different route than they used in the past.

Mushroom pickers who started picking at Sisters in the late 1970s and early 1980s learned the ground at a time when logging companies were still building new roads and when the Forest Service had a policy of leaving open and periodically maintaining

many new and existing roads. The graveled feeder roads and dirt spur roads provided mushroom pickers access to patches that otherwise might require a long walk in, thus increasing the number of patches and areas that a picker could cover in a day. In addition, pickers discovered that naturals often grew in the lightly bladed spur roads and cat trails within logging units, where soil had recently been disturbed. Many "old-timers" learned a technique known as "roadhunting," driving slowly along spur roads looking for morels and boletes on or close by the road. As Luanne, a picker from the Willamette Valley who has been coming to Sisters since the mid-1980s notes, the Forest Service's policy of no maintenance on many of the spur and feeder roads is beginning to decrease morel habitat linked to road building and maintenance activities. More importantly, perhaps, the closure of many roads to motorized traffic has begun to limit the accessibility of patches that once could be reached by road:

Well, some of the roads that they [mushrooms] grow on are getting' growed up with brush. The ol' cat roads, you know. And a 'course there's a lot of 'em blocked off. We carry a chainsaw with us, but a lot of 'em get blocked off -- trees acrosst the roads n'stuff. Or the roads we usta go down and pick on they're barradin', they're barricaded now with rocks n'stuff. That's -- the reason why they do this is on accounta these three wheelers.... they go out there and they don't care if it's muddy or not, they'll just tear that road all up! And then it keeps us pickers outta there (Luanne).

Similarly decisions to close roads temporarily during nesting, calving, and mating seasons for threatened and endangered wildlife and wildfowl, have also restricted access to mushroom patches:

We did have some areas they closed because of nesting eagles. They wouldn't let you drive up the road. Some eagle had a nest up in the tree and they didn't want anybody driving by (Dale).

Although road closures have substantially affected the accessibility of patches, particularly for older and disabled pickers, far more worrisome to harvesters are the increasing number of area closures that the Forest Service has instituted since the early

1990s. At the time I did my research at Sisters, most of the District remained open to morel and bolete pickers. The major areas closed to commercial pickers at the time on the Sisters District were the wilderness areas which run along the upper slopes of the eastern front of the Cascades. Relatively few pickers pick that ground, since most of it is high elevation and the mushrooms don't come on in those areas until the main part of the Sisters mushroom season is already over and the buyers have gone home.

However, many people who pick at Sisters complained bitterly about area closures in the Willamette National Forest to the west and on the Crescent Ranger District of the Deschutes National Forest and on the Winema National Forest to the south, where many pickers participate in the fall mushroom harvest. In these areas, late successional reserves are all off-limits to commercial harvesting, a policy which drastically reduced the picking area available to commercial pickers. Brent, a circuit picker who does both the spring and fall circuits along the west coast and into the Rockies, notes the feeling that he has of being in an avalanche, powerless to do anything to stop the steadily increasing number of areas closed to commercial harvesting:

It's the picking closures, like I say down in California they closed all the patches down - I've seen signs that say you can pick here and it's out in places where I wouldn't even step out of the rig because I know there ain't no mushrooms there. But then they got that right alongside the big patches. They make a good picking zone or picking area into a personal use picking area - no commercial harvest. It just keeps on avalanching on you.

This feeling of being caught in an avalanche of steadily expanding regulations is one that many pickers express. The avalanche metaphor portrays the helplessness and lack of control that pickers feel that they have in the face of the increasing regulation of their lives and restrictions on their access to the lands from which they derive their livelihoods.

Timber harvesting practices are another source of uncertainty, though they can also stimulate morel fruiting and make bolete patches more visible. Pickers appreciate light disturbances, such as thinnings, selective cuts, and controlled burns, which they often

target in their search for mushrooms. Practices that involved removing the bulk of trees over large areas, such as seed tree cuts or clear cuts, however, are criticized by pickers, who maintain that such practices destroy their bolete and morel patches for years.

Though morels are more likely to be found in thinned or logged areas for a year or two after harvest, experienced pickers believe that logging large contiguous areas of trees is detrimental to morel mycelia in the long run:

I'm not an expert on it or anything but I think these trees spend a lot of time gathering nutrients out of the ground. And when the tree dies, it usually falls down, degenerates, and replenishes the soil with nutrients. But when you just run in and take them all away, what that does, then you don't have the stuff on the ground to help hold the moisture. I call them moisture traps, just a matsi saying to me "look along the moisture traps, the logs on the ground," things like that - things that will hold a little moisture and retain the mycelium. Because if they dry out, from what I understand, they're gone. But it takes a long time for the places that are not so selectively cut to actually come back with anything. They might flush once more with morels within a decade, but it takes a long time for that mycelia to regrow, put itself out (Butch).

Uncontrolled insect epidemics, such as the tussock moth infestation, which have killed vast stands of white fir in the Sisters District over the past two decades constitute another source of long-term uncertainty to pickers. During the height of the die-off between 1987-1993, naturals fruited abundantly in the dying stands. Pickers attribute this abundance to the increase in soil organic from fallen fir needles. Old-timers who picked the area prior to the die-off also noted a surge in bolete production as the trees died, which they explain as the dying mycelia's attempts to maximize spore production to ensure reproduction in the long-term. Now that most of the insect damaged stands are dead, both morels and boletes are less abundant in areas that pickers formerly could count on finding commercially viable quantities of wild mushrooms. Picker views on the Forest Service's decision not to eradicate the tussock moth through intensive cutting or spraying, however, are mixed – some feel that the decision was viable in the long run, while others point to the mixed conifer stands and productive bolete patches just

across the boundary of the Warm Springs reservation as an example of what could have been done to stop the spread of the insect and retain viable mushroom habitat.

The Forest Service's policy of replanting logged stands primarily with ponderosa pine creates yet another source of long-term uncertainty for wild mushroom pickers. Both morel and bolete pickers are concerned about the area shifting back predominantly into ponderosa pine, which in their experience are far less likely to produce morels and boletes than mixed conifer stands. Looking ahead, pickers note that the future of Sisters as a commercially viable source of wild mushrooms looks grim:

L: But what they're doing is when they're doing all this logging, they don't put it back into fir like they should, they plant it all in pine which ain't no good.

R: The thing is that your morels grow under pine trees. Fir trees, I mean. They take all the fir out, they plant back pine.

L: And they should plant back in fir.

R: There's no fir. In 20 years you won't pick a mushroom here.

L: Not if they keep putting in pine.

R: You will not pick a morel mushroom here, because there will not be any. Sure, the beetle came and knocked the hell out of the fir forests, it has. But the thing is, fir is known to replenish itself. But no, they're running in there planting pine and it kills it.

RM: Crowds out the fir. So how will that affect the boletes?

R: Not to that great a degree, no. Because the boletes will grow under pine. For a certain period of time. Because the under stuff from fir is still in the ground. But when that's gone, there'll be no boletes either.

Some pickers like Daniel, who rely heavily upon the income they make while picking mushrooms at Sisters, are concerned enough about the disappearance of wild morel and bolete habitat that they have begun to take steps toward shifting out of the industry entirely:

I don't see a very bright future for it. I'm probably going to be phasing out of it myself. Taking some classes and did some volunteer work and I'm going to be getting into drug and alcohol counseling. Actually I'm as good at it as anyone is, and it's tougher every year, it really gets tougher every year. Your dead forest is dead now. The more you got - these people are figuring that out, it took them a couple years, but now they're concentrating on some of the areas that are more alive, and there's not enough of it that's productive.

The above interview excerpts illustrate some of the types of forest management policies and practices that pickers and buyers identify as sources of added uncertainty in their lives. Some pickers, like Brent and Daniel, perceive the regulatory apparatus as something that lies outside their ability to control. Daniel's reaction is to begin thinking about alternative ways of making a living. Other pickers and buyers, however, seek to overcome the uncertainties related to forest management policies and practices by taking a proactive role in their shaping. I will explore some of the approaches that pickers have taken to control the conditions that shape their field of maneuverability in Chapter Six.

Mushroom Market Conditions

Market conditions constitute a fourth factor that contributes to the uncertainty that characterizes everyday life for wild mushroom pickers and buyers at Sisters. Market-related uncertainties center primarily around variability in prices and market accessibility. Prices, like the weather, are a never-ending topic of conversation at wild mushroom buy stations and campsites. The regional and global nature of the wild mushroom economy contributes to price uncertainties at the local level – a shortage of supply at Sisters, for example, does not necessarily translate into higher prices for

pickers at the buy station since buyers have to compete within global markets. In 1997, when the morel crop at Sisters was a near failure, prices remained extremely low since the market was flooded with low-priced morels from the eastern Oregon burns.

Similarly, the low price for boletes that same year was linked to the development of new supply lines from western Europe, the major world market for boletes, into China. Pickers complain incessantly about prices, which to them often appear excessively low, and also comment bitterly about collusion among buyers whenever prices go through radical downward shifts:

Well, the market -- they say that the mushrooms are comin' in from other places and there's such a flood of the market that there's no price. But I think it's bullshit 'cause it starts out high, then it goes low and there's gotta be a happy medium somewhere (Randy).

Local, regional, and global prices and supply also affect whether areas are commercially viable from a buyer's standpoint. If mushrooms are in short supply at Sisters when prices are low elsewhere, as happened during the 1997 season, pickers will begin moving toward the areas where supplies are greater. As the number of pounds brought in every day by pickers declines, buyers will begin to assess the viability of their location. When the costs of keeping the station open exceed the potential profit to be made in an area, field buyers pull out and move toward those areas where they are more likely to be able to make a profit. Pickers who choose to stay at Sisters once buyers begin to pull out risk being "stranded" – working an area in which there is no market for their mushrooms. The costs of transporting mushrooms from the forests around Sisters to the nearest permanent buy stations in the Willamette Valley often lead pickers to stop picking in the area even when mushrooms are still fruiting, or when additional flushes are likely to come on later in the season:

See this is a bad place to be for a picker because of the fact that there's only a couple buyers here and the boletes are comin' on slow. The buyers have to have enough stamina to stay there until they come on (Randy).

Buyers also face price-related uncertainties. In spring of 1998, for example, the price on number one boletes remained at \$13 a pound or more at Sisters at a time when the price would normally be around \$6 a pound. Market demand, however, seemed to support that price so my buying partner continued to buy for her own markets when our home company ran short on buying funds. This worked well for one night, but two days later the price dropped to \$6 a pound, leaving Fumi with a hundred pounds of \$6 boletes that she'd paid \$13 a pound for the previous night.

Though pickers often complain about buyers getting rich off their labors, field buyers contest this view, noting that the chances of making a go of things by buying is a very uncertain business due to the intense competition from other buyers:

I really haven't made enough money buying as a buyer to want to really stay with it. You can make some money at times but it's hit and miss. If you're - none of these buyers, they're all sharing here. The ideal situation for a buyer is to be someplace where nobody else buys (Dale).

The evidence provided above illustrates the tenuous hold that pickers and buyers feel they have over the contours of the economic system in which they operate. Economic uncertainty appears to have increased considerably during the past ten years as more sources of wild mushrooms opened up, particularly in countries, such as Russia, China, Turkey, and Morocco, where labor costs are much cheaper. Pickers thus feeling increasingly as if they are caught in a price squeeze, as buyers turn to cheaper sources of supply to satisfy their customers' demands. Smaller buying companies also are feeling squeezed as they lack the organizational infrastructure needed to maintain supply networks in a number of countries.

Section 3 - Reducing Uncertainty

Introduction

Pickers and buyers are by no means passive actors in the world of commercial wild mushrooms. Over the years, they have developed strategies for both coping with and taking advantage of the uncertainties that pervade their world. The following four adaptive strategies are often used by pickers and buyers:

1. Spatial mobility, both within the pick zone and across pick zones;
2. Occupational and activity flexibility;
3. Development of social networks for sharing information and resources; and
4. Production and diffusion of knowledge about mushroom stewardship practices.

By drawing on a combination of these strategies, many pickers and buyers are able to develop a sense of security even in an environment full of uncertainty.

The Importance of Mobility

The ability to move from place to place to take advantage of a flush of morels or boletes is extremely important to commercial pickers at Sisters. Mobility is important at two levels – within the Sisters pick zone and across multiple picking zones. Over time, pickers accumulate knowledge and experience about the location and fruiting patterns of many areas within a site and about the fruiting patterns of mushrooms at a landscape level, across picking sites. Pickers who engage in the wild mushroom harvest regularly tend to develop patch lines with picking zones, and picking zone portfolios that encompass a larger geographic areas.

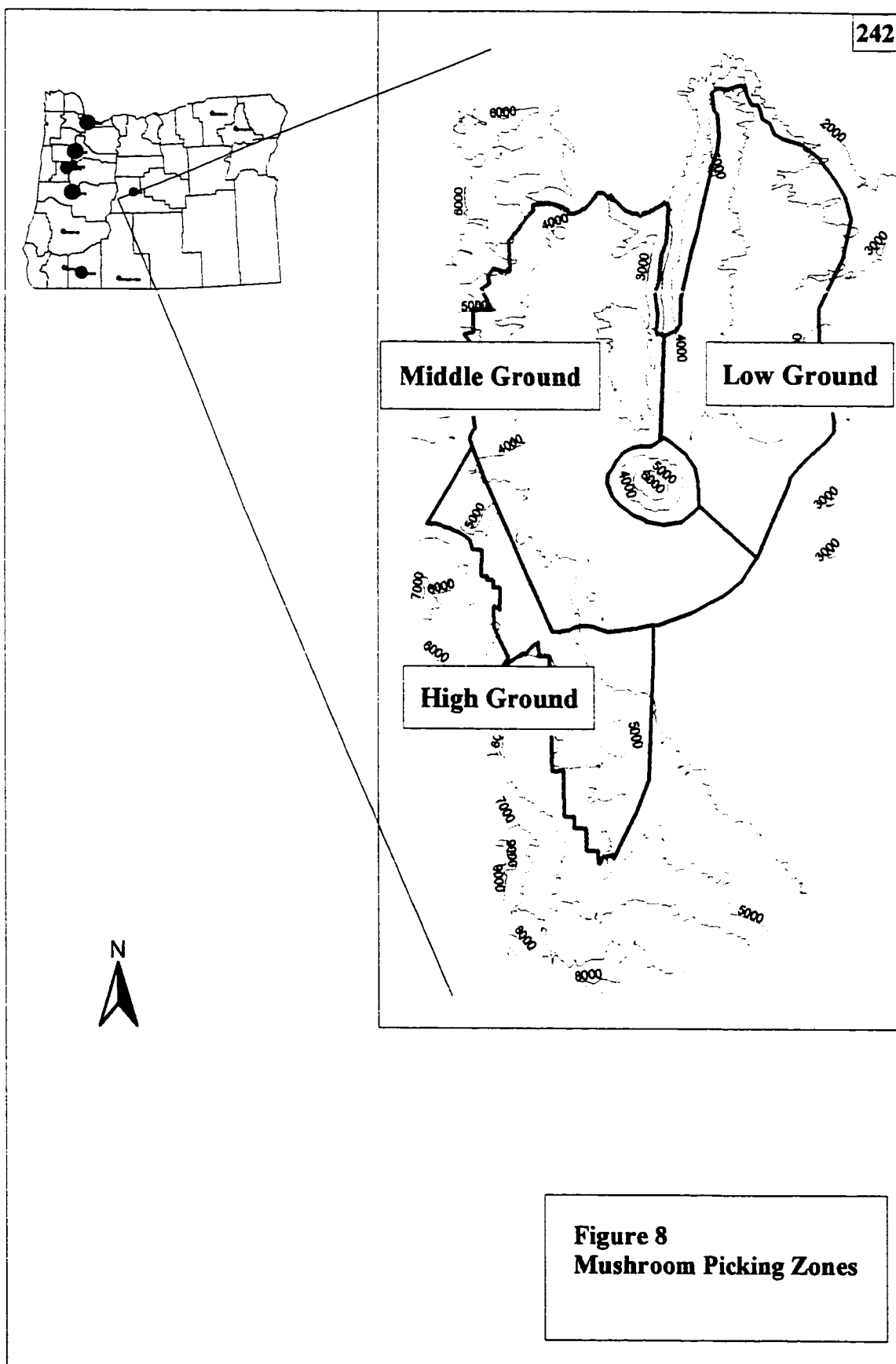
Within the Sisters pick itself, pickers move across three major picking zones, known as “low,” “middle” (or “center”), and “high” ground, as the season progresses. The low, middle, and high ground designation is picker short hand for describing different elevation zones. The “low” ground patches tend to come on first, followed by the middle or center ground patches, with the high ground patches generally coming on toward the end of the season:

The boletes here follow the altitude, they just go up with the season and they start down here now. And as the weeks progress this'll all - what we call "blow out." They just get big and they're no good anymore. And we just follow them up in elevation and you can stay in mushrooms in the boletes well into the - actually you can stay in till the end of July if you want to go up high enough. By the - let's see, this is the 11th of the month [May] - by this time next month everybody will be working down below the old McKenzie Highway because they'll be working the bolete beds higher up on the south end. That comes on following this, and then basically we just follow them right up there (Dale).

Though elevation is a key variable that pickers must take into account when deciding where and when to check out different areas in the forest (see Figure 8), other variables, such as aspect and canopy cover affect the timing and rate of fruiting of specific patches in each zone. For example, north facing slopes on center ground fruit later in the season than south facing slopes at the same elevation. Similarly, high ground patches on the edges of timber stands tend to fruit earlier than high ground patches inside dense timber.

As a result, patches come on in multiple zones, a phenomenon that is most pronounced during the middle of the season. For example, in late May when temperatures have warmed up enough for south-facing, open canopy patches in the high ground to fruit but when it is still cool enough for the north-facing, closed canopy patches in the low ground to fruit, it is possible for a person to pick mushrooms in both low and high ground patches on the same day. Thus when planning how to pick an area over the course of a season, pickers take into account a number of variables at once, moving around the landscape to take advantage of micro-climatic differences:

This is the mountain, see? Okay this is the north side and this is the south side. You start here and you pick here and then you go up the hill and pick here. And then all of the sudden it'll start gettin' too cold for them to be here and too dry for them to be in here. You jump on this side, and you start by comin' up here and you might go a little ways up here and then jump right back up here and go up and then you come back down



here. You do the north side last because it gets warmer last, that's why she was sayin' that they're comin' on high in certain spots and low on another spot. The middle is probably the north slope. They'll come on afterwards (Randy).

To keep track of what is happening on the ground in multiple places, while simultaneously keeping their patches picked down and thus protected somewhat from discovery by other pickers, many pickers at Sisters develop “patch-lines.” Patchlines are similar to traplines, consisting of a series of patches located at different places scattered across the Sisters picking zone that pickers visit on a regular basis. Pickers who have worked the area for a long time begin to develop a sense of when a patch will flush, and what parts of the patch will flush when. Using this knowledge, they are able to work the area very efficiently:

You just know the timing on when to hit them. They re-flush and they move around a little bit. So you just learn how they move. We know our patches so well that we know what parts of the patches will be on when and when we come back next time where they'll be in that patch, things like that (Daniel).

Mobility at the sub-regional, regional, and even international scale is also an important aspect of most commercial pickers' and buyers' lives. Many pickers develop “pick portfolios,” in which they take the time to learn a variety of potential mushroom fruiting grounds (see Appendix A). Thus when the crop is poor in one area they have some other ground they are familiar with to fall back on. Picking portfolios vary in their geographic range, with some pickers shifting back and forth between the Willamette Valley and the eastern Cascades, and others following the different mushroom circuits that range from California to Alaska, and from the Pacific coast to the Rocky Mountains. Brent's circuit, for example, encompasses a region bounded by Willets, California to the south; the Pacific coast to the west; the Olympic Peninsula in Washington to the west, and eastern Oregon to the east:

Last spring we were getting to pick the blacks all winter long, almost five months out of the year and the winter mushrooms, then you pick all the way into December on the burns and then you go and do your matsis in Crescent. So I start picking those on the Olympic peninsula actually, Shelton Matlock area. Some chanterelles down there, depending on the quality, if there were any or not, I would pick the chanterelles, and if they are wormy or if they weren't wormy then I'd be picking the matsis. And work your way down to Florence and pick the dunes. And then we'd run to the coast and pick the dune pines or do the ones in Crescent there and Doris, California and then down to . . . I'd do Willow Creek and then I'd go to Willets and I'd pick the matsis there, and then as soon as the price comes up on the blacks, I'd start picking those there and it was just about two weeks ago that we stopped picking the blacks.

Table 10, which summarizes the mushroom picking circuits for 22 pickers at Sisters, highlights some of the picking portfolio patterns of the pickers that include Sisters on

TABLE 10: SUMMARY OF PICKING PORTFOLIOS

Pick Locations	Picker Schedules (n=22)			
	Spring	Summer	Fall	Winter
Oregon				
Sisters/Ochocos	22	1	2	
Eastern Oregon	8	4		
Keno/Bly	4	2		
Mt. Hood/ White Salmon	2	1		
Willamette Valley/ Coast Range			10	8
Oregon Coasts		4	6	3
Crescent Lake			14	
Brookings			4	4
Cave Junction			5	
California	2		1	5
Washington	1	1	3	
Idaho/Montana		8		
Alaska/Canada		1	1	

their circuits. One of the most common patterns is one in which pickers' pick portfolios include the Sisters pick for morels and boletes in the spring, the Crescent pick for matsutake in the fall, and the Willamette Valley or Coast Range pick for chanterelles and winter mushrooms in mid-fall to early winter. Pickers working this triangular portfolio all have homes in the Willamette Valley or in the Coast Range. Another subset of pickers consists of the longer circuit pickers who take part in more than six picks per year. These pickers are less likely to pick in the Willamette Valley; and they follow both the spring and summer morel and bolete circuit, from California over to Montana and Idaho and the fall circuits beginning with chanterelles along the coast over to Crescent and down to Cave Junction to pick matsutake and then down to either the southern end of the Oregon coast or into northern California along the coast to pick matsutake and then the winter mushrooms, such as black trumpets and yellow foot chanterelles.

Flexibility in Activities

Knowing when and where a viable commercial crop of wild mushrooms will come up is always subject to conditions beyond the control of pickers and buyers. Much of the uncertainty is related to the vagaries of nature. In 1996, for example, both the morel and bolete crops throughout Oregon were mediocre. In 1997, morels fruited abundantly in eastern Oregon but hardly at all along the front range of the Cascades. In 1998, Sisters had an abundant crop of natural morels and a good crop of boletes, while neither crop did well in eastern Oregon. As noted in the previous section, market conditions also influence whether an area is commercially viable – in 1997, for example, a group of circuit pickers who had been making good money picking morels near Klamath Falls were forced to move out of that area when the buyers there left to buy at the eastern Oregon burns. Even though the Klamath Falls patches were still fruiting, the buyers could get a better return if they shifted to the burns. Left without an outlet for selling

their mushrooms, the group of circuit pickers moved to Sisters where two buying stations remained open throughout the season.

Moving to where the mushrooms are is one way pickers and buyers cope with crop delays and failures, as well as uncertainties in the market. Moving is also a way for pickers and buyers to take advantage of the variable fruiting patterns typical of morels and boletes. Moving, however, takes energy and incurs costs that people may not be able to or wish to support -- aside from transportation costs, it takes time and energy to set up a new camp and to learn new ground well enough to be able to earn enough to make a profit. If a flush in an area a picker knows well is merely delayed, it may be worth the picker's while to wait out the few days or weeks it takes for the flush to come on.

Similarly, while it is possible for a person to make a year-round living as a picker, doing so generally entails the willingness and ability to follow the longer mushroom circuits from south to north in the spring and summer and from north to south in the fall and winter. Consequently, people who are unwilling or unable to engage in the circuit picker lifestyle, whether permanently or temporarily, frequently protect themselves from gaps in flushes and crop failures by building activity flexibility into their lives (see Appendix B).

Luanne and Rod, a couple in their late 50s, and Willy, a 50-year old picker who usually picks alone, illustrate an annual activity cycle that dominates among many of the pickers who live in western Oregon but take part in the Sisters pick. The cycle centers around the harvest of a variety of non-timber forest products on both the east and west sides of the Cascades. Temporary work in construction, picking fruit, doing farm work, or scavenging and selling recyclable materials provides income during down periods in the NTFP cycle.

Luanne and Rod begin the cycle in early spring picking fiddlehead ferns from their home in the Willamette Valley. When the morels come on at Sisters, they set up camp at the Sisters buying camp, and pick mushrooms until the season is almost finished.

Then they return home, where they do odd jobs for the buyer they sell to. In late summer they start picking seed cones and decorative cones. In the early fall they sometimes camp in the Crescent Lake area, on the east side of the Cascades, to pick matsutake. Once the chanterelles in the Willamette Valley come on, however, they return home and alternate between cones and chanterelles through the fall and into early winter:

Well, after the mushrooms are over with we go home. Then in August, September we pick cones. Fir cones. Sometimes we pick dry ponderosa cones for decorations for people. We haven't done that for quite a while, but the fir cones we pick. We follow the squirrels. Then we'll go right back into the chanterelles. We rotate it, till it freezes, that'd be maybe January. And then maybe in February, the firsta March, we'd pick fiddlehead ferns. And then from fiddlehead ferns right back into the morels again. Okay. When do the matsutakes come on? Because we go pick them once in a while. When the cones don't go then we do the matsis instead, but we still come home and do chanterelles (Luanne).

Willy starts the year scavenging and selling scrap metal, then picks during the spring season at Sisters. He usually stays into late June or early July before heading home to the valley to harvest moss. When the matsutakes start in Crescent, Willy sets up a temporary camp on the east side of the Cascades for the early part of the matsi season. Once the chanterelles on the west side come on, however, he returns home and spends the fall and on into the early winter picking a variety of mushrooms on the west side of the Cascades and in the Coast Range.

In the fall I work in the chanterelles, hedgehogs, yellowfoot chanterelles. And then when that's over, I maybe do a little bit of scrap metal, somethin' like that, or copper, brass, and anything. And then I go back into the morels when that's open and then when the morels and boletes are over then I go home and pick moss. Then I go get a few matsis and then usually by then, the chanterelles are started before I even get through with the matsis.

Other pickers' participation in the NTFP economy is limited to mushrooms. Butch, for example, works the spring mushroom harvest at Sisters and the fall mushroom

harvest in Crescent, but fills in the remaining time by working on construction and remodeling projects out of Bend. Similarly Gary participates in the spring mushroom harvest but the remainder of the year he works on construction or road-building and maintenance projects. He picks chanterelles in the fall on the west side, but keeps the mushrooms he picks for his own use or to give to friends.

Buyers also participate in a diversity of NTFP products as a way to keep income coming in year round and to protect themselves from mushroom crop failures. Dale, for example, began picking mushrooms for fun, then shifted into picking them for money, and eventually started to buy and sell a variety of products, including mushrooms, cones, and princess pine:

I got into the commercial end of it and it got to be more interesting year by year, finding out various things that you could sell, and then I got into some of the other forest products - cones, princess pine, different forest products that you could buy a permit for...And then I used to work with Betty a lot on cones, we did a lot of Doug fir. I did a lot of cones, and I used to climb - we used to get these little contracts from some of the districts where they would have, they'd want a minor species seeds and they would go out and mark various trees that they'd wanted maybe a quart of cones off of.

Betty, the major buyer at Sisters, buys morels and boletes in the spring season and chanterelles out of her home in the Willamette Valley during the fall. She also runs a shiitake growing operation year-round out of her farm, and a tree seed cone buying operation in the fall. Fumi, my buying partner, generally bought or picked morels and boletes between April and July, and then shifted into matsutakes and/or chanterelles in the fall and early winter. Her husband had a retirement pension from the military and one of the local governments in the Willamette Valley, so she could fall back upon his income during down times.

The ability to shift back and forth across income generating activities thus plays a very important role in allowing pickers and buyers to participate on a regular basis in the wild mushroom industry. Some buyers and pickers focus on diversifying their

mushroom portfolios, while others emphasize diversity in their activity portfolios. Most pickers combine both strategies, thus enhancing their ability to make it through prolonged down cycles in the mushroom economy.

Information and Resource Exchange

A third important adaptive strategy that pickers rely upon is the development and maintenance of complex, far-flung, and in some cases, long-standing social networks that provide them a measure of security even when times are hard. Pickers and buyers spend time and energy to accumulate and exchange knowledge about what factors seem to affect cropping patterns, as well as where viable commercial patches are located and when and how much they are producing. Although competition among pickers and among buyers can sometimes be fierce, mutual interdependencies characterize most social relationships in Sisters' wild mushroom world. Similarly, picker-buyer relationships are characterized by a sometimes uneasy mutual interdependence as well as by competition: pickers depend on buyers to earn money living but buyers are also dependent on pickers for meeting the demands of their customers. In general, however, buyers hold the upper hand since there are relatively few buyers and a much larger supply of pickers. Additionally, in recent years the picker ranks have been increased by the entry of documented and undocumented migrant laborers from Mexico and Central America into the Pacific Northwest's wild mushroom economy.

Much of the social interaction among and between pickers and buyers occurs at the Jack Flats buying camp or at smaller picker camps scattered across the district. Within the buying camp, pickers and buyers have established a pattern of multi-household camp clusters mixed with campsites occupied by single individuals and families. The camp occupation pattern reflects to some extent the social and economic ties between different buyers and pickers, as well as links among pickers. Although the exact placement and composition of clusters and single household campsites differed during the two seasons I lived in the camp, the general pattern was the same. In both years, one large camp cluster composed of anywhere from five to ten individual or household sites,

formed around the dominant buyer's camp at the entrance of the camp. Several intermittent buy camp clusters also formed during mid-season both years at the peak of the harvest. These camp clusters were much smaller, consisting of the buyer's household and two or three picker households. Two camp clusters composed solely of pickers were situated at the east end of the camp, roughly a quarter mile from the first buy station. Both picker camp clusters were occupied by extended families who lived in the Willamette Valley and picked the entire season at Sisters. Several intermittent picker camp clusters also formed at the season's peak during both 1997 and 1998. Both the buying camp clusters and the picker camp clusters had one large campfire around which cluster members and outsiders could gather during the evenings.

Buying stations and campsites are sites where wild mushroom people develop and maintain social networks and exchange knowledge about the factors that affect their lives. Mushroom social and knowledge exchange networks allow wild mushroom people to recognize and take advantage of picking and buying opportunities that they might miss if they operated completely independently. They also provide a safety net that helps people weather hard times until a new flush or the start of a new mushroom season gives them a chance to get back on their feet. Key networking strategies include exchanging information and financial resources, sharing patches, and working together. I briefly discuss each of these three strategies below.

Information, Labor, and Resources

Buy stations constitute one of the most important sites of information exchange. To be successful, a buyer has to be able to attract pickers to her station. In part buyers attract pickers by establishing prices and grading systems that pickers perceive as better than those offered by competing buyers. But the information a picker can learn from a buyer also has value. Buyers generally interact with a number of pickers working in various parts of the forest. Through the banter that takes place in the buying station, they pick up valuable information on ground conditions over a wider area than one individual alone can cover. Buyers often pass this information on to other pickers,

usually in the form of general hints about elevations and habitat types where patches are fruiting rather than in the form of specific locations. Over time some pickers establish close ties with specific buyers, creating mutually beneficial reciprocity systems.¹⁹

Luanne and Rod, for example, have developed a mutually beneficial relationship with Betty, the dominant buyer at Sisters. They first started selling mushrooms to Betty at her home buy station in the Willamette Valley during the chanterelle season. When she decided to add the Sisters spring season to her yearly itinerary in the late 1980s, she invited Luanne and Rod to come along with her, promising to help them find good patches if they would sell their mushrooms to her. Since then, the couple have accompanied Betty every year, even following her one spring to chase morels in the Idaho burns. The relationship has developed over the years to one that extends beyond wild mushroom picking. Betty and her husband provide Luanne and Rod employment on their shiitake farm during down periods, and Rod provides his services as a mechanic to keep the mushroom driers and refrigeration units going. Luanne's description of the relationship illustrates the nature of the ties that link her and her husband to Betty:

Betty, she's a good friend. She's more like a sister to me. And she's honest. And if we can't find 'em, if she happens to know and can't go, we go in her place. I mean she's a lotta help. And if we find a spot I let her know. We try to help each other out. My husband Rod, he helps Tom with the dryers and everything. Rod's a mechanic. And -- we

¹⁹ Reciprocal forms of cooperation between harvesters and buyers are widely documented in the NTFP literature. In some cases, the terms of trade appear to be relatively equal. For example, Emery (1998) observed the existence of mutually beneficial reciprocity systems in her work on NTFP buyers and harvesters in Northern Michigan; and Edwards (1993) notes the importance of mutually beneficial forms of cooperation between village traders and NTFP collectors in Nepal. In some instances the terms of trade greatly disfavor the harvesters, as Salafsky et al. (1993) note regarding relationships between NTFP harvesters and traders in Kalimantan, Indonesia and Romanoff (1992) documents for the rubber trade in the Bolivian Amazon.

worked for Betty and her shiitakes down at her place. We worked for her for about three years now. So that really helped out.

As Gary, another picker who camps in the large buy camp cluster, notes, pickers from around the area or other parts of the camp also see the buy station as a place for gathering and sharing information, as well as a place for socializing with friends and acquaintances:

There's a lot of people that come from the local area or other pickers that come in and they just want to pick up a little bit of information or whatever. Some other pickers that are not camped here but sold their mushrooms here, they'll come and socialize, you know, I mean, shoot the breeze.

Besides information, mushroom people also help each other out in other ways around camp, such as hauling water or getting firewood for other pickers or buyers.

Oh, we help each other out outside of mushroom picking, you know. If somebody needs something done, like Rod and Luanne offered to haul water for me and I was thinking today my dog here, because he's getting older, I put him on a reduced fat food and it seems to be having a food reaction so I took some dog food that I'm not gonna feed him anymore over to Rod and Luanne and you know, we help each other out when we can and how we can, and we'll probably have a picnic here before too long, afternoon barbecue (Gary).

Another common way that pickers and buyers help others out is by giving them the means to physically get to mushroom patches when they otherwise would not be able to travel. The buyers I worked with regularly fronted gas money to pickers who had run out of money. Pickers with working vehicles often linked up with people whose vehicles had broken down, or who had had their driving licenses suspended and did not want to risk a citation for driving without a license. Pickers with RVs or vans that consumed large quantities of fuel sometimes teamed up with pickers with more fuel efficient vehicles. Brent, a circuit picker at Sisters in 1998, was traveling with his picking partner instead of using his own truck, which he'd lent to a friend in northern California so that his friend could make enough money to get his own rig:

I'm lending my car out to somebody, another mushroom picker, it's him and his girlfriend and I didn't want to see them stranded. If it's there when I get back, it's okay. If not, I'll buy one when I need one, I guess. I was thinking about buying one, but that takes away a whole day or two or three to find a rig. My partner Jack knows more ground here than me, but obviously it isn't enough. So we're splitting everything, it helps a little bit.

The above examples illustrate the importance that pickers place on sharing resources when their friends are having difficulty making it through a particularly trying season. They also illustrate that these sharing practices are often two-way – Jack and Brent, for example, were able to get by during a down time at Sisters during the spring of 1998 by sharing transportation and knowledge about patches with each other. Alone, neither would have been able to continue picking mushrooms during the down cycle, but by pooling their resources they were able to tide themselves through until the morel grounds in eastern Oregon came on that spring. Betty shares information, resources and work opportunities with pickers in order to have a supply of labor on which she can count every spring and fall. Working with Betty allows pickers to do better than they might do otherwise since being part of her group provides them an inside track on where mushrooms are fruiting and support when they aren't able to make enough money to live on.

Sharing Patches

The secretiveness of mushroom pickers, and their reluctance to reveal patch locations to others, is legendary. Given the difficulty of protecting patches from incursions by other pickers, it makes economic sense for pickers to avoid revealing information that might lead other pickers to their spots. Nonetheless, under certain circumstances pickers do let others know where they have been picking. One of the circumstances in which pickers shared patches at Sisters occurred during the 1997 season when the morel crop nearly failed and many people were having a hard time finding enough mushrooms to pay for their transportation costs. As the season wore on, pickers from the largest buy camp cluster began to work more closely together, sharing

information about what they were finding in different parts of the forest. The hope was that in working as a group, their chances of finding a commercially viable place for all of them would be increased:

We're all looking and trying to find right now, we're trying to find areas where there are mushrooms. And we're talking about an area where there's lots of mushrooms, so that if we tell a group of people it's not gonna hurt us as individuals because there'll be so many mushrooms that it'll actually be kind of fun to be out there pickin' and bump into a friend say "Hey, we got mushrooms, we got mushrooms!" you know (Gary).

Professional and power pickers also shared patches occasionally with pickers who presented no real competition to them. For example, in 1997 two self-identified "professionals" who had been traveling the mushroom circuits for six years told two women who'd just recently decided to take up commercial picking where to find some patches. They explained that they were willing to divulge the location of those patches in part because the women didn't know enough about picking to be able to find many mushrooms, and in part because the mushrooms they would be likely to find would be the "flowers" on the surface, which are generally wormy and a tip-off to other pickers that a patch is there:

That's why we tell people like the old ladies that were in here so they can go on out make a couple dollars pickin'. They were takin' the worms outta our patch. That's why we do that. They're not professional pickers. They're out there tryin' to make a couple dollars and have fun. So they go through there, and pick all the stuff that we don't really want to pack out. I mean, how many are you gonna put in your bucket for \$1 pound or how many little ones you can put in your bucket for \$6 a pound, you know. Let them have that. And plus that keeps everybody, the professionals, outta your patch because they don't see the blows. Flies aren't there (Randy).

The importance of sharing when pickings are good, of not being too greedy when others are hurting was revealed early on in my field work when a small group of pickers came in with a couple thousand dollars worth of morels in one day at a time when most

pickers were lucky to make fifty dollars a day. Luanne's critique of these pickers' behavior illustrates the level of outrage that other pickers in the camp felt about their attempt to keep that ground all to themselves during a poor year:

L: What really burnt me up was this guy on this whole unit way up on top of Squaw Mountain, I guess it's Squaw Mountain, and the last day he told us where to go because the buyer down below made him mad. But he waited till he got, he made, they made, three of them, seventeen hundred dollars a day! But they wouldn't tell nobody -- and that really ticked me off!

RM: Is that normal?

L: Yeah, he does this every year...so...but...

RM: Because it seems like some pickers are very protective of their patches.

L: Yeah, but like if I run across a whole bunch like that...I...if I knew somebody was tryin' to make money and they couldn't find any I'd tell 'em to come in and help pick it."

My work at Sisters thus suggests that pickers are only selectively secretive about at least some of their patches. Whether they are willing to share patch locations with other pickers depends in part upon how much of a threat they believe another picker might be, whether it is in their interest to have someone keeping the ground picked down rather than doing it themselves, and how badly off the other picker needs money. The sharing-when-times-are-good ethic is also strong among some pickers, who are highly critical of pickers who are unwilling to share extreme good fortune when other pickers are hurting badly.

Teamwork: Picking Partners and Picking Crews

Although a few people pick alone, most pickers at Sisters work with at least one other partner. Asian pickers at Sisters, whether Cambodian or Laotian, usually camped and picked as extended family units or crews. By contrast, the Euroamerican pickers tended to work with only one or two partners, even if they camped with other pickers. Many of the Euroamerican pickers I talked with observed that the difference in social organization between themselves and the Asians put them at a distinct economic disadvantage.²⁰

But you have to understand, they follow the mushrooms and they have a technique that they use that the rest of us don't seem to use. The big picking groups of Indonesians [sic] have scouts,²¹ they have three or four young guys, teenagers, you know, or 20 year old type people that can run the woods like a deer, and they send them out ahead. And they travel all around. And wherever they find good picking, they let the big group know and the big group comes in. And it can be anywhere, I mean Montana, Idaho, that's how they stay in the mushrooms, their scouts. They're experienced people, they know what they're looking at. And they go out and if they see large quantities, then they let the group know and then the whole group moves in (Dale).

One circuit picker described how a group of pickers working down in southern Oregon had recently started allocating out specific areas to sub-groups to focus their picking energies on in order to boost the overall income of everyone by reducing time spent walking over ground that other pickers had already covered:

It started cause everybody was runnin' over the same ground. And it was like, okay I'm gonna pick here, you pick there, I'll pick over here and at night we'd all say okay we did this area and this area, we got this little chunk between you guys and this little chunk between you and this area

²⁰ The small number of Latino pickers at Sisters worked in small kinship or friendship units similar to the Euroamerican pickers.

²¹ Some Euroamerican pickers refer to pickers of South East Asian descent generically as Asians, Orientals, Indonesians, or Cambodians. Most are either from Cambodia or Laos, a few are from China.

over here..... and that way we got to where we weren't runnin' over the same ground. You know, it doesn't pay for you to run up there and somebody's already picked the patch. So we started a co-op, or unity you know, a team. We just started doin' that and pretty soon we just started runnin' together. "Okay, where are you goin'?" "Well, I'm goin' over here" "Well, let's run over and see what it looks like!" You can't make no money if you're runnin' over the same ground somebody else has picked. Nobody's been here, nobody's been here, nobody's been here. There's 3 places, let's go! You know, there's enough room for everybody (Randy).

Team members also pooled their money and selected a few of the better pickers to serve as scouts, sending them off to other areas to search out more productive sites. This practice allowed team members to save considerably on gas, and also made it easier for pickers to acquire the information needed to know when to shift picking sites:

We'll be scouting out, where like the whole crew will pick, everybody will pitch in two dollars of say, 10 or 15 people. Okay, me and the best two pickers - usually it's me, well I was one the scouts. We'd take off to another area, like when we were pickin' over the other side of the lake and be scoutin' out where they'll come in. They're not comin' in, or they're better than we've got right here. I could tell. If I come back and I got nine baskets of mushrooms and you've got two, you know where the mushrooms are. It's worth that two bucks to go check it out, and not spend \$100 worth of gas to run over there and find out that you were doin' worse than you was (Randy).

Although teamwork does involve sharing resources and information, it differs in that it involves a coordinated effort for sharing among at least two people. It thus is less asymmetrical than many sharing interactions might be, since team members are expected to pull their own weight.

Stewardship Practices

Pickers at Sisters utilize a variety of strategies that they believe minimize damage to their patches and contribute to patch longevity. Most of these practices apply to bolete patches. Most pickers commented that in their experience the commonly used harvesting techniques had little influence,

negative or positive, on morel patches. Several buyers and pickers, however, thought that pulling morels, rather than cutting them has negative effects in the short run since the “stumps” sometimes produce additional fruiting bodies.

Like she was sayin' them guys who was pullin' morels the other day well that was real stupid cause you come in you pull 'em, say you pull a chanterelle up and cut the button off, and you throw it in your bucket, where you cut that mushroom at, you could have got two or three or four or maybe ten out of that one spot. Just keep comin' back, keep cuttin' it. Cause it has babies under there that they all come up off the same mother stem. You know, that's what we call harvesting. You know you pull them up, it's silly. You already know where the patch is, why destroy it? I mean it's going to come up next year but why destroy it? Where you can't make some money this year (Randy).

Pickers take much greater pains with how they harvest bolete patches, which are much more likely to fruit year after year than morels. Unlike morels, which are harvested when the fruiting body is above ground, boletes are often harvested while the fruiting bodies are still below the soil surface. Moreover, buyers prefer to buy boletes with uncut stems. Pickers understandably prefer to bring in boletes with whole stems since they are paid for their mushrooms on a per pound basis. Each bolete removed thus typically leaves a hole in the ground regardless of how experienced a picker is. Many pickers believe that leaving these holes uncovered is detrimental to the patch, on the grounds that the exposed mycelium will dry out. When asked what people can do to maintain and improve patch productivity, Daniel noted that covering the holes is important. In his view, leaving the holes uncovered doesn't destroy that part of the patch, but it inhibits the production of additional fruiting bodies in the same location during that season:

Always filling in the holes -- it makes a major difference. And not raking up the duff and that stupid shit that people do. Filling in the holes with wet material on the surface area. What happens is it basically doesn't harm the crop as far as for future crops go, but what it does is it aerates the hole - it can dry that particular area out. Now you may pick a mushroom in this hole, and a certain amount of days later there'll be one

right next to it. Now if you leave that hole exposed and it dries up, chances are that that mushroom won't grow there again, this season.

Raking, or removing the top soil or duff from large areas of the forest floor in search of underground boletes, is potentially the most damaging bolete harvesting technique practiced by some pickers. Many pickers accuse other pickers of raking, none, however, admit to practicing this technique. Determining whether the ground has been raked is complicated by the fact that deer and elk frequently paw up underground boletes, removing the duff and topsoil in a pattern similar to that of a human digging up or raking the patch. Experienced pickers generally avoid raking, as it is counter-productive both within the course of a season and over the long term. As Rod notes, a more gentle technique for locating boletes is quite effective:

They say, "Oh a guy found a bolete out there!" Well, they figure boletes are underneath all that ground. Right? So they're gonna dig up all that ground and look for a little boletus. And that's not the way you find them. You go out there and look for a hump in the ground. And if you stick your finger down there you can feel the cap of it. If it's a mole hill your finger's just gonna go straight into it. Alright, see? And that's the way it is. But they don't know how to check to find them. If you see a crack in the ground there could be a boletus under there. Put your finger in there and feel it. And that way you're not tearin' up a whole bunch of ground or anything.

Another common practice is to leave "blows," or overmature boletes in the woods instead of harvesting them. In part this practice serves an economic function -- overmature boletes take up a lot of room and weight in a picker's bucket but usually are too wormy to be worth much on the market. Old-timers, however, also maintain that the "blows" are ecologically important, and that leaving them adds nutrients to the soil. Leaving them untouched, however, would attract the attention of rival pickers to a patch. Consequently, experienced pickers like Rod generally step on the blows and cover them with duff so that they are no longer visible:

Put the big ones back. Like I say, step on them. Leave them in the ground. That nourishes the ground. You take it all, there ain't nothing left. A big wormy one, you just crush them. See, they won't necessarily come back in the same place is the funny thing about boletes. You'll have a patch going this way, right? Now this year you'll pick that patch, next year that patch will be over there twenty feet. But you'll have that same patch.

Most pickers practice a combination of stewardship practices, including leaving the “blows” or “flowers,” covering up the holes, and walking gently over and around the patch so that any underground mushrooms are disturbed as little as possible:

I'll leave the flowers once in a while. I always try to make it so the mycelium gets covered up so it won't dry out in that area, but other than that, I don't know anything I could possibly do [to make the patches better] - try not to stomp them down too much. I find that if you track up an area, especially me, I end up packing the dirt up, and it seems like once the dirt gets too packed it doesn't seem to come out as well. So I try to be gingerly, walk around the edges (Butch).

Another common practice is for pickers to throw the wormy boletes some distance away from the patch on the grounds that the dispersed spores may create a new patch nearby. Additionally, many pickers believe that patches that are completely “blown” toward the end of the season are best left alone, since the remaining mushrooms are worth very little economically but may provide valuable nutrients for the next year's crop:

I've taken the wormy ones, the bad ones, and I've taken the spore and tossed it out in the woods in different places trying to help that way....And then of course the mushrooms that are wormy I just leave 'em. In the boletes. And once it gets pretty difficult to try to keep up with a patch as far as getting any good boletes, I just leave it for the year. And some of my patches seem to keep comin' back (Gary).

Not all pickers believe that the above practices contribute to patch productivity. Willy, for example, notes that in his experience he hasn't seen any difference in patch

reoccurrence between beds where the holes have been left exposed and beds where the holes have been covered up:

A lot of beds haven't been showin' up. I don't really know why, it's really hard to tell whether it's the way they dig 'em up with the, maybe too big a tool or what, cause I've been covering mine up most all the time and they're not showin' up neither. And they figure that's the best thing. I'm wonderin' if it's best not to cover em up (Willy).

Farming

Pickers also practice a technique known as “farming” to try to maximize the economic return that they get for the mushrooms they pick. With morels, farming entails harvesting only the larger mushrooms, and leaving the smaller mushrooms to grow. A few days later, the picker will return to see how the patch is doing, and again will harvest only the larger mushrooms. Brent, a self-identified power picker, notes that farming is something that pickers practice when they find a large patch with a lot of immature morels:

If it's an area you know that's going to have a gob of mushrooms, you want to farm it. Because that gives you bigger pickins, but if it's an area that's only going to have five, ten mushrooms, you might as well take them, of any size, because they're not going to be back there anyhow.

The reasons for farming morels are purely economic – it takes much less energy to pick a pound of four-inch tall morels than to pick a pound of one-inch tall morels:

If you pick a thousand mushrooms that are only a half inch tall, then all those mature to the right size, if you got a thousand in one basket but you let them mature to the right size, you're going to have ten, 15 baskets. That's how you make your money (Brent).

Some pickers noted that farming their patches has become increasingly difficult with the increased number of pickers in the area. Given the near impossibility of keeping rival pickers from finding patches, a picker who farms risks losing the entire

patch to other pickers. Gary describes one such incident, in which he inadvertently profited from a fellow picker's efforts to farm a particularly lucrative morel patch:

It's like last year, there's one of the pickers that comes in here, Del, there's a clear cut over here on Green Ridge and he'd been watching one spot where there were a lot of babies in there. And I'd been all over that clear cut but I hadn't seen that spot. And I come walkin' up through this unit and I probably walked two miles through the unit and wasn't finding any mushrooms and all of the sudden I found one, and then two and then three and then they were everywhere! Now he'd been watching this for a week. And I filled up my little bucket, and I ran down to my truck and I unloaded it, grabbed some baskets, a bucket and a backpack, ran back up there cause I was campin' on it until I got it cleaned up. I got back there and I had just started to rock and roll and pick those mushrooms when I look up and there he was. Del. And I go "Oh, no, you've got me!!" And he laughs. He says "Yeah, I was just headed for this spot, my wife and I we were pickin' over there, and I'd been watchin' these babies" and he goes "Go ahead," he says, "I've been you know, I get my share of mushrooms, you go ahead and pick this" and so I picked it and a few minutes later he came back, he says "You mean you haven't cleaned that up yet?" And I says "No, I haven't. Del, " I says, "Why don't you come in and help me finish this up. If you've been watchin' it for a week, you should be--" he says "No, you just clean it up." And he walked off, and he had been watchin' them from little baby morels 'til they were big.

The above examples of farming illustrate the importance that many pickers place on being able to have secure enough access to a patch that they can risk leaving a patch untouched until the mushrooms have reached a more profitable size for harvesting. At the same time, stories like Gary's tale of how he stumbled into Del's patch, demonstrate that in an area with competition, farming can be a risky strategy.

Protecting Patches and Reducing Conflict

Gary's tale of profiting from a patch that another picker had been farming illustrates an important aspect of the "picker code" – you don't knowingly go into another person's patch, but if you find on your own then it is yours, even if another picker has been picking it or is farming it:

Well, if you know it's their patch, you don't go in it. But if you find it yourself, it's yours. See, on a burn, it's your patch as soon as you get it in your bucket. If I know that somebody picks an area, I stay away from it, right? But if I find the area myself, it's fine. Or we share it, whether they like it or not (Brent).

Gary's reaction to Del's arrival in the patch, and his willingness to let Del have the patch, or share it once he found out that Del had been farming it illustrates another important value in the mushroom world – courtesy. Brent explains the notion of courtesy as follows: “If you know it's their patch, out of courtesy you stay out and find your own.” Gary describes courtesy as “leaving space”:

Most of the people leave space. If you seen somebody in some place you leave 'em some space. Okay, regardless of whether they're locals or somebody else. You get some people that are picky or whatever, they don't care. They're gonna go where ever they want to go and they won't leave anybody any space. But it never really comes down to around here, I never heard of any fights over the mushrooms.

As Brent notes, there is also an economic benefit to following the courtesy rule, particularly when other professional pickers are involved:

If I know it's a picker, I don't want to get out there because I know that if they're any kind of a picker at all, they're going to have most of it. I want to go someplace where I got a chance to make some money.

According to old-timers, courtesy has declined with the influx of new pickers, many of whom they claim no longer adhere to the old rules of not following other pickers into the woods and not picking in an area if you see another mushroom picker's rig nearby.

To protect their patches, pickers rely primarily upon secrecy, stealth, and hiding their patches through a variety of obscuring techniques. Secrecy is the core element of effective patch protection. Good pickers go to great lengths to be as invisible as possible, both in the woods and at the buy stations. Many camp in dispersed camps, often times in or near the main patches they are picking, rather than at the main camp where people will be more aware of their presence. They come in to the buy station

only long enough to sell their mushrooms, often coming in late at night when most people have gone to bed for the night. If they camp in the buy camp, they either leave for the woods before other pickers get up, or if their patches aren't too far, they leave after most pickers have left to reduce the risk of being followed by less knowledgeable pickers. Most pickers make an attempt to park their rigs in areas where they won't be easily spotted from the road, so that other pickers won't know the general location of their patches. Daniel sums up how he and his partner try to keep a low profile as a way to protect their patches:

We try to hide. I mean, we use different rigs and we don't park where we're picking.

Another important strategy that Daniel and other experienced pickers rely upon is keeping their patches picked down and hiding any signs that pickers have been in an area. He explains the concept of what it means to keep their patches picked down in the following terms:

Well, to keep them all, all the patches that we know, picked. Keep 'em down where other people don't find them. If you keep 'em picked and you don't leave trash or a sign that you've been there, then they never find 'em.

A strategy that Brent and other power pickers use to keep their patches hidden is to create a "dead zone" for some distance around a large highly productive patch by removing all the smaller, less productive patches that might otherwise attract pickers into the area:

- R: So how do you protect the patches that you want to farm? Like how do you keep other people from getting into them?
- B: You can't. Because another mushroom picker is going to be pulled to the same spot, there's a pull that mushrooms put off.
- R: So there you are, you've got a choice. You can either leave the small ones there or you can go away and hope that they'll be there if you come back later?

B: That's all in the power picking path too. If there isn't many there, you move onto the big patch and then you let those ones that are greedy pick those few. Move to the many.

R: So it's kind of like a decoy.

B: Yeah, well sometimes I call it a sucker pick, right? I'll leave those for somebody else and then I'll pick a perimeter around the big patch so there's a dead zone and then I'll farm my patch.

R: So that is kind of a way of protecting it.

B: Yeah, that's about the only way you can.

Another practice that some pickers rely on is to focus their energies on learning the ground in more marginal areas, where crops are less consistent or fruit when prices are less advantageous to pickers. Butch, a local picker who knows the ground at Sisters quite well, for example, prefers to pick the areas with fewer mushrooms but where there are fewer pickers:

I'd rather find a place that didn't have so many mushrooms but was away from the masses because it's better picking for me.

Sandy, a circuit picker who deliberately picks the margins of the matsutake circuit, describes the benefits to him of using this strategy:

These guys go over here to Crescent and pick just matsutakes. Well I'm pickin' matsutakes, I'm pickin' boletes, I'm pickin' black trumpets, I'm pickin' yellowfoot, I'm pickin' hedgehog, I'm picking chanterelles, I'm picking lobster mushrooms, oysters, you know a zillion of them at one time. The patches aren't so hard to find. While these guys, you might have 500 people over here lookin' for 20 damn mushrooms!

The above examples illustrate that pickers have sufficient interaction with each other that they have begun to develop rules amongst themselves for reducing conflicts over patches. These rules include the principle of "first-come, first-served" for determining who has a stronger claim to a patch, and the principle of "courtesy or leaving space" for minimizing the potential for disagreements over who reached a patch

first. Secrecy and avoidance are also important conflict prevention tools, as well as tools for enhancing economic gain.

In summary, the data presented in this chapter demonstrate the degree to which elements of uncertainty thread through pickers' everyday life in the Sisters wild mushroom world. Uncertainties stem from ecological, economic, and political conditions and structures over which, for the most part, pickers and buyers have very little control as individuals or as a group. As the wild mushroom world has become increasingly tightly integrated into a globalized economy, the terms of picker-buyer relations appear to becoming increasingly asymmetrical in favor of buyers. This asymmetry in power relations is linked to two changes that have taken place in the past 15 years: Pickers have literally lost ground in the Pacific Northwest in the sense that their access to mushroom grounds has been reduced at the same time that their overall numbers have increased. At the same time, the opening up of very large mushroom economies in China, Russia, and the Middle East, has allowed buyers at the import-export level to draw upon supplies in areas where labor costs are cheaper. This loss of ground is directly linked to protectionist forest policies, and include decisions to shut down road access and to shut down areas to commercial harvesting.

Historically pickers have developed a variety of strategies to deal with climatic and ecological uncertainties of mushroom picking, as well as with economic uncertainties and competition from other pickers. Pickers and buyers have relied heavily upon diversification strategies linked on the one hand to mobility and on the other hand to flexibility in activities. At the same time, pickers have developed complex systems for sharing resources and information so that they have a safety net when times are rough. Pickers and buyers exist in a relationship of mutual interdependence, but as noted above, the terms are increasingly asymmetrical especially when buyers for big companies are present. Lastly, pickers have developed knowledge and practices which are aimed at enhancing the productivity of patches and spreading out and maximizing their economic returns simultaneously. As I will illustrate in Chapter Six, the

application of disciplinary power works counter to many of these strategies, especially mobility and flexibility.

CHAPTER 6: DISCIPLINING SISTERS' WILD MUSHROOM WORLD

It was many years ago when I drove the Santiam highway, noticed an individual parked along the side next to a unit that we just logged last year, got out and talked to him 'cause I was curious what he was doin'. Turned out, he introduced me to the world of morel mushrooms. Had no idea, and that was probably 1978 or so, 1979. And I was really amazed that, number one there was a mushroom that grows in the spring, and number two that it had value.... there was really no commercial interest at that time [within the District]. What, I mean, we didn't even think about selling permits. So it was probably 5 years later that the interest seemed to grow (Vegetation Management Planner)

Introduction

The Forest Service employees stationed on the Sisters District first became aware that commercial mushroom pickers worked in the area during the late 1970s, but for more than a decade paid little attention to their activities. The few employees on the District who took an interest in wild mushrooming saw it as a somewhat mysterious, secretive occupation or an intriguing personal hobby. Forest Service regulations at the time required all commercial users of forest products to obtain a permit to harvest products from national forest land. However, few people bothered to obtain permits for mushrooms since the District made no effort to enforce the permit requirement. For all practical purposes, during the 1980s and into the early 1990s, the District treated commercial mushroom pickers as if they were recreational forest users, free to camp and pick mushrooms where they chose.

By 1994, however, the situation at Sisters had completely changed. Pickers could no longer camp in the developed campgrounds on the District, or in some of the larger and more popular undeveloped campgrounds, such as Jack Creek, Whispering Pines, Canyon Creek, and Sheep Springs (see Figure 9). In order to pick on the District, people had to first stop by the ranger station in the town of Sisters to obtain both a harvesting permit and a camping permit. Buyers also had to obtain a buying permit, and the District limited the area where buyers could set up their buy stations to a newly designated mushroom buying camp in an area known as Jack Flats. Within the camp, life was also regulated – in 1997, Dale, the District's SFP program manager, and Pat, the District's SFP technician, began a numbering system for the buy station sites and assigned them to specific buyers for the duration of the spring season.

Unlike neighboring districts, Sisters did not shut down its Late Successional Reserves to commercial mushroom harvesting in the aftermath of the Northwest Forest Plan; but it did begin to more strictly enforce regulations prohibiting commercial gathering within developed campgrounds. Monty, the law enforcement officer assigned to the District, worked in conjunction with Dale, a county deputy based out of Camp Sherman, to patrol the mushroom camp and picking areas as part of their daily system of patrols through the forest. In 1996, Pat, who had been hired to help with permit compliance, also began to make daily rounds through the mushroom camp, checking to see whether people camped there had obtained mushroom and camping permits, and making sure that pickers and buyers abided by fire and littering regulations. Pat and Monty also began to check to see whether buyers complied with a newly passed state law requiring them to keep records of who they bought mushrooms from, how much they bought, and what type of permit the seller had for mushroom picking.

By 1997, Pat and Monty made a habit of running pickers names and driver's license numbers through the state and federal police system databanks to check for people with outstanding warrants, suspended driver's licenses, and concealed weapons permits. The following season, they arrested two pickers on outstanding warrants, and set up an

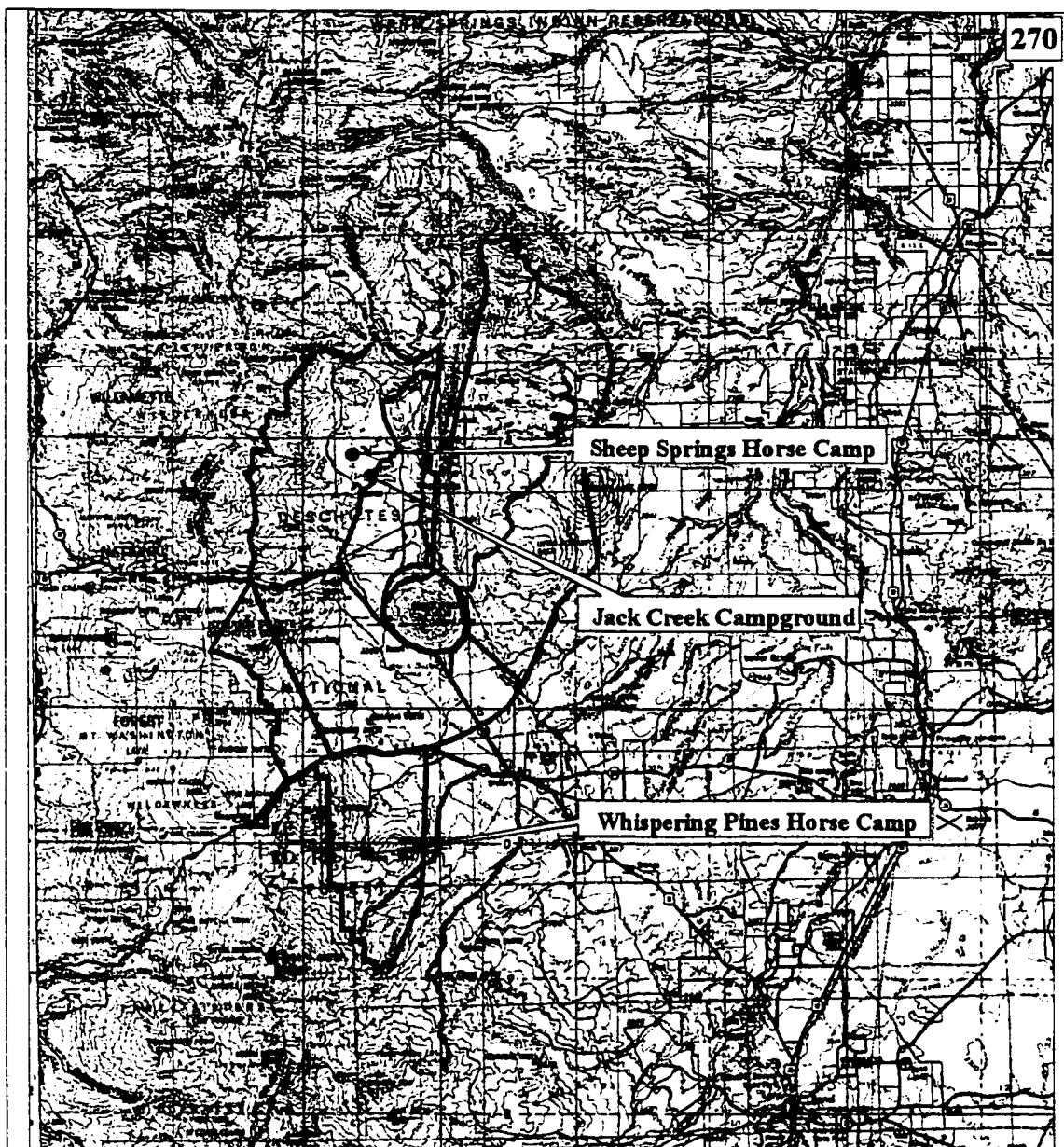


Figure 9
Traditional Mushroom Camps

unsuccessful trap to catch a third picker with an outstanding warrant. In 1998, Dale, Pat, and Monty also set up two roadblocks early in the season, stopping people passing near the mushroom camp to see whether or not they had mushrooms in their possession, and if so, whether they had the required permit.

From a District standpoint, the wild mushroom regulatory program has been quite successful. As Dale noted in 1998, all of the pickers stopped in the District's first mushroom road block had valid harvesting permits:

We had that checkpoint, and we did not get a single person coming through without a commercial permit. Not one. I was very pleased. Of course we may have quit a little bit early to catch some of those guys that may not have commercial permits, but even that being said, I was pleasantly surprised. I did not expect that and I think in prior years that wouldn't have happened.

How did this wild mushroom regulatory system come into being, and what makes it, in the eyes of the District at least, so effective when there are anywhere from 200-400 wild mushroom pickers scattered across the District and only two Forest Service employees working with one county sheriff's deputy to keep track of these pickers as well as the hundreds of other people who use the forest at the same time?

In this chapter, I provide evidence that this control is possible because the Sisters Ranger District has relied upon a process strikingly similar to that employed by the Bureau of Indian Affairs to control the Lakota Nation in the late 1800s (Hannah 1993) and by the California Commission of Immigration and Housing to control migrant farmworkers in the 1930s (Mitchell 1996). As noted in Chapter 3, environmental historians indicate that the Conservation Movement of the late 19th century utilized similar techniques to construct state management regimes over fisheries, forests, and grazing lands across the United States.

Specifically, the Forest Service has deployed the five major elements of disciplinary power noted by Foucault in his studies of state control in the domains of medicine, public health, and criminal justice:

- Categorization of wild mushroom pickers and buyers into several distinct groups,
- Separation and enclosure of commercial pickers and buyers from other forest users,
- Establishment of a documenting apparatus for keeping track of pickers and buyers' activities,
- Efforts to professionalize wild mushroom knowledge and activities, and
- Construction of a panopticon surveillance system to facilitate monitoring and enforcement of wild mushroom regulations.

In the sections that follow, I examine the role that disciplinary power techniques have played in the Sisters Ranger District's efforts to attain some degree of control over wild mushroom harvesting activities within its boundaries. I have divided the chapter into six sections, with a section devoted to describing and analyzing each of the above five elements of disciplinary power and a final section summarizing the key points emerging from those analyses. As my discussion of the origins and evolution of each element illustrates, the forms in which these elements manifest themselves today are the result of nearly a decade of experimentation by the Forest Service and other social actors, notably scientists, amateur mycologists, the Oregon State legislature, and the Friends of the Metolius, and of an equally long period of resistance and negotiation on the part of wild mushroom pickers and buyers. I also illustrate how the different elements intersect with each other, thereby creating an ever-expanding and increasingly effective network for monitoring and tracking the movements and activities of people engaged in buying and selling wild mushrooms. I end the chapter with a discussion of how the District's formal public participation process works, and the degree to which pickers and buyers are involved in those processes and in the decisions that affect their wild mushroom activities and experiences at Sisters.

Section 1: Categorizing the Wild Mushroom World

I see mushroom picking as a very benign activity (Special Forest Products Program Manager).

I guess just because maybe they're another nationality you label them as a mushroom picker. Then there's a bunch of guys with suspenders that might be mushroom pickers so you go, oh, that's a logger (Biologist)!

Categorization and Power

Establishing state control over the Oglala Lakota and California's migrant farmworkers hinged in part upon the state's establishment and application of systems for categorizing these peoples and then ranking them in terms of their danger to society. Similarly, the Conservation Movement also helped support state resource management regimes by constructing (and then acting upon) categories of desirable and undesirable uses and users of the newly established forest reserves and parks at the turn of the 19th century (Warren 1997; Jacoby 1997). My work at Sisters likewise supports the notion that categorization functions as a crucial element in the state's ability to extend control into new social domains.

In Sisters' wild mushroom world the categorization process has encompassed both people and wild mushrooms simultaneously. Between the time that the District's first SFP program manager learned that people could harvest morels and boletes commercially and the publication of the Northwest Forest Plan, both the wider public and Forest Service employees re-categorized wild mushrooms from their historical position in the state forest management regime as economically unimportant forest products and ecologically undervalued organisms to potentially valuable forest products and ecosystem components. At the same time, the District also began to categorize the newly visible wild mushroom pickers. At one level, the District has taken part in constructing mushroom pickers as different from other forest users, such as firewood cutters or berry pickers. Specifically, wild mushroom pickers and buyers have become

categorized as potentially dangerous to ecosystem health and to public health and safety. At a second level, the District has sought to fit mushroom people into the Forest Service's pre-existing categories of commercial and non-commercial forest users. Some pickers and buyers have resisted these categorizations and ranking efforts; others have attempted to construct alternative categories for themselves, and still others have played an active role in constructing those categories.

Wild Mushrooms As Valuable Objects

The shift in the District's categorization of wild mushrooms is most clearly illustrated by comparing the place wild mushrooms have within the Deschutes National Forest Plan, published in 1990, with their place in the District's Late Successional Reserve Assessment and Watershed Analysis for the Metolius Basin, written in 1995 and 1996. In the 1990 Deschutes National Forest Plan, wild mushrooms are completely invisible. Wild mushrooms do not appear among the list of environmental resources or species that will be affected by the Plan, nor is wild mushrooming included in the list of cultural, recreational, or economic activities that occur on the Forest or that may be affected by the Plan. The conclusion is obvious – the Forest planning team, including the District employees who took part in it – either were unaware of the commercial wild mushroom world on the Forest, or alternatively if they were aware of it, accorded it little importance relative to timber, recreation, water quality protection, and other forest management issues.

Indeed, most of the Sisters District employees I interviewed indicated that they first became aware that commercial wild mushroom pickers existed and that Sisters was a site where wild mushrooms grew in commercially viable quantities in the early 1990s. Among the triggers sparking District employee awareness of the wild mushroom industry included: 1) reports from fellow employees and the media about the influx of matsutake pickers to the Crescent Ranger District, located 70 miles south of Sisters, 2)

the arrival of large numbers of Asian pickers who concentrated their camps near the Head of Jack Creek, a popular local campground and hiking spot, and 3) discussions about the need to relocate the mushroom buying camp on the Sisters District in 1993.

The difference in the District's overall awareness of wild mushrooms and wild mushroom related activities as something that they should concern themselves with is reflected in the way in which the drafters of the District's first round of Northwest Forest Plan related documents talk about wild mushrooms. Although the discussions of wild mushrooms in these documents are not very detailed, wild mushrooms are no longer invisible in the forest planning process. For example, wild mushrooms are listed among the commodities associated with the Metolius watershed (MWA 1996:111, 129), and five non-commercial fungal species appear in the list of terrestrial species of concern (MWA 1996:84-85). The Metolius watershed analysis also alludes to the growing importance of wild mushrooms as a forest commodity:

Mushroom picking (both commercial and personal use) is a fast growing activity. In 1990 there were 20-30 commercial mushroom permits (on the district), compared with 300-400 permits in 1995 (MWA 1996:129).

Similarly, the Metolius LSR Assessment lists one non-commercial fungal species under the list of terrestrial species of concern for the Metolius LSR. In addition, the drafters of the LSR include a short paragraph on wild matsutake habitat and harvesting in the Metolius reserve, as well as a short paragraph on bolete and morel harvesting:

There is limited habitat for this species [matsutake] and there is no known commercial harvest....There is no information on the status of this mushroom in the LSR, therefore, this assessment does not determine the effect of commercial harvest on late-successional species. The LSR IDT [Interdisciplinary Team] recommends that no commercial harvest of matsutake mushrooms be permitted without a specific monitoring program that includes surveys for the associated species, *Allotropia Virgata* (MLSRA 1995:87).

Boletes and Morel Mushrooms. There is very little information on the amount and location of mushroom picking in the MLSR. In addition,

very little is known about the impacts of mushroom picking on late-successional species. An informal monitoring effort to gain information about where mushrooms are being gathered, and the potential impacts of this activity would [sic] be implemented. The monitoring activities would include: 1) unacceptable resource damage and 2) perceived decline in fruiting body abundance over a specified period of time (MLSRA 1995:87).

The language used in both paragraphs illustrates not only that wild mushrooms and wild mushroom harvesting have become visible to the District, but also that the LSR assessment team sees commercial picking as a potential danger to the health of late successional ecosystems. It thus falls into the category of activities that must be carefully controlled until the District has a better understanding of its effects.

The idea that wild mushrooms are economically valuable, and thus worthy of the Forest Service's attention has also gained a strong foothold in the Sisters District. The following quotes from four employees involved in administering timber and other resource sales illustrate the extent to which views about the economic values of wild mushrooms have changed within the agency during the past ten years:

The region and the Forest Service really didn't take into account how big a program this was until about 10 years ago. Before it was basically a program of theft, and until the Forest Service realized how much value was in this theft, they started investing into it, and now we invest a good share of money to make sure that we get compliance and that we can get our return to what's being sold on the market (Natural Resources Team Leader).

The shell's been cracked as far as getting funding from the regional office, a regional office position was established 5 years ago or 6 years ago for special forest products and that finally has gotten to the district now and the interest in reduced cuts, caring for the land, the social interest that is going on with like, save, protect versus cut or destroying. Yeah, funding is going to get better and better. It will (Vegetation Management Planner).

Two years ago was the beginning of very good support for special forest products, it carried over into this year and it appears it's going to carry into the future. Right now I've got a proposal into alter our organization charts to make Pat's position a permanent seasonal position, see how that goes. The forest supervisor's office much more visible to me. That's where we're getting strong support that's really made a difference. I know there's stuff coming out of the Washington office recognizing the importance of special forest products and maybe that's where the forest supervisor's office is getting their push in the back to get going and support these programs more. However it's happened, it's been good. Monetarily we're getting a lot more budget. Enough that we can hire Pat on for fall season to do just this kind of thing. Also it supports me in some amount, probably 25, 30 percent of my time I can spend doing compliance kind of or special forest product specific program management (SFP Program Manager).

[Mushroom picking] helps the local economy. There's a lot of local people who are starting to depend on this market now. In the area. Because if you go to a lot of the local markets and you'll see morels being sold. and chanterelles being sold (NR Team Leader).

I think the mushroom program brings in people, brings in revenue to the Forest Service and to the local community itself. Crescent must be booming with business. Sisters doesn't get a lot of business but they do get some off of ours, so I think it is definitely a good thing to have. I would really hate to see them shut down the mushroom program [SFP Technician].

I would estimate that we probably harvest 35 to 50 thousand pounds of morels in a decent year. When you take that 50 thousand pounds time 4 or 5 bucks a pound of morels, you know, you are dealing with a lot of money. As opposed to the economy that's got to have some kind of effect. I would say most of it is not spent locally, but enough to matter (SFP Program Manager).

As the above quotes indicate, the District has experienced a substantial increase in funding aimed at special forest products programs, including the wild mushroom program. The sales administrators at Sisters, who are involved in drafting and approving budgets for the various parts of the District's resource sales program, attribute this

increase in attention to a growing awareness at the Forest, Region, and Headquarters level that special forest products are potential sources of revenue in a climate of declining timber sales. At the same time, both the SFP technician and his supervisors express the belief that the District's wild mushroom program serves a larger purpose in that it also provides a small but not insignificant boost to the Sisters' and Camp Sherman economy.

On the other hand, as one of the sales administrators who has been the District's most vocal advocate of expanding the wild mushroom program points out, it is unlikely that the Forest Service will ever view mushrooms, or even other special forest products, as more important products than timber:

The only way you could get around that is someday if you could substantiate the fact the value of the land is better served with that which grows on the forest floor versus that which is growing above the forest floor we may alter something but that's a long way down the road and that's going to require a big change in society and a big change with forest management philosophy. Some have made the case, especially matsutakes that the value here [on the ground] is better than the value up here [above the ground] and that's good. But the value up here is sustainable and it will be there every year and you can manage for it, where you can't manage for crops of mushrooms. You can't depend on it. All I'm saying is America basically is saying that national forests, its product is lumber. We got some value and our interest's in that and you can take it to the bank that tree out there. It's going to be there this year, it's gonna be there next year. We know how to grow it, we know how to sustain it and we know how to increase the value. We can depend on that every year, barring forest fire or anything else catastrophic. But you cannot do that for the mushrooms, you know. You could have a good matsutake patch out here this year, but if you're gonna take that to the public and say we're not gonna cut trees because we got a higher value here, next year it might be a bad season, you just don't know so you'll never sell that to the public (Vegetation Management Planner).

In Joel's view, it isn't that mushrooms aren't valuable that is at issue, but rather that they vary so much in their annual productivity that it would be impossible for the Forest Service with its current and even foreseeable knowledge of wild mushrooms to be able

to predict with any accuracy how big a mushroom crop a given area will produce in any given year. In contrast, as he points out, a tree is there, you can see it and the agency has invested a good deal of time and money into figuring out how to predict tree growth patterns and how to manage trees in ways that will increase their value as fiber or lumber products. Simply put, mushrooms are not a crop that an agency which has to answer to a variety of constituencies interested in predictable and consistent economic returns can afford to put a lot of its energy into.

Pickers As "Armed and Dangerous"

It is instructive to take a look at the way in which the media has portrayed wild mushroom pickers in the late 20th century, and then to explore the extent to which these views are shared by District employees, pickers and buyers. During the 1980s, most newspapers relegated wild mushrooms to the culinary pages, and few popular magazines devoted articles to the topic of wild mushrooms. In the 1990s, however, wild mushrooms became a topic "de jour" as a spate of articles centering on wild mushroom harvesting in the Pacific Northwest appeared in a variety of regional and national newspapers and journals.¹ For the most part, journalists and writers for the media portrayed wild mushroom pickers in less than flattering terms. Many of the headlines, and often the accompanying texts, depicted wild mushroom pickers as thieves, rustlers,

¹ See for example: M. Lipske. "A New Gold Rush Packs the Woods in Central Oregon." *Smithsonian* (1994): 25:35-46; M. McRae. 1993. "Mushroom, Guns and Money." *Outside* (1993): 64-69, 151-154; Timothy Egan. "Rushing to Gather up Cash on the Northwest's Forest Floor." *New York Times* (1993): A1, A10; B. Richards. "It Seems Some Folks Would Simply Kill for a Nice Morel." *Wall Street Journal* (1993):A1, A5.

forest Mafioso, or, in the best of circumstances, as fiercely independent holdovers of the western frontier and gold rush days of the late 19th century:²

“Mushroom Lovers Defy Law in Search of Rare Morels.” (Wilcox, Barbara. Stockton Record May 6, 1991),

“Mushroom Rustling: Heated Races for this Lowly Fungi Lead to Regulation” (Stenson, Al. *Seattle Times* 10-6-91: 24),

“Mushrooms, Guns and Money” (McRae, Michael. *Outside*. October 1993:64-69; 151-154,

“The Mushroom Rush of ’93 Is On: Competition is Thick But Fungi Aren’t” (MacDonald, Sally. *Seattle Times* 10-30-93:A-1),

“A New Gold Rush Packs the Woods in Central Oregon” (Lipske, M. *Smithsonian* 1994: 25:35-46),

“Thieves Infesting Forests As New Markets Grow” (Abe, Debby. *News Tribune* April 18, 1994:A-8),

“Public Mushroom Picking Ranges Revert to *Laws of the Old West*” (Coffman, Richard B. *Idaho Statesman* July 1, 1995 6A),

Mushroom Lode: Wild Fungi Pickers Comb the Hills of Mendocino.” (Brazil, Eric. *San Francisco Examiner* December 15, 1996:A-1).

Many journalists also emphasized conflict among wild mushroom pickers, using terms like “violence” and “war” in headlines about wild mushroom harvesting:

“Mushroom War Ready to Start on Washington’s Forest Floor.” (Zielenzeiger, Michael. *Chicago Tribune* January 4, 1987:C-2).

² I used the Lexis-Nexis database to search for these articles. I ran a search using the keywords wild mushroom, chanterelle, morel, bolete, and matsutake to identify U.S. media articles related to wild mushrooms published between 1980 and 1999. I printed off all articles containing references to wild mushroom policy, trade, and market issues (weeding out the articles dealing strictly with mushroom cuisine) and used those articles in developing this analysis.

“It Seems *Some Folks Would Simply Kill* for a Nice Morel – Profiteers and Common Thugs Trash The Bucolic Pastime of Mushroom Gathering.”

(Richards, B. *Wall Street Journal* May 11, 1993:A1, A5).

“Mushroom Picking Gets *Violent*” (*Seattle Times* May 23, 1993 p. 82);

“Mushrooms: *Death in the Woods*.” (*Economist* June 5, 1993:29).

“*Violence* Clouds Wild Mushroom Harvest in U.S. As Demand Takes Off”

(Gillins, Peter. *Los Angeles Times* August 1, 1993:B3),

“Mushrooms Yield Cash and *Violence* in Pacific Northwest.” (Banse, Tom. *Seattle Times*. September 16, 1993),

“*Spore Wars*” (Magagnini, Steve. *Sacramento Bee* December 7, 1993:E1).

Some of the articles listed above contain reasonably balanced pictures of the wild mushroom industry. However, the headlines alone are enough to leave one with the strong impression that the commercial wild mushroom industry is populated by thieves and wild west gunslingers, willing to tear up the forest floor to make their fortune and willing to gun down anyone who stumbles across their patches. Although employees, such as Pat, Monty, and Dale, who interact with commercial pickers and buyers on a regular basis dismiss these stories as exaggerations, if not outright lies, the views of other forest employees, and equally importantly, the views of local residents and other forest users have unquestionably been influenced by these media accounts.^{3 4}

³ For example, when I first started working at the mushroom camp every time I went in to Sisters or Bend to make purchases I would casually bring into the conversation the fact that I was camping out in the mushroom camp. The reactions from gas station attendants, restaurant managers, grocery store clerks, dentists, and camping equipment salespersons were without exception negative, with most commenting that they would be afraid to camp out in a place where they might get shot over a handful of mushrooms. Over the past two years I have recounted my research to many people in many walks of life in Oregon and Washington. Invariably I get asked whether it isn't pretty dangerous to be out in the woods with pickers carrying guns and shooting each other over their patches.

Being located in the shadow of Crescent, the location of the Pacific Northwest's most extensive, productive, and reliable matsutake mushroom grounds, and also the object of most of the media attention, has both benefits and disadvantages for Sisters' wild mushroom world. One of the disadvantages is that the media's depiction of pickers at Crescent as armed, dangerous, and destructive to the forest ecosystem filters into the way in which outsiders to the wild mushroom industry perceive commercial picking at Sisters. Local residents and district employees, for example, use Crescent as an example of the horrors that a prosperous mushroom harvest can bring to a national forest, and which they would just as soon not experience at Sisters:

In the Crescent district they have large foreign populations, they have little cities develop there to the degree where they have businesses that would be illegal even in regular cities. And they sort of just move them all in and have gambling and prostitution, etc. and it's not unusual to have some kind of an assault, possibly a fatal one, during mushroom picking. So in the Metolius Basin I guess we could consider ourselves fortunate we haven't been subjected to that (Local Resident)

I am not sure that we're ever going to be a Crescent Ranger District, where it's going to masses of people and I honestly hope it doesn't. I think any time that you are talking about the big bucks that I understand that they get on some years for those mushroom, I think that comes with its own volatility. The shootings, the fights, the whatever. Folks trying to cash in on the big long green (Natural Resources Team Leader).

The above statements indicate that concern about another Crescent happening at Sisters are closely linked to fears that an increase in the number of pickers would inevitably bring with it an increase in violent and non-violent crimes, turning the forest

⁴ Pat observes that much of the information he was told when he started his new position was incorrect: "Most of it was bad information that I was getting. Part of it was through the District and then the rest of it was through the news media and stuff and you would mostly hear like people like the Asians claiming their grounds in killing each other over them."

into a place where recreational forest users (and Forest Service employees) would no longer feel safe or comfortable.

Much of the fear of pickers is related to the image of wild mushroom pickers as armed and dangerous, an image that comes through in two employee's thoughts about how the wild mushroom industry differs from other types of activities on the forest:

The other item that comes to mind [about what is] different that's associated with mushrooms and not with other forest products would be this business of weapons. Where people feel like they have to carry a weapon, you know, to keep people from taking whatever they've got or their little area of digging. That's a difference. You don't see that in other forest products. Hunters do, but you expect that, it's different. Well, it's the dollar value. You know, I don't know what the chanterelles and morels and all those bring, but matsutakes are like gold nuggets (Wilderness Planner).

Have you ever talked about, seen matsutake values? People go out there with guns and knives to protect their sources (NR Team Leader).

The Wilderness Planner notes that it isn't just the guns that pickers carry that creates an atmosphere of fear, but also the attempts by some pickers to intimidate Forest Service employees they encounter in the woods, stores, and other public places:

The people to worry about are the whites. They were the ones [at Crescent] that had all the weapons and they would intentionally try to intimidate people. Things like that, you know in the grocery store. Because you got a guy behind you standing there in a uniform, they were actually trying to intimidate us. So there is this certain amount of fear on our part.

Not all Forest Service employees accept the armed and dangerous image of the mushroom picker as entirely legitimate. Dale, for example, expresses a very ambivalent view about whether a reported shooting incident at Sisters in the 1997 spring season was something for him to worry about:

This is the first year since I've been here that we have actually had a reported complaint on gunfire. They thought that somebody was shooting a gun to drive somebody else away from a picking area. So, I guess we have been fairly fortunate in that respect. It hasn't been a big deal talking to our law enforcement guy who, granted, has been involved probably with more serious problems related to guns. He doesn't think it is a big deal. Me, as somebody walking around that is not wearing a bullet-proof vest and wearing a gun on my hip, I think it is a little bigger problem. So, I guess it's more a cause of concern for me as an administrator and probably more a concern for most pickers out there that it seems to be increasing, well, increasing is the wrong word, it has happened here now, that there has been a gun complaint. I just think, well, I am hoping that it is kind of an isolated incident. Somebody happened to pull their gun out and pull the trigger.

Dale also notes that for him, it isn't the idea that pickers are carrying guns that makes him nervous, rather it is the idea that people may be using them to intimidate or hurt others:

I think in the past, as in the present, a lot of people out there are packing hand guns, probably a lot more than we are aware of. That doesn't bother me, as long as they keep them put away. I've grown up in the area. I've grown up hunting and fishing and I am used to people carrying guns, it's not that big of a deal. It's just how people use those guns.

In brief, my work at Sisters suggests that the media has played a strong role in creating an image in the minds of many Forest Service employees and local residents of pickers as dangerous, and to be avoided or approached with caution if you happen to meet one in the woods or at a store. The view of pickers as dangerous, however, is not universal among District employees. People like Dale, Pat and Monty who spend time chatting with buyers and pickers at the mushroom camp express some fear about people carrying weapons in the woods, but underline that it isn't something they perceive as particular to mushroom pickers.

Pickers As Threats to Ecosystem Health

Another justification that some District employees bring up for state intervention in the wild mushroom world is that commercial pickers constitute an actual or potential threat to forest environments. The following quotes illustrate some of the dangers that District employees feel pickers pose to the woods:

It's not only the social aspects, it is also the effect to the site itself. Especially, I have heard the horror stories of what the camps down around Crescent look like that have got several thousand people that come in. You know, they are a bunch of free spirits as near as I am able to tell. They are multi-racial in makeup, there is communications problems I understand, and when those folks leave, I have heard horror stories about the way the site looks after they leave. So, yes, you've got the social issues, then you've got the natural resource issues that go along with that (Resource Operations Team Leader).

The impacts are just a lot greater than you really realize. I mean, it's like just getting a handle on it -- some of the districts are so inundated. You go down to Crescent, down on the south end of the Deschutes and the Winema. They've had to develop special camps and stuff like that down there. I'm not sure we have a good sense -- certainly I don't at my level in the organization -- just how many people we have out camping on the district, and whether they're picking cones, or whether they're picking mushrooms. And I've seen it on other districts where I've worked where they've had a huge impact. Especially in certain areas where they find an area they really like -- and that area could be impacted very much (Recreation Planner).

If it [mushroom picking] did escalate, say we got to the point the Crescent district is then I think we would have to take some action similar to what they've done, and that would be get a concessionaire campground going where we could put the pickers and then really intensely manage it. I think you'd just about have to do that there's just so many people, so much use. I don't know what else you could do, if you had those, those kinds of numbers (Wilderness Planner).

Again, Crescent surfaces as the model that the Sisters District fears and seeks to avoid – large amounts of valuable mushrooms that attract large numbers of pickers for

six to eight weeks every fall or spring. Much of the fear about damage is related not to the actual picking, which most employees admitted to knowing very little about, but rather centers on damages that pickers cause by the way in which they inhabit the woods. For example, if allowed to camp where they choose, pickers tend to camp next to streams, compacting the soil, trampling riparian vegetation, cutting poles for structures, and gathering up dead wood for campfires. The view of pickers as high-impact campers, and lacking any sense of basic woods etiquette and safety precautionary measures appears to be strongly linked to the arrival of large numbers of Asian pickers into the Pacific Northwest mushroom industry in the late 1980s and early 1990s. SFP program managers at Chemult Ranger District and Crescent Ranger District, for example, both indicated that inexperienced Asian pickers who came to Crescent in the early 1990s left large amounts of trash at their campsites, littered the woods with cans and bottles, smoked in the woods even during high fire danger season, and left campfires smoking instead of putting them out cold.⁵

Aside from the view that pickers are hard on camping sites and potential fire starters, some Forest Service employees also express concern about the potential consequences of commercial picking on the mushrooms, plants, and animal species that depend upon them:

A few years ago I noticed a lot more raking going on, in the duff, looking for I don't know what else - boletes or - I don't know what they were looking for, but I noticed around Jack Creek in the spring I guess it was they were raking the forest. I didn't like that. And I know picking morels that you can notice when a commercial operation goes through an area, because I've had some personal experience finding them [Biologist].

I would not want to encourage use at the level that Crescent has. I think the products are here and the potential is here. I think we are far enough

⁵ Personal communication: Jerry Smith, Chemult Ranger District October 16, 1995; Pete Petersen, Crescent Ranger District, July 10, 1998.

down the road to have enough sense, if we were going to go out and encourage more use, that we prepare for it, so I think that would be ok. I am a little bit concerned, I think that we don't know what the long-term or large-scale-impact effects of harvest are to the forest. We don't know what we are doing to the food chain, we don't know what we are doing to the fungal relationships. I would be hesitant to get into it in a real big way until we get some better answers to the questions [Public Affairs Specialist].

Well, I don't think we have any understanding of what the effects of harvesting are on mushrooming production. One of the things that happened is in the 60s and 70s, my family and I were the only ones out there. Maybe you would see another old German couple somewhere. Wild mushrooms were not a big thing. We tried to give mushrooms away to our friends and neighbors and they wouldn't take them. They were suspicious and nobody had chanterelles in fancy restaurants or anything and now it is a completely different story and there are so many people out there. So, the mushroom program has been completely reactive. As soon as they found out they could sell all these permits, they have been selling these permits but there really hasn't been any kind of a good understanding of what it is doing [Botanist/Ecologist].

As in the Late Successional Reserve Assessment, the employees quoted above frame their concern in terms of the uncertainty of the Forest Service's knowledge about wild mushrooms and their role in forest ecosystems. The last two speakers also make clear their belief that the agency needs to proceed with caution if it wants to avoid the mistakes that were made in timber management.

Embedded in the view that uncontrolled commercial picking poses a threat to ecosystem health is the implicit categorization of wild mushroom pickers as uncaring resource users or unable to care for the forests from which they derive their livelihood. This view is very reminiscent of conservationist discourse of the 19th century, which targeted locally based hunters, fishermen, and forest product gatherers as the source of environmental degradation, rather than focusing on the larger economic context that fostered industrial scale demands for forest products.

Fortunately for the pickers at Sisters, not all District employees agree with these images about pickers or the effects of commercial picking. Quotes from the SFP Program Manager and the Timber Improvement Specialist illustrate an alternative view about picking and whether commercial picking is something the District needs to be concerned about:

On this district I have not run across destructive picking practices such as raking beds or something like that. I think most pickers recognize that it is in their best interest to retain, preserve the fungus, so that they can come back to the same spot and pick again. Every analogy, or discussion I've heard on harvesting mushrooms always relates to the picking fruit off a trees. You know, the mushrooms are a fruiting body of the larger organism and as such, if you don't disturb the organism itself, your just picking off the fruit. Of course we need to keep enough mushrooms out there to produce forests, so that they can reproduce that way. I think that we would have a very tough time harvesting enough mushrooms to any large effect to support production. They'd produce some of these spores, but they would be hard to impact that very heavily (SFP Program Manager).

I know that there is some concern that the mushroom picker is going to take too much of the mushroom but I don't agree with that. All they're taking is the fruiting body, they're not hurting that mushroom so it doesn't matter if some Cambodian picks it or a chipmunk eats it you know. So, likewise we have biologists who don't understand that. Here they are, worryin' about that. And I might be wrong. It's possible that too much mushroom picking might be detrimental to the population. I doubt it. And as I said I believe that there are a lot more than there ever were. I think that there are more than when I came here 17 years ago and I think there are more than were here 50 years ago. It was just not mushroom country. You know those things have to eat something so if you have a very very healthy forest, you don't have very many mushrooms (Timber Stand Improvement Specialist).

Other employees also note that pickers don't seem to be any different than any other groups that use the forest in large numbers, such as holiday campers, or who camp for long periods of time, such as hunters:

I don't try to separate out the users that much, I just know that we did have a really intense group activity when they were camping on Jack Creek. But Memorial Day you have the same thing with a whole different type of crowd. Hunting season you have the same thing, different type of crowd. I don't work with them that much, I wouldn't say in my mind that I know of them [mushroom pickers] having different habits than other campers (Biologist).

The images that District employees have of mushroom pickers clearly vary considerably. My work suggests that those who have more direct contact with pickers, even in an enforcement role, are less quick to stereotype them as categorically armed and dangerous and environmentally destructive. Employees with rural backgrounds and training as foresters also appear to see commercial picking as a more ecologically benign activity and one that should be encouraged and supported. In contrast, employees with training in the biological and planning sciences, appear to take a more cautious view, advocating for a precautionary, low risk approach to developing the District's wild mushroom program.

Resisting Negative Categorizations

Pickers and buyers resist the attempts of others to categorize them as armed and dangerous and as destructive users and inhabitants of forest ecosystems. Much of the resistance takes place in the form of the construction of counter-narratives that question the accuracy of the prevailing image of mushroom pickers, and provide more positive alternative images of wild mushroom pickers and their world. Others, however, take a more proactive approach, engaging in activities to demonstrate to local residents and Forest Service employees that mushroom pickers do not all deserve the negative image that the media have assigned to them.

Constructing Counter-Narratives

Dale, who has picked and bought wild mushrooms in the central Cascades since the early 1980s, complains bitterly about the “bad rap” the media has given his profession in the past few years. His comments provide an instructive example of how pickers go about constructing counter narratives:

For some reason mushroom pickers have been hit with the media with all this business about shootings and all of that. And there is a very, very small element of that. And there's also some drug use amongst the mushroom pickers. But I've bought, I've picked and I've been around it for all these years, and 99.9 percent of these people are good decent people trying to make a buck. But we do get a few fly-by-nights and they come in, pull some stunts, and they're gone and they give the thing a bad name, and of course the press, they love to - well, last fall down there at Crescent there was a shooting. Some guy shot his wife. Well, they had the mushroom camp and all that all over the news but the truth was that this guy had been arguing and beating up his wife for nine years, so it really had nothing to do with the mushrooming but we get the rap for it.

His counter narrative does several things. First he targets the media as the source of misinformation about pickers. Second he acknowledges that there are elements of truth to the media portrayals of pickers as dangerous, but he counters the validity of the portrayal with the statement that the media has focused its attention on the very small percentage of pickers who do fight and intimidate people with guns. Third, he makes the claim that most of the dangerous people aren't serious mushroom people in any case, they are “fly-by-nighters” out to make trouble wherever they go. And lastly he points out that not only are the media claims exaggerated, but also they are taken out of context and attribute actions to mushroom pickers and the atmosphere of the mushroom camp that more properly are linked to other aspects of people's lives.

Other pickers focus on constructing counter narratives in which they seek to distinguish Sisters as different from other mushroom picking areas, particularly Crescent. Gary who lives in Bend, and takes part only in the spring mushroom harvest

emphasizes that the stories about pickers at Crescent definitely don't apply to pickers at Sisters:

I don't know what your experience has been with some of the people back in the hole and the other part of the camp but right here the people that are here are real nice and friendly, and it isn't like the mushroom camps that you hear about elsewhere. Where they say guys are totin' guns, and drinkin' and partyin' all night long and what not. This area right here you've seen is pretty low key, you know and everybody's friendly.

Rod, who camps with his wife, Luanne, reiterates the view that Sisters is very different from the Crescent camp:

Shit, over at Crescent they shoot each other. Hell, it's nice here. We don't hear no shooting or nothing.

Similarly, Jill, who lives in Gilchrist and picks matsutake at Crescent and morels at Sisters every year, notes that things are different at Sisters:

It's the frenzy of the matsi -- people don't use their courtesy. We've had people who waved guns at us and told us to leave. But here for the most part people will drive by.

Some pickers who have camped at Crescent present yet another form of counter narrative, a form that resembles Dale's deconstruction of media portrayals of the mushroom picking world. For example, Bud and Gillian, a retired couple who started picking mushrooms in the late 1980s, and who have camped a few times down at the Crescent camp note that other people seem to look down on them because they're pickers, and that often times people have a false impression that mushroom camps at Crescent and elsewhere are really dangerous:

B: And people kind of look down at mushroom pickers, when they see them. I think it's because of some of the people that follow it, they just kind of bring it on their self more than anything. But I'm not ashamed of it. I tell them - if they ask me. I'm not ashamed of it.

G: Especially when they see the Cambodians. "Oh, aren't you afraid?" Because of all the bad publicity, shooting at you and all this and that.

Asian pickers also have counter narratives, in which they seek to dispel the notion that just because they are armed, they are dangerous. As an example, Somboung, a Cambodian from Tacoma who picks every fall at Crescent, acknowledges that most people he works with carry guns, but explains that they use them as signaling devices not as weapons:

I got lost in the woods. That's why we have to carry the gun. When the rangers shoot - Toom! Toom! Toom! After that, then we shoot back. Then we let the ranger know, okay, where you are. Then they get the dog and the flashlight and go find you. If they cannot hear, you better shoot, you know?

In constructing counter-narratives, pickers and buyers seek to do several things. First, they deconstruct the dominant narratives that others have developed of their industry, pointing out the points that are incorrect, exaggerated, or taken out of context. Second they provide alternative, positive meanings for practices, such as carrying guns, that the dominant constructions have cast as negative.

Engaging in Positive Practices

A few people in the Sisters mushroom camp noted that they had taken some positive steps to counteract the negative image that the media has given mushroom people. Betty, the buyer for Cascade, recounts how she used to show tourists and school children who visited the mushroom camp when it was located near the Jack Creek headwaters the different types of mushrooms and how to find them:

They used to have school buses come through, and tourists, and they'd go up to the head of Jack Creek and do their little thing with the school, you know. And one day the bus driver stopped and said "I'd like to see what you're doing." And I says, "Well, why don't you bring all your kids out?" So they all came out. I had my drier set up, because I dry commercially,

and in 24 hours I can dry about 1200 pounds. And I showed 'em the drier, showed 'em what the mushrooms looked like and now half of them are all pickin' mushrooms, all the people that stopped. Because they enjoyed it so much....And the people from town, the adults that have come in over the years, I probably got about 20 people or 30 people in town that's interested in it. And if they can't pick mushrooms I sell 'em a few, you know, right at what I pay for them. Because sometimes they can't come in and compete with the other people, can't find any.

Educating outsiders about wild mushrooms and the wild mushroom industry as a way to counter the negative image of wild mushroom pickers and commercial picking is not a unique strategy to Betty. Indeed it appears to be a fairly widespread practice among buyers in the Pacific Northwest. For example, while at Crescent in the fall of 1996 I encountered two buyers who had set up weekend workshops to show people living in the Diamond Lake area how to find matsutakes. In the early 1990s, one of the buyers I worked with put on several presentations for Forest Service employees working in the region to give them an idea of what the commercial species were and the types of conditions that seemed to favor their production. Still another buyer I encountered in northern California organized a presentation on the positive aspects of commercial wild mushroom harvesting and the negative impacts of the emerging regulatory structure on pickers and buyers for the North American Mycological Association.

Pickers also engage in counter-imaging practices. One strategy that many pickers mentioned taking part in is cleaning up trash around other people's campsites. For the most part pickers brought this up in the context of something they did when they moved out of an area as a way of maintaining good relations with the local Forest Service. In at least one case, however, pickers have taken a more systematic approach to combating the image of pickers as unsanitary forest inhabitants. Bud and Gillian, who typically pick boletes until late into the summer in the high ground south of Sisters, spent one summer picking up trash left behind by weekend campers so that mushroom pickers wouldn't get the blame:

I was going down through all the camps when the weekenders would come, they'd leave all their trash and stuff. I'd go down and pick up all the trash and stuff in plastic bags and set it out for the Forest Service to pick up. And evidently she noticed and realized that that was me that was doing it because that saved the day for us because we got to stay longer! We didn't get vacated. But they was nice about it. Some of them would leave real messy camps and we didn't take a liking to it because we figured the mushroom pickers get a lot of blame for a lot of stuff they didn't do.

In a similar vein, Sven and Karla, the buyers I worked with noted that the practice of having buyers set up porta-potties at Sisters originated not with the Forest Service but with them. Sven related how when large numbers of pickers started to camp in the Jack Creek area, he and his wife, Karla, became concerned about people urinating and defecating in and around the creek. To help maintain the creek's water quality, they had a local company bring in a port-a-potty and placed it near their buying station so that pickers would have somewhere else to relieve themselves. According to Sven's account, other buyers then started to bring in porta-potties and the next year the Forest Service required all buyers to provide porta-potties next to their buy stations.

Categorizations As Self-Fulfilling Prophecies

At the same time that pickers complain about the inaccurate picture that people have of mushroom pickers as armed and dangerous, they also acknowledge that pickers are in part to blame for the development and perpetuation of that image. As Dale notes above, there *are* pickers who carry guns and there *have been* shootings in the camps. Bud also admits that there was a lot of shooting in the air down at Crescent, which according to the Cambodians he talked with, was a type of intimidation tactic practiced among rival groups:

We tried the matsutakes a couple years and we camped up at Crescent...But the Cambodians had just divided in two different groups. Camped back behind us, quite a ways from us. When they'd wake up in

the morning, these way down at the other end would get up and they'd shoot their automatic guns off. Pow pow pow pow. The others would get up and they'd go pow pow pow pow. I found out later they was just kind of like letting the other people know that they had guns! That's what they said. Now I don't know.

Brent, who follows the matsutake and morel circuits which are dominated by Asians, maintains that Asians carry guns as a way to intimidate white pickers. In the same breath, however, he also acknowledges that Asians may have a justification for feeling intimidated since many white pickers, like Brent himself, feel that they have cut into their ability to make a living:

The Orientals, they pack guns and they say that they use it for signals, but it's an intimidation type thing because they're scared of us because they know that they're moving in and they keep bringing more relatives and more relatives which is cutting down on how much money that we're used to making, you know, the lifestyle we're used to making. So we get kind of bitter, right?

Randy, another white circuit picker who also chases matsutake and morels, however, notes that it isn't just Asians who are doing the shooting:

There's a couple times where people take rakes or somethin' like that lookin' for matsis and rake the top surface off to find 'em. That tears up the ground for like 2 years of pickin'. It's not feasible to do that. Everybody got mad and there's like gun battles goin' on and stuff but it wasn't really a gun battle - it was like in their camp you know, they'd be gettin' drunk when somebody'd flip off or somethin', it wasn't over mushrooms really. Shoot, white guys is havin' just as many problems in their camps as the Laotians.

Sandy, who also travels the matsutake and morel circuits, observes that the image of pickers as armed and dangerous is like a self-fulfilling prophecy – with all the media hype about guns in the woods, people become afraid and begin to think that they, too, need to carry guns to protect themselves:

I think the papers and stuff writing stuff about people having guns and stuff has brought more guns in the woods than it ever was because people are afraid.

In acknowledging that pickers and buyers are to some extent implicated in the negative constructions outsiders have developed of their industry, Andy, Dale, and Brent support Foucault's observation that the process of categorization doesn't merely group people into "natural" categories, rather it constructs and then helps to reify those categories. As Sandy notes in his comments about the mushroom picker's gunslinger image, the image itself has played an important role in molding the contours of reality.

Constructing Pickers As Unidimensional Forest Workers

As the above section demonstrates, the Forest Service now categorizes wild mushroom pickers and buyers in terms of their relative importance as forest users, the degree to which they present a danger to themselves and other forest users, and the degree to which their activities threaten the well-being of wild mushrooms and other ecosystem components. In addition, the agency has simultaneously sought to place wild mushroom pickers into its already existing system for differentiating among forest users' motivations for being in the forest.

Long before mushrooms entered the scene, the Forest Service established a system for categorizing different types of special forest products harvesters, such as firewood gatherers, berry pickers, and brush pickers. Under this system, the agency classifies harvesters into three mutually exclusive categories: Commercial, personal use, and incidental use harvesters. The division is based according to the agency's definition of the permittee's motivation for harvesting the products. People who intend to sell their mushrooms are required to get a commercial use permit even if they will sell only very small quantities. People who gather mushrooms to take off the forest either for their own use or to give them away, but who aren't going to sell any of the product that they harvest, can obtain a personal use permit. Historically personal use permits for many

special forest products have been free,⁶ whereas the agency charges a fee for commercial use permits. As Dale notes, the distinction between commercial and personal use is tied in his mind not only to the picker's motivations for picking mushrooms, and thus potentially the quantity that she will remove, but also to the side impacts commercial picking has on the forest and other forest users:

If it's a personal use situation there's a difference in how we approach things. The family recreational event is a little different than a family commercial activity. If they're out there to make money and they're working real hard to find mushrooms for the income, I guess I'd be assuming it would be a longer term activity than just some family that was coming out for a weekend to camp.

The Forest Service has a third category of forest products use -- incidental use -- which applies in situations where people consume what they pick on the forest, usually on the same day they pick it:

Incidental is meant to cover the campers or somebody that's just out there traipsing around the woods, sees some morels and goes oh, morels, I'd like some for dinner. We try and maintain some aspect of the program that's based for those people that are out there for some other reason and just stumble across some mushrooms and want to pick them (SFP Program Manager).

No permit is required for incidental use, but typically incidental users are allowed to have only very small quantities of the harvested product in their possession or at their campsite.

Within its pre-existing regulatory framework, the Forest Service also categorizes commercial forest users as industrial workers. The agency's rules governing use of the

⁶ Even products for which the Forest Service now charges a fee for personal use harvesting, such as firewood and Christmas trees, used to be available free of charge as recently as twenty years ago. For example, while living in northwestern Montana in the late 1970s my husband and I obtained firewood permits for up to 10 cords per year free of charge, and did not have to obtain a permit to cut down a Christmas tree for personal use.

forest by industrial workers thus applies to commercial mushroom pickers. The main negative effect of this classification is that commercial wild mushroom pickers cannot set up their camps in campgrounds set aside for recreational users. From a positive standpoint, however, Dale notes that the industrial worker categorization allows pickers to occupy their camps for more than the 30 days permitted to recreational users:

The industrial camping thing was set up for the loggers. As the program developed and we started getting more long term pickers, we started using the camping permit. It was in place for a long time. It's a way to address the 14 day stay limit for camping on the forest and also the prohibition against residing on the forest. We have those kind of camping permits for those people that may be transients and without a permit it would appear that they were residing and it gives them a means where they can stay on this forest while they're doing their business legally for longer than 14 days.

Embedded within the Forest Service's system for classifying forest users is the underlying assumption that the people who come to the forest to engage in various types of activities do so either to make money or for pleasure and recreation. The system deals poorly with forest users who come to the woods to do both simultaneously, as many mushroom pickers at Sisters do. Though seemingly a small matter, the inability of the agency's user classification system to take into account multiple and simultaneous ways of being in the forest, as well the application of policies that assume a separation between humans and nature, have proved to be sources of contention between pickers and the Forest Service, and thus have served as focal points for much resistance to efforts by the Forest Service to control wild mushroom activities on the Sisters Ranger District. In the following sections I explore further the dynamics of the struggles that have occurred in response to the Forest Service's efforts to impose a construction of nature that posits a human-nature dichotomy and a construction of forest users as uni-dimensional beings on the world of wild mushrooms at Sisters.

Section 2: Separating and Enclosing the Wild Mushroom World

At the same time that the District employees established ways to differentiate mushroom pickers from other forest users and to sort pickers into sub-groups, they also slowly began the process of separating the newly identified set of industrial wild mushroom harvesters from recreational forest users and personal use harvesters. As noted in the previous section, the distinction between commercial pickers and personal use pickers existed conceptually in the agency's existing special forest products permit framework as early as the mid-1980s. However, the on-the-ground process of physically segregating commercial mushroom pickers from other forest users did not begin at Sisters until the early 1990s. Instead of using just an enclosure strategy, the Forest Service opted instead to enclose buyers into an officially designated buying camp while simultaneously excluding pickers and buyers from areas set aside for recreational and scientific users, including developed campgrounds and horse camps, the District's three wilderness areas, and the Metolius Research Natural Area. In addition, during 1995 the District struggled with the question of whether to exclude commercial picking in the newly established LSRs. In the following section, I outline the dynamics of the struggles that have taken place over two types of sites where commercial access to wild mushrooms has been strongly contested. These sites include the Mount Jefferson Wilderness and the LSRs. The struggles over mushroom grounds in the wilderness area involve primarily the Forest Service and wild mushroom pickers, while the struggle over the LSRs has taken place primarily among the District's planners and program administrators. I will recount the story of the struggles over campgrounds in Section Five of this chapter.

Contested Wilderness: Different Views of Nature

On July 8th, 1996 tinder-dry conditions on the eastern slopes of the central Cascades and a discarded cigarette combined to ignite a raging inferno among the dying white fir

forests in the lower elevations of the Mount Jefferson Wilderness on the Sisters Ranger District (Bend Bulletin 7-10-96:A1). Contained within days, sudden winds reawakened the fire on the 26th of July. By the time firefighters contained the flames, just over 3,600 acres of the Deschutes National Forest, more than half of it in the wilderness boundaries, had burned (Bend Bulletin 8-01-96:B1). The fire also burned an additional 2000 acres of prime timber ground on the Warm Springs Indian Reservation northeast of the wilderness (Bend Bulletin 8-01-96:B1). One of the biggest wild fires in Sisters recent history, the Jefferson Fire was a fraction of the size of other fires in National Forests to the south and east (Bend Bulletin 8-30-96:B1). Nonetheless, several hundred morel pickers flocked to Sisters early the following spring in the hopes of being able to harvest fire morels on the Jefferson Fire before heading east to the “burns.”

Knowing that commercial pickers would likely try to pick the burn, a large percentage of which lay within the boundaries of the Jefferson wilderness, Pat and Monty geared up to keep an eye open for pickers parked near the wilderness trailhead, the easiest place from which to access the burn. When the area’s second flush of naturals failed to materialize in the second week of May, pressure to pick the Jefferson burn among pickers increased, particularly for pickers unfamiliar with how to find boletes. Despite Monty’s patrols through the area, a few pickers managed to hike into the burn, returning to the buy stations with baskets full of morels when most pickers were bringing in a half a basket at the end of the day. On May 11, however, Monty and a visiting law enforcement officer managed to catch two pickers carrying morels out of the wilderness. After issuing citations to the two pickers and confiscating their morels, the two officers went to the buying camp to sell the mushrooms. While there, they made a point of advertising how they had obtained the mushrooms as a way to discourage other pickers from going into the wilderness:

The biggest crop that was going [in 1997] was inside the wilderness which is illegal. Me and Officer B., he was up when I was showing him the district, we went to Jefferson Lake Trail Head and I said let's go for a hike. We hike in and see these two guys walking across the lava and I

just know - why aren't they on the trail? So we said let's sit and wait for them. We were in probably about a mile and a half. And they walked right to us and they were ten feet away from us before they ever saw us, wearing uniforms, standing right there. I said, good afternoon, sirs. And each one of them had a bucket full of mushrooms, big bucket full. And we unceremoniously seized the mushrooms and cited both of them for picking in the wilderness without a permit. There were others picking but we never caught them. Those are the only two we actually really caught. After we caught them, the word got out that we were there. And that's an important prevention tool (Monty).

Keeping commercial pickers out of wilderness areas along the Cascade crest, where some highly productive matsutake grounds are located, is a major concern on both the Crescent and Chemult Ranger Districts to the south of Sisters.⁷ Up until 1997, however, commercial picking in the wilderness areas on the Sisters District had never been at a scale large enough for Dale to take any action to prevent it:

It [commercial picking in the wilderness] has occurred in the past. I have heard rumors. I know it has happened. Generally, it has been at a level that has not been a real big problem. Maybe there's one or two people that have gone up and got some. Even then, thinking back on it, I think it was probably more personal use. It was just that they knew it was there. They might have exceeded their personal-use permit but they weren't out trying to get every mushroom they could to sell.

Even in the spring of 1997, picking activity on the fire was low enough that it barely registered outside the special forest products program. In my discussions with the district ecologist, for example, commercial picking in the wilderness was clearly not something that she felt was a major problem on the District:

About wilderness, you know, we had the fire up in here last year...and it may be that we're getting a few pickers up there, but if we are we don't

⁷ Representatives from Crescent and Chemult Ranger Districts identified mushroom poaching in wilderness areas as one of their major concerns during the 1997 fall season mushroom meeting held in Crescent (December 10) and at the summer informational meeting sponsored by the Crescent Ranger District for pickers and buyers on July 9, 1998.

know about it. You haven't seen any? in fact I would say it's probably, if at all, it's probably mostly the personal use people....{that} are going up there. No, it's not anything like the problem at Crescent ranger district where people are going into the Diamond Peak wilderness. It's not anything like that.

In Dale's view, commercial picking in the wilderness is an activity that is likely to occur only under specific circumstances, such as another wildfire in a part of the wilderness that has soil types suitable for morels and fairly easy access:

Something like the Jefferson fire where it is close to the trail head, accessible, a lot of mushrooms in the area, well maybe it becomes a pretty tempting target for a picker. It's circumstances. It's location and that kind of thing that has made it a particular problem where as usual we don't have that problem. But, if we got another wilderness fire, different soil types, I'd be surprised if there's mushrooms in there so it all depends on where the fire is.

In short, from the perspective of the District's employees, commercial picking in wilderness areas is generally not a frequent enough occurrence, or on a large enough scale to make it worth their while to enforce agency regulations against commercial harvesting in wilderness areas. On the other hand, in a situation like the Jefferson fire at Sisters in 1997 where an abnormally large quantity of commercial mushrooms fruit within wilderness boundaries, the District staff are willing to take extra steps to try to enforce wilderness regulations against commercial harvesting.

Like the forest user categorization system that classifies campers as to whether they are working or recreating on the forest, the prohibition against picking in the wilderness existed prior to the arrival of the commercial wild mushroom industry in the Sisters area. The 1964 Wilderness Act under which the Mount Jefferson Wilderness was established clearly posits a view of nature in which humans are separate from nature. Its framers also clearly see work and leisure as very distinct spheres of activity. Wilderness, in the minds of the Act's framers, is a place where humans are merely visitors, and where they go to relax, not to work:

A wilderness in contrast with those areas where man and his own works dominate the landscape, is hereby recognized as an area where the earth and its community of life are untrammelled by man, where man himself is a visitor who does not remain. An area of wilderness is further defined to mean in this Act an area of undeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed so as to preserve its natural conditions...(16 USC 1131 Sec (c)).

The Wilderness Act specifically prohibits commercial activities within wilderness areas with a few exceptions, notably mining, grazing, and “activities which are proper for realizing the recreational or other wilderness purposes of the areas” (16 USC 1133 (d)(6)).

This view of wilderness as a place apart from humanity and as a place for recreation rather than work was shared by the District employees. The Wilderness Planner, for example, expressed the view that allowing commercial picking on the Jefferson fire would undermine the opportunities for wilderness people to enjoy solitude due to the number of pickers who would be working in the area:

I don't think it fits within wilderness values to allow those kinds of commercial activities in wilderness. I think it would degrade the values that wilderness is supposed to provide. Solitude for one. If it became very popular, say you had an area that was just rich with mushrooms, you'd soon have, if you allowed it, you'd have lots of people there. And we have social standards in wilderness, you know. It has to do with encounters. How many encounters you should have during your wilderness experience. And I'm sure that if we allowed that sort of thing pretty soon we would exceed those standards.

In addition, in his view, commercial picking doesn't fit with what he considers key values of wilderness, namely that it provides opportunities for people to feel challenged, to experience adventure, and to learn self-reliance:

And the other part of that is if you're going there to pick mushrooms you're not going there for some of the other reasons that wilderness was created for. That challenge. You know, adventure. Although there might be a certain amount of adventure when people start pulling guns, that

sort of thing (laughs). But teaching self reliance and self actualization kinds of things, that's what wilderness is about. It's not about pickers going out for a commercial harvest.

Lastly, he argues, wilderness is supposed to be "pristine" and "natural," and should be preserved, rather than used for resource production:

And the other part of it is that wilderness is a pristine and natural condition, and the idea there is more preservation like a park, rather than conservation.

He does acknowledge that some commercial activities, such as guiding, are permitted in wilderness areas, but that even in that realm the District wants to keep the number of commercial outfits to a minimum as a way to maintain the solitude values of the wilderness:

Well [commercial activities are permitted] in one way and that is in guiding. We have outfitter guides that offer commercial ventures. Although there's a moratorium on those. We want no more expansion on that activity. The feeling is that we have enough to meet the demand. And there again, part of that is we don't want to create a Disneyland out there. Which could happen, you know, we could get all sorts of thrill seeking ideas going on where people pay for this or for that in the wilderness. Right now I don't see eliminating those. I think it will continue, but it won't be expanded more. Because it has to do with, limits, and you can set limits for that, and not expect growth beyond that. And that's good for wilderness. If you can set those limits.

From the Natural Resources Team Leader's perspective, allowing commercial picking in the wilderness would increase the numbers of people using the area, which is already difficult for the District to patrol. Like the Wilderness Planner, he also expresses the belief that work is not what the wilderness is about, and that allowing commercial pickers in would create conflicts between wilderness users.

There's no commercial harvest of any kind in the wilderness. It's pretty restrictive with what you can do with it except recreational values because, it's hard to control someone in the wilderness. You know, we have our wilderness areas but they're far and few between, and they have

enough work to do just to control safety out there, and if commercial values started to develop in wilderness, I think it would cause some impacts. social problems and resource problems. You know, overpicking, and it doesn't necessarily have to be defined down to mushrooms. There is a lot of resources out there that are prime stuff that could be looked at, berries. And then if you encourage that it would mean more intrusions into the wilderness, by people who have different perspectives of what wilderness is all about. That's why I'm glad we keep any type of commercial stuff out of there.

The Special Forest Products Program Manager, who was born and raised in the Sisters area and has worked in the woods all of his life, agrees with his colleagues that commercial picking is not appropriate in the wilderness. However, from his perspective the issue isn't how that activity affects recreational users, but rather how that activity affects the wilderness ecosystem.

We're not intending for products to be harvested and removed from the wilderness. We have people who camp and want to pick and eat something, then that's fine. I guess the best example I can think of is deer hunting. I hunt up in the wilderness almost every year and I harvest a deer and I bring it right out and take it home, put it in my freezer - I'm removing something from the wilderness. I guess you could also say that an animal moves and it doesn't live up there all the time, it comes out, this kind of thing, so maybe it's not a good comparison. But it is some kind of comparison and I guess fish out of the lakes might be a better comparison - they don't have any ability to leave. So I just think the intent of the wilderness is not to be conducting activities that remove significant amounts of product out of there. Incidental use is okay, humans do use the wilderness, we forage like any other critter that's up there, it's less consistent, but removing things is not.

As indicated by the above comments, even supposing that the wilderness act did permit commercial activities, a strong thread of opposition to such a policy exists within the District. Of the three positions expressed above, only the Special Forest Products Program Manager's discourse (i.e. "we forage like any other critter that's up there") places humans as a part of, rather than separate from, nature. For him, it is the idea of extracting, of taking things away from the wilderness that makes commercial

picking incompatible with wilderness. This discourse differs considerably from the Wilderness Planner's discourse, in which humans are clearly viewed as outside of nature, and where wilderness is meant to provide humans with physical and mental challenges that working presumably does not provide. His assumption that commercial picking would not provide similar types of challenges is based, perhaps, on a view of picking as monotonous labor, a view that many pickers would disagree with. The Natural Resources Team Leader brings up another important view about wilderness – it is an area where people remain to some extent beyond the control of the state. Commercial picking, which in his view clearly warrants state oversight from the standpoint of minimizing social conflicts and negative impacts on wilderness resources, thus cannot be encouraged in wilderness areas where the state would be unable to exercise sufficient control.

A few pickers at Sisters pick mushroom patches located within the boundaries of wilderness areas on the District, but the quantities of boletes and morels that normally fruit in the wilderness areas are too small to interest many commercial pickers. Although the fire morels on the Jefferson fire in the spring of 1997 attracted some pickers to pick in the Jefferson Wilderness, most pickers had their eyes on the hundreds of thousands of acres of much more productive morel grounds in the burns to the east. As soon as word came to Sisters that the burns were "kicking," within a matter of days the majority of pickers headed east. For the pickers who remained behind, the long walk into the burn and the visibility of the law enforcement team around the easiest access point, was enough to discourage most from picking the Jefferson fire.

Nonetheless, both picker and buyers complained about the wilderness policy, which many felt was both unnecessary and an example of poor forest management. The following excerpt from a discussion with Dale, a picker who also works as a buyer, illustrates a very different view of the prohibition on picking in the wilderness relative to the Forest Service views described above:

I think it's the biggest waste of a food product that I've ever seen. When I was out in Sumter [eastern Oregon], I had a little disagreement with a lady out there. She's in charge of the wilderness out there and every time they ticket somebody for picking in the wilderness, they'd bring the mushrooms in and wanted us to buy them and give them a receipt, and they said they'd put the money in the general fund. Well - her argument, I should say she's representing the Forest Service, but her argument is that because it's wilderness there's no commercial anything, so if they let the pickers in commercially, then the loggers can be in commercially or anybody else. But it seems to me that anything can be amended if the people of this country want it amended. And this mushroom industry is growing - I can tell you that 15 years ago most people didn't know what a mushroom was, other than the white ones you buy in the store. Well, it's become such a gourmet thing now with the chefs, every year it's getting bigger and bigger. I mean they're growing shiitakes commercially, they're growing all kinds of things now commercially - if they could grow these boletes commercially, they'd be doing it and we'd be out of a job! But it's getting bigger every year and the more the public gets into this, it's not going to stop. Well, what you're sitting on is a food source and it's going to waste. There's thousands and thousands of pounds of mushrooms going to waste in those burns every spring in those wilderness areas, and it seems just a shame to see that go to waste. Now it doesn't hurt anything, Rebecca, to pick in that burn the year after that fire because there's nothing out there. There's just black yuck. And there's nothing growing, they haven't even planted trees in it yet. To go out and harvest that, it wouldn't hurt a thing.

Dale's discourse indicates that he is very much of the "forest as production place" viewpoint. While he is willing to concede that logging may not be an appropriate use of wilderness areas, for him it doesn't make sense to put logging and mushroom picking in the same category. True, both are commercial uses, but as he points out, mushrooms differ from logs in several important respects. First, they are food and in his mind, food should not be allowed to go to waste if people are interested in buying it. Second, unlike logging which would have a long-term visible effect on the wilderness landscape, commercial picking would be a rare event, happening only in the year after a major fire. He also notes that the wild mushroom industry is a new phenomenon that didn't exist on a large-scale until after the Wilderness Act had been passed. He argues that the

growing importance of the industry, combined with the minimal impacts that picking would have on the forest, constitute an argument for amending the law to remove the prohibition on commercial morel picking in wildernesses.

A bit later in the discussion he elaborates upon the reasons for allowing commercial picking in wilderness areas:

It's a joke because, and they'll tell you right here in Eugene if you go to the supervisor's office, that 85 percent of the people that go in the wilderness go on the same places. All the rest of the wilderness, nobody ever goes in. They all hike the Three Sisters trail by the thousands and nobody's out here in the wilderness, nobody ever goes in there - not a soul! So they're worrying about a whole lot of land that nobody ever uses....So it seems to me that you could go in that burn the year after, that spring, and let people pick it. And charge them a fee, if you're worried about it. You could have a wilderness picking fee. They'll like that. Just for that, you could just have it April, May and June or something, and July, or whenever that season ends, and then don't let any more commercial picking in that area. Just that one year, let the public have the mushrooms. Why not? It's just going to waste. Just going to waste.

Again, the theme of a perfectly good resource going to waste runs through his argument. However, not only are the mushrooms themselves being wasted, but in his mind, so also is the empty and unused forest that makes up the wilderness areas. In contrast to the District wilderness planner's view, in which the emptiness of the wilderness is one of its most important qualities, from Dale's perspective that emptiness is a waste. Letting people pick mushrooms would thus serve two purposes – it would prevent the waste of a food product that is in high demand, and it would prevent the waste of large areas of forested land.

Dale continues his thoughts about wilderness policy with the observation that a more reasonable approach would be allow pickers into the wilderness on limited basis:

And it just seems to me that there could be some kind of balance with this wilderness business because the Forest Service, it's costing all of us money to have law enforcement people out there running all around

trying to keep people from picking in the wilderness - you're never going to keep them out, there's too many of them. Out there last year there was a couple thousand people sneaking in and out of that wilderness, and the cops were running around and they were riding horses and doing all kinds of stuff and it's cops and robbers. Come on, we're all sensible people - this is getting to be a joke. And obviously those officers have better things to do than mess with this nonsense. Yeah, it's just silly.

In Dale's view, letting pickers pick morels in wilderness areas burned by wildfire would thus prevent yet another waste -- the waste of government resources needed to patrol the wilderness areas to keep morel pickers out. He admits, however, that getting such a policy passed might be difficult:

Well, see, you got to understand too, the Forest Service has taken a lot of pressure from the environmental groups to keep people out of the wilderness at all costs. I think there's people out there that would not have anybody do anything anywhere anymore!

The notion that prohibiting commercial picking constitutes a waste of an important food resource is reiterated by other mushroom camp inhabitants. Brent, for example, states that he believes that the reason mushrooms exist is to feed people and animals, and that a certain amount of the fire morel crops in wilderness areas needs to be made available to commercial pickers:

Like I say, I think the mushrooms are there for a reason and that's to feed some people, right? Just like every other crop there is in the world. But you got to leave a percentage of the mushrooms, you can't clear cut every mushroom in the whole area because they are there for fertilizer, it's all in the natural cycle. And the animals, they need the mushrooms. I think that there should be a set amount of pickers allowed to pick a certain area. And a certain poundage too.

Betty, another buyer, reiterates the notion that fire morels left in the wilderness will go to waste. Moreover, she notes, in an effort to control commercial picking in wilderness areas, the Forest Service sometimes shuts off non-wilderness ground as well, decreasing pickers' access to mushroom ground that isn't located within wilderness areas:

And say okay, this whole area - see, they've shut down - we have a spot over at Waldo, and they're gonna not let any picking going over there. Because it's got a road goes right straight through it. This side of the road is wilderness and this is not. And that's kind of a weird way to have the wilderness set up. And they say they're not gonna let anybody pick. Because they won't be able to control it. And I don't think it's right. And I don't see myself what it hurts to let somebody pick a mushroom off the dang wilderness, it's not hurtin' a thing. But there's a law against making commercial money, making money off the wilderness. So if I was the forestry, which I'm not, it's probably a good thing I'm not, but if I was I'd go in and I'd say stay out of the wilderness. I would come through maybe once or twice a day and control it. If I'd seen someone in wilderness give 'em a ticket, but be easy on them and leave them alone. Because those mushrooms, it's a one time thing. They're gonna die, and be gone. They're never gonna grow again, till another fire. It's not a thing you're gonna have to worry about year after year after year, but they won't do it. They say it's the law and this is the way we gotta do it.

Like Dale, she observes that at least as far as morels are concerned, if a fire occurs in the wilderness commercial pickers would only be picking there the following year, and thus would not have a long-term effect on other people using the wilderness. Betty also holds a similar view about the wilderness going to waste if the Forest Service just leaves it alone:

And as far as picking mushrooms, you don't go pick mushrooms in the wilderness anyway. They don't grow worth a hoot in there. They grow out here, the only time they do is if it's a fire. They grow out here because what triggers a fire mushroom to grow is a fire, it's gonna grow one time and it's maybe a piddly bit next year and nothin' commercial. If you pick out here, you're picking naturals, and the naturals have to have the disturbed ground, they grow good in the skid trails, where people have tore things up, and them things, it makes them grow. They like that, it's like having your lawn. You've gotta aerate it, you know. And it's the same thing out here in the forest. You drive around and drag things on it and do this and do that, and they log, it stirs up that ground and it sweetens it up and freshens it up. And you go into the wilderness and all you see is mold and duff and nothin'. You know, you don't see the animals in there like you see out here, you don't see nothin'. They've been wildernesses forever, and they're just almost dead. You walk back into some of these lakes back here in the Alpine forests and they're all

dead. All it is a bunch of sticks stickin' up in the air, and the duff is about 2-3 foot deep, nothin' can grow in it. And the trees are dyin'. And they don't let them go in and replant, they say they're preserving it. They're not, they're neglecting it. You don't preserve stuff that way, I don't think.

Again, where the District Wilderness Planner sees the wilderness as a place for humans to recreate and renew themselves spiritually, for Betty the wilderness is an unproductive, unhealthy part of the forest and a place of death.

Other pickers, like Dianne, who lives in the Coast Range, not only agree that picking fire morels in the wilderness wouldn't hurt the forest, but they also point out the inconsistencies in the policy with respect to commercial use of wildernesses

Well, I don't even know why they don't want you to pick that [the wilderness]. They use the wilderness for all kinds of commercial uses. Guides to take people in - there's commercial. They get away with it. So why can't we pick mushrooms there? I don't think it would hurt anything.

Dianne's question as to why some commercial uses are acceptable in wilderness areas and along wild and scenic rivers, while mushroom picking isn't is a question that many pickers raise in conversations around the campfire.

Dianne's question touches on another thread that runs through much picker discourse, namely the theme that the Forest Service seems to singling out working people, and especially pickers, as destructive forest users while looking the other way or even encouraging destructive practices of recreational users and the timber industry.

Dale, for example, expresses a common frustration among mushroom pickers about the Forest Service's decision to prohibit pickers from camping at Jack Creek:

I think we got a little bit of a bad rap on that. They said or the story that we hear now is that the weekenders or I call them the tourists said that the mushroom pickers were so undesirable, they didn't want to camp around us. Well, it was just the opposite. We were there first and had been there for years. And they come in on Memorial Day weekend in droves - kids, dogs, four wheelers, motorcycles, drunken parties, and it's just a rip-roaring, hooting, hullabaloo for three days. And the Forest

Service doesn't do a damn thing about it. If we drive a pickup off the side of the road and run over a tree, they're on our butt. And they turn their back on it because they know it's for three days and they're gone. Then they do it again on the Fourth of July.

Two types of recreational users, the “ATVers”⁸ and “horse campers” are singled out by pickers as forest users who, in the case of the ATVers, are both noisy and disruptive, as well as ecologically destructive, and in the case of the horse campers are identified as ecologically destructive. Around Memorial Day when ATV riders and horse campers occupy both semi-developed campgrounds and set up camps that string for several thousand yards on either side of lower Jack Creek, Canyon Creek, and First Creek, pickers come in every evening complaining bitterly about how the horse campers, motorcycle riders, and ATVers have torn up their best bolete beds. By contrast they note that their picking activities are not destructive, since it is in their best interest to be able to harvest that same patch later in the season and in years to come.⁹

Contested Late Successional Reserves: District Tensions

In the final sentences of her comment on wilderness, Betty asserts that the Forest Service's concept of forest preservation resembles neglect more than it does protection. Betty's view that disturbing the soil, logging trees, picking mushrooms, and other activities related to harvesting forest resources are beneficial rather than harmful to forest environments is a view that conflicts with the underlying assumptions of the Northwest Forest Plan and the Standards and Guidelines devised to implement it. The Plan assumes that human activity, and more particularly, commercial resource harvesting activity, is harmful unless proven otherwise. Although many pickers disagree with the prohibition on commercial picking in wilderness areas, from a practical standpoint the prohibition has little effect on most pickers who work at Sisters

⁸ All-Terrain-Vehicles

⁹ Refer back to sections on stewardship practices in Chapter 5 for examples of picker strategies for improving and maintaining their patches over time.

since most of the wilderness areas are either too high in elevation or too inaccessible to make them prime commercial morel or bolete grounds during most years. The management philosophy that underlies the Northwest Forest Plan, and the resulting pressure it has created on the District to shut down commercial harvesting activities in Late Successional Reserves, however, poses a far greater long-term threat to Sisters' continued viability as a commercial mushroom pick.

As Dale notes the issue of whether commercial picking ought to be allowed in LSRs is hotly contested among District and Deschutes National Forest staff members:

There is an EA for the matsutake program, and that is where the LSR picking prohibition came out of. There's considerable differences of opinion on that. Some folks think it is appropriate, some folks think it's ridiculous. So even within the agency there is a lot of disagreement.

In the following paragraphs, I outline the major positions on that debate, and explore the ramifications of the District's internal dissension for the wild mushroom industry at Sisters. I start the section with a story of how I became acquainted with LSRs and the likely effects on pickers of prohibitions on commercial picking in them.

In the fall of 1996, I traveled down to Crescent to begin my field research. At the time, I intended to focus my study around the matsutake harvest that takes place along the front range of the Cascades south of Bend every fall. On my second day in the area, I visited one of the buyers to get some pointers about where to look for matsutake. The buyer I talked with was from the nearby settlement of Diamond Lake, and had come back after several years of buying in Canada and Washington to work the Crescent harvest.

He took a look at the mushroom harvesting map that I'd just picked up at the Crescent Ranger District, pulled a pen from his pocket and started to mark some of the better early season picking areas that he used to pick in. As he drew circles and pencilled comments on the map, I realized that nearly all of his markings were associated with the white areas on the map and that he'd made very few markings on the green areas. After getting back to camp, I took a closer look at the map legend to see

what the difference was between the green and white areas. The white areas, the ones with all the marks, were areas prohibited to commercial pickers; the green areas, the ones with almost no marks, were areas where commercial picking was allowed. A bit puzzled by this, I took a drive around the Crescent Ranger District the next day to get a sense for how the green and white areas differed in terms of their vegetation, soils, and landforms. By the end of the day, it was clear that the white areas tended to be mixed conifers, with more species diversity and forest structure than the green areas, which tended to be covered mostly with fairly uniform lodgepole pine stands. The following day health problems forced me to abandon my work at Crescent, as well as my investigations into the distinctions between the white and the green areas on the wild mushroom harvesting map.

The following spring while gathering data about the Northwest Forest Plan's effect on forest management on the Deschutes National Forest, I finally solved the puzzle of the green and white areas. In comparing maps of the Deschutes National Forest's LSRs with the Crescent District mushroom harvesting map, I noted that a large percentage of the white areas, where commercial harvesting was prohibited, was located within the boundaries of the Crescent District's LSRs. If the scribbles the buyer had put on my map really were good areas for matsutake, and I had confirmation from several friends that they were, then shutting down the LSRs to commercial picking had substantially decreased the legally accessible ground on which matsutake pickers could work.¹⁰ Curious, I took a look at the spring mushroom harvesting map for the Sisters District and compared it with the map of the District's LSRs. Unlike Crescent, where much of

¹⁰ A quote from a picker at Sisters who picks at Crescent in the fall also supports my conclusion:

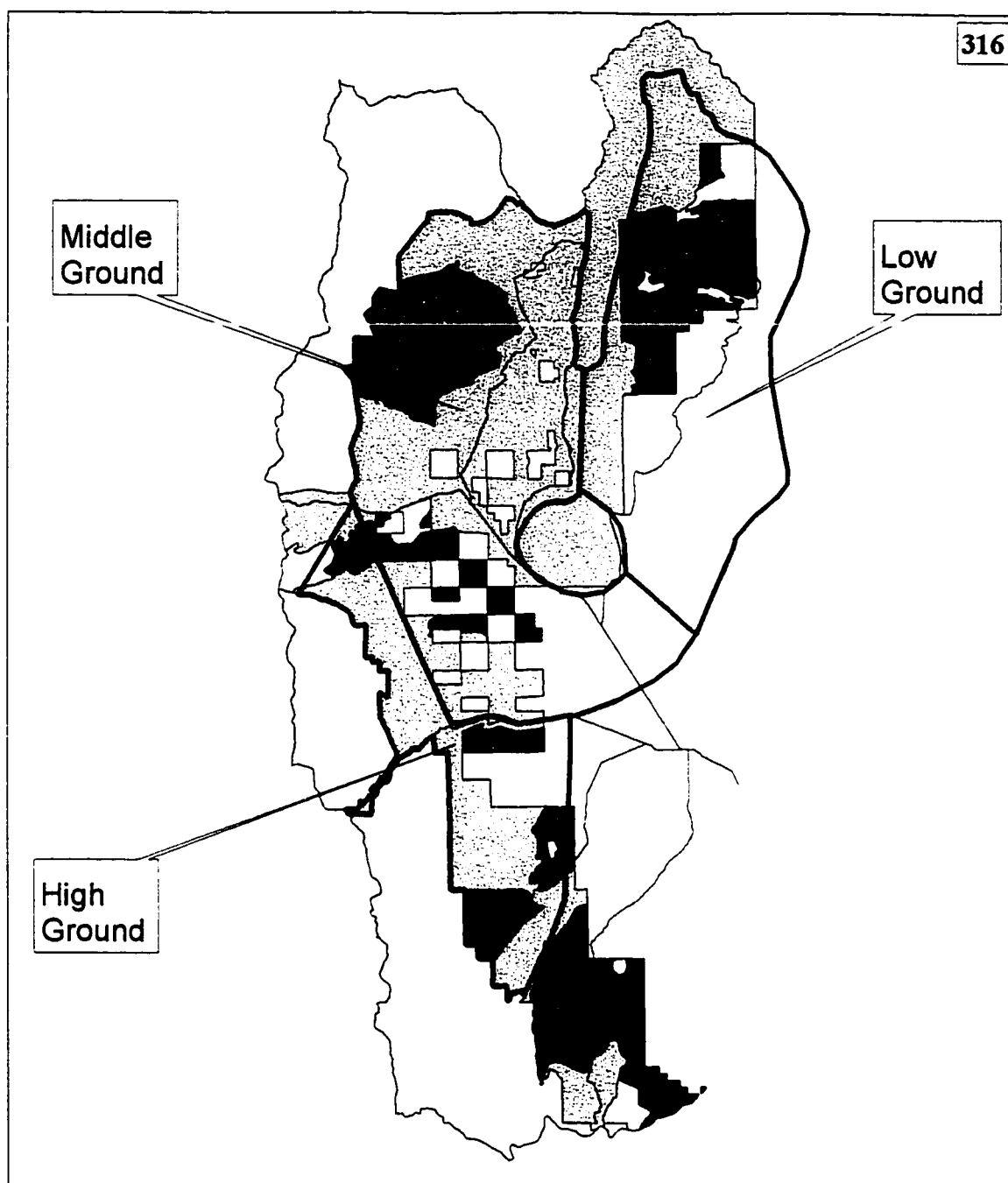
"The green and the white on the map, you know, I get confused all the time about that, but unless they've bothered to put some signs up, I don't really bother to not pick in the white zones. Because that's where most of the mushrooms are, in there with the old growth. Anybody could figure that out. All the places that they can't mess with are closed to mushrooming by law. It's old growth stand forests, some kind of law about that. All those areas are covered in that map. And those are the best areas. It's either that or private land (Butch)."

the map was white, the map for the Sisters District was almost completely green – apparently the Sisters District had not adopted the same restrictions on commercial picking for its LSRs as its neighbor to the south. Puzzled because I would have expected two districts on the same national forest to have a similar mushroom policy, I began to explore how this difference came to be. From a more practical standpoint as an apprentice wild mushroom buyer that spring, I also wanted to know what the likelihood was that the District would shut down its LSRs to commercial picking in the near future. The question was by no means trivial for a mushroom picker or buyer since virtually all of Sisters best bolete grounds are located within the LSRs (see Figure 10).

Both the Vegetation Management Planner and the Special Forest Products Program Manager stated quite bluntly that they had argued strongly in 1994 and 1995 for the District to allow commercial picking in the LSRs on the Sisters District. While they were willing to concede that the large number of pickers and the degree of impact on the forest at Crescent might possibly warrant a cautious approach to commercial picking in the LSRs, they maintained that there was no reason to apply the same rules to Sisters:

The arguments against [commercial picking in the LSRs] largely center around the lack of information on the effects of mushroom picking. I guess the Crescent District has taken the conservative approach that we don't know what the effects are, or we don't have a real good handle on what the effects are, so they're not going to allow it. You've got to, I guess, relate that also to the level of picking they have there with the matsutake. Their picking pressure is much more intense than here. On this District with the less intense picking pressure we've said that the effects are very likely to be negligible).

The argument comes up in terms of affecting the biology of the national forest because of uncertainty. It comes up because of unknowns. There's a lot of people that say "Don't until we know how or why" And there's a lot of people that say "Do because .. " It's two different aspects. It has come up because in the LSR we're doing something, we're affecting the forest out there and we don't know what effect it has so there's some people that say we shouldn't do it until we know but on the other hand we'll never know. You know, you can't predetermine things



Northwest Forest Plan Categories

	Administratively Withdrawn
	Wilderness
	Late Successional Reserve
	Matrix

Figure 10
Pick Zones and
Northwest Forest
Plan Categories

like morel mushrooms. What the land's capacity is for them, and what's putting them over a threshold of some kind of detrimental fact or anything else, you just can't do it. So I guess you know, it's - we're kind of coasting I guess. We're allowing it and hoping, hoping that we're not doing anything that shouldn't be done. And with good picking practices I think it's gonna be okay. I think that's what it comes down to (Vegetation Management Planner).

Joel, the Vegetation Management Planner, also pointed out that much of the Sisters harvest centers around morels, which are picked after they have emerged above the ground. As a result, unlike matsutake pickers, morel pickers don't disturb the soil in an effort to locate mushrooms that are still below ground:

We're really cautious, we're not exposing something that shouldn't be exposed, you know and the morels it's like picking up a pine cone versus digging for gold, you know. We think that we're okay picking up pine cones in LSRs. I think that's what it comes down to... I think anything you pick up off the ground in LSRs is cool. Anything that's associated with or dependent upon something beneath the ground is different.

Joel also believes that shutting down the LSRs to commercial picking would wipe out Sisters wild mushroom industry since many of the best mushroom patches are located within LSR boundaries. In his view, the District would be relinquishing its management responsibilities to the American people if it shut down commercial harvesting in LSRs without compelling scientific evidence that the activity is harmful.

We need to provide that program. We need to be available. And it would be over my dead body that we would eliminate the opportunity to collect anything in the national forest that is otherwise non-detrimental to the national forest but is an asset or a blessing to the people that own the national forest. To me it won't happen.

Dale concurs with Joel, but also adds that even though bolete picking practices are very similar to those used by matsutake pickers, he hasn't seen any raking on the Sisters District:

That [raking] generally seems to be more related to high value mushrooms where if the rake an area and find a couple pounds of #1 buttons of matsutake, then they found something. Whereas, they raked an area here and they found a couple of pounds of boletes, well, big deal.

Dan, the Natural Resources Team Leader, and Joel and Dale's supervisor, expressed a similar attitude – lacking any evidence that the level of commercial picking that takes place on the Sisters District is harmful to the LSRs, the District will continue to allow mushroom picking in the LSRs:

The only thing I can say is I don't think mushrooms detract from improving the LSRs. But the LSR does not limit it to just the trees and the wildlife. The LSR also functions as part of refugia sites and all those species that don't move around. I've always argued that you need to protect those refugia sites that are still intact. But at this point and time, mushrooms, specifically morels and chanterelles, are not foreseen as being a detriment to protecting the LSR features. But that could change when we know more.

Dale also presents an ecological protection argument for not shutting down the LSRs to commercial harvesting:¹¹

We don't focus so much on restricting pickers from operating in those areas. We would just as soon disperse the harvest effect rather than concentrate on the few acres.

Dale's rationale critiques the prevailing assumption of the reserve supporters that the best way to protect ecosystems is to zone them off, an assumption that fails to adequately take into account the ecological impacts of redistributing those activities over a smaller area. This assumption, which is implicit in the Northwest Forest Plan,

¹¹ One of the pickers I encountered at Sisters also voiced the same argument: "Like for example the fall matsi harvest they have a lot of designated closed areas which really, I'm not sure exactly what they're - if they're trying to lessen the impact or whatever, but what they're doing is they're putting more pressure on the opened areas, just causing more of an impact. There's way too many people down there picking

places the burden of protection on the resource supply side, rather than on the resource consumption side.¹²

Although Joel and Dan frame their rationale in economic terms, Dale frames the argument in favor of allowing commercial picking in LSRs in both economic benefits and ecological protection terms. In the Sisters District's organizational structure, Dale, Joel, and Dan are the three people most directly involved with administering or overseeing the Special Forest Products Program, and thus any one of them carries considerable weight in discussions related to SFP policy on the District. With all three of them taking the position that the District should allow commercial picking in the LSRs as long as there are no indications that it is harmful, Dale has been able to successfully fend off arguments from other employees that Sisters should adopt Crescent's conservative approach.

Fending off efforts to shut down commercial picking on the LSRs, however, has not been an easy task, particularly in light of the Northwest Forest Plan's requirements that only demonstrably neutral and beneficial activities for late successional ecosystems be allowed in the LSRs. One of the District biologists who worked on developing the Metolius LSR Assessment states that from his perspective it isn't at all clear that the level of commercial harvesting on the LSRs is neutral or beneficial:

Some of the concerns I had was how many mushrooms - because they were going to be picking the LSRs which are basically late Sucessional species like spotted owls who feed on flying squirrels which feed on mushrooms - one of the potential impacts on late successional species, how many mushrooms are we taking - are we leaving mushrooms in the forest? Those kind of issues. Now I don't think we really monitored that very well at all. I think we're assuming that we're not taking very many

for the amount of area that there is. However, there is an awful lot of area that they have closed that's real productive area, that would alleviate a lot of the pressure off of some of the closed areas (Daniel)."

¹² The concentration versus dispersion approach to resource protection emerges in Sisters camping policy for wild mushroom pickers, a topic that I will address in Section Three of this chapter.

mushrooms and as a result there's no impact - I don't know. In fact in localized places we may be taking enough mushrooms that we actually are affecting the ability of a particular species to forage. It could be either way. Maybe we're not having a big impact, I don't know. But it was a concern that we identified. So we didn't restrict LSRs and at that point I was recommending that we did, but I think there was the feeling that the impact wasn't as significant as it was in Crescent and therefore we would just monitor it, and we never really came up with a very good monitoring plan. I don't know what Dale's doing, if he's doing any kind of monitoring at all, other than whether or not there's any site specific disturbance at camps or at areas he knows there's pretty high mushrooming use, but I don't think we have a very good hold on the program other than doing some administrative work (Wildlife Biologist).

The following quotes from the District's botanist and fisheries biologist further illustrate the contours of the arguments that the SFP Program Manager must be able to address in the debates over how to manage mushroom harvesting on the District:

Well, it [commercial picking in LSRs] is equivalent to what we did in the 70's. We were clear-cutting and high-grading. People wanted old growth pine and so we said, "Ok, fine. Let's cut it," and we cut it, and cut it, and cut it, and cut it. Then, all of a sudden in the 90's we go, "Ooh, that was just exactly the wrong thing to do!" There are some indications that over-harvesting in Europe has caused mushrooms to go into decline. I know from some of the special forest products workshops I have gone to, they have said that some of the biggest markets for dried mushrooms and other mushrooms are in Europe, in Germany, places where they can't get them anymore. So, I think we are proceeding without knowledge (Botanist).

I'm not saying that this [commercial picking in LSRs] is a brutal thing, but any time you take stuff from the forest you're probably having an effect and if it's significant, I don't know. But I think we probably need to spend some time looking at it and I'm thinking more biologically, what it means to nutrient cycling and things like that. I don't know if that's been all worked out or not. I'm not aware of it, but it seems like we don't know what's out there more or less, what the effect of taking it is. There's a difference between disturbing the ground and changing the micro climate and actually just taking the fruiting bodies. I don't *know* if

there is a difference, but it seems like somebody should be looking at it
(Fisheries Biologist)

Both employees focus in on the fact that the reality is that the Forest Service has no idea what the effect of commercial mushroom picking is on the forest, or on the mushrooms themselves. The Botanist emphasizes that historically the agency has been prone to listen to the demands for products, and overlooking the effects of trying to meet that demand on the forest itself, and the effects on the long-term availability of products. Like the Northwest Forest Plan, which emphasizes the need for caution, these employees also stress the need for the agency to learn about the resources before it engages in selling them.

The Fisheries Biologist also notes that there are long-term economic sustainability reasons for taking a cautious approach:

I think one thing is, I'm into stability. I think if you had a permit system that took into account what's out there and just didn't let out as many as come in through the front door, maybe there'd be more of a viable sustainable system. It's just like commercial fishing. If you let everybody out fishing, everybody comes back empty handed, you're not providing anybody a service or a reliable income. And at the same time you don't want everybody to take as much as they please, because you're not going to provide an economic base for anyone, you're just going to provide a little bit. So I kind of feel like you limit the numbers to what the resource can provide, without having big effects, then you have a sustainable program. But this boom-bust thing is kind of harmful, I think. The mushrooms aren't going through that big of a boom-bust but all of a sudden the popularity thing increases and the prices go up and then everybody's out there raking the forest, and that's probably what we try to avoid. It's just the nature of the market I guess. What I see, a little bit every season is probably not as impactful but with the prices spiking you've got everybody running out trashing the forest in a short period of time, a lot of people clustered together in some sensitive area - that's probably what we need to look out for. I guess maybe we need to be prepared for the next price spike and develop our strategy on how to deal with it. I don't think we're a peak district by any means, but we have a lot of different concerns because it's that mix of residential areas and then we've got a lot of spotted owls and kind of listed species floating around. So we really want to be careful about a new intensive use of

this. I don't know what there is to do about it, but we should probably draw up a strategy and prepare ourselves, whatever it is!

For Mark, the solution to economic and ecological sustainability lies in figuring out how to avoid “spikes” in the numbers of pickers coming into the District at one time. In his view, the spikes are linked to market cycles, rather than to biological cycles of the mushrooms. Thus not only does the District need to develop knowledge about the mushrooms and their ecological role in late successional ecosystems, but it also needs to develop a knowledge base about mushroom markets and how to anticipate when a large number of pickers will be coming into the area.

The negative effects of “spikes” also concern the Special Forest Products Program Manager, and represents a point on which he and his biologist colleagues are in complete agreement. This point of agreement surfaced in the fall of 1997 when mushrooms that had only rarely been seen on the District, including matsutakes and yellow chanterelles, fruited in abundance. Over the next few months, as the District tried to figure out what this abundant fall mushroom crop, particularly of matsutakes, would mean for the future, it became clear that Dale’s willingness to adopt a less conservative approach, is limited to the spring harvest, which he believes has a very different character than the fall matsutake harvest. Late in the fall of 1997, Dale noted that the “discovery” of matsutake at Sisters could cause the District to change its policy on picking in LSRs:

We're starting to see more interest in fall mushrooms which if we do start picking up a lot of matsutake type products, that's going to definitely change the course of this program! And we'll have a whole new set of circumstances to deal with. I don't know if it's going to come to that. What I'm seeing out of the LSR assessments, we're pretty much following the Crescent district's lead in the matsutake where commercial picking is not going to be allowed in the LSRs on this district. The current LSR assessments are following that lead, putting on the same restrictions, and until we know more, we're not going to allow that. On this district most of our good picking areas are in LSRs so that's pretty much going to shoot that program right down, if it does try to develop. We do have some ground where it [matsutake harvesting] probably does

occur, it may or may not be in commercial quantities, and it is in an area where we could allow picking, so you've got - I'm guessing here, about six or eight thousand acres of suitable habitat where you could pick. But that's not a great deal of ground when you're comparing it to 150,000 acres.

Indeed, in the spring of 1998 Dale announced that he had decided to follow Crescent's lead in shutting down the matsutake harvest on LSRs. Since enforcing those boundaries would require more personnel than the District could afford to devote to mushroom patrols, Dale opted to prohibit all commercial matsutake picking on the Sisters District beginning in the fall of 1998. Although the decision caused some outcry at the public mushroom policy meeting that the Deschutes National Forest hosted in the summer of 1998, picker and buyer resistance to the policy has been weak, likely because Sisters matsutake grounds fruit inconsistently and aren't very important to the major buyers or to many pickers.¹³

As I listened to the District employees talk about their views on LSR management policies, the picture that emerged of the Sisters Ranger District was of an organization fraught with tension over fundamental questions about the purposes of the national forests and the management philosophy that the Forest Service should use in fulfilling its role as caretaker of those forests. As the above views on whether the District should allow commercial picking in its LSRs indicate, the internal divisions within the District fall roughly along the production vs. protection lines that characterized the debates over old-growth and the Northwest Forest Plan. Employees working for the Resources Operations "shop" and employees with forestry backgrounds who work for the Natural Resources "shop" tend to speak a discourse that frames the forest as a place that should include human activities, including activities involving the removal of forest resources, such as trees, mushrooms, and firewood. Unless evidence suggests that such activities

¹³ I have encountered a few pickers who include the Sisters District in their matsutake circuit, but they note that, with the exception of few fairly consistent patches, that most of the Sisters matsutake ground seems to fruit on a 5-7 year cycle, with long periods between large crops.

have negative ecological and social consequences, they believe that the Forest Service has the responsibility to ensure that people have an opportunity to participate in these economic activities. In contrast, the employees trained in biology, botany, and ecology express views that reflect a strong alignment with mainstream protectionist discourse. Although they believe that some resource harvesting for commercial purposes has a place within the national forest system, in their view the agency has the responsibility to take a precautionary approach to such activities. They believe that knowledge is the key to sustainable forest management, and that if the agency's knowledge of the effects of an activity, such as commercial mushroom picking, is limited, then it would be best not to allow that activity to take place until that knowledge is available.

Section 3: Establishing a Documenting Apparatus

As long as the Sisters District lacked a mechanism for linking pickers to prohibited actions, such as illegal picking, clandestine buying, and leaving campfires unattended, merely separating pickers from other forest users and excluding them from using certain zones within the forest remained very ineffective as a form of social control. Like the Bureau of Indian Affairs' Red Cloud Agency on the Great Sioux Reservation in the 1870s, the District needed a monitoring system with a fine enough resolution to monitor and track individual behavior, not just group or sub-group behavior. In short, the District needed a system that would allow its staff to keep track of who was actually picking mushrooms on the forest, where they were located and when, and whether they engaged in prohibited activities. Just as it took the BIA several years to come up with a workable rationing system, the District also took nearly a decade to come up with a system that Dale described in the spring of 1998 as "approaching autopilot."

The Sisters District's documenting apparatus for keeping track of wild mushroom pickers consists of three linked permit systems, one for each of the three major activities that mushroom people engage in while on the District: harvesting, buying, and camping. In addition, the District's harvesting permit system interfaces with the State of Oregon's mushroom industry tracking system that requires buyers to keep a record of who they

purchase mushrooms from, the permit numbers under which sellers are picking, and the species, volumes and values of the mushrooms purchased. The District's three permit systems are all systems that have existed for many years for keeping track of forest users. However, the District didn't apply them to the wild mushroom world until the late 1980s and early 1990s. Over the years the District has modified the systems somewhat to account for the specificities of the wild mushroom world. The State of Oregon tracking system is a recent phenomenon. It was created through a modification of Oregon's special forest products statute in 1995 in response to demands from several influential firms in the floral greens industry and pressure from amateur mycologists for the state to take measures to cut down on unauthorized special forest products harvesting.

District Permit Systems

The District issues three types of permits directly related to wild mushroom activities: harvesting, buying, and camping. The following sections outline the major elements in each of these permit systems.

Harvesting Permits

As noted in Section One of this chapter, pickers can obtain two types of harvesting permits – personal use and commercial use. The personal use permits are free, while the commercial use permits cost \$2 per day with a minimum charge of \$10. Pickers can also purchase an annual permit for commercial use, which costs \$100 and is good between January 1 – December 31st of the year in which it is purchased. People can also pick twenty mushrooms without a permit under the agency's incidental use provision. As discussed in Section Two of this chapter, the District has opted for a liberal commercial picking policy, at least for spring season mushrooms, and commercial pickers have access to most of the land situated within the District's boundaries with the exceptions of developed and semi-developed campgrounds, the Metolius Natural Resource Area, and wilderness areas.

Both the \$2 per day fee and the minimum charge requirements for the commercial permits are set by the Region, and changing them is outside the District's control. The personal use permit is limited to maximum of 10 days of picking per year. As Dale explains, this maximum limit is set by Washington Headquarters and as with the commercial permit limitations, the District cannot legally issue personal use permits good for more than ten days:

We have limited our personal-use permits to ten days of picking. That is to comply with the Forest Service Manual direction where we are supposed to limit folks to the value of \$20.00 a year of free-use product. We value the mushroom picking at \$2.00 a day, and it's a ten-day deal. I don't know if it is implemented service wide, but the Manual direction is service wide. There's been a little bit of unhappiness expressed that why do I need a permit for this and that kind of thing, but once again it's tied into some of our policy direction in the Forest Service - in the case of free use materials, we're limited to a value of \$20 per - it's either per person or per household per year that we can give away for free. We're valuing the mushroom picking at two bucks a day, the same that we charge for commercial permits. So for a permit for personal use, ten days at two dollars a day.

The Sisters District is also part of central Oregon's "Four Forest" permit system. Under this system, Districts on the Deschutes, Winema, Willamette, and Umpquah National Forests, have agreed to recognize its each other's mushroom picking permits. Thus a picker who purchases a permit at Sisters can use that same permit to pick on other Districts within the Deschutes National Forest as well as on all three of the other National Forests. Although the SFP Program Managers on each District have tried to develop consistency in their regulations, some Districts and Forests have slightly different rules. According to the terms of the permit, pickers are responsible for finding out about those rules when they move onto another District.

Buying Permits

Anyone wishing to buy mushrooms on lands administered by the District must purchase a buying permit, which costs \$100 per season. The District has adopted a

“fixed” buying camp policy, in which buyers can only set up in one designated location. The buying permit thus authorizes the holder to set up a buying station in an area known as Jack Flats, a couple of miles northwest of the small hamlet of Camp Sherman. Very little private land exists in the areas close to the best mushroom grounds, and buyers have maintained a tradition of buying out of the Forest Service’s mushroom camp.

Camping Permits

The District also requires commercial pickers and buyers to obtain an industrial camping permit if they intend to camp on the District while picking mushrooms. The District has designated some areas off-limits to industrial camping, including developed and semi-developed campgrounds, areas within 200 feet of riparian zones, and areas within 300 feet of improved roads. With the exception of these areas, pickers are free to camp where they choose, provided that they notify the District of their location. Pickers can also camp in the mushroom buying camp, and many do since it saves them driving time after they come in to sell their mushrooms at the end of a long day in the woods. The Sisters District camping policy, which they label “dispersed camping,” differs substantially from the Crescent District’s policy which requires commercial pickers camping on National Forest land to set up their camps in the District’s industrial mushroom picker camp. Unlike Sisters, however, the Crescent District does not have a mushroom buying camp since buyers have established a tradition of setting up their stations on private land in the tiny settlement of Crescent Lake.

Oregon SFP Permit and Record-Keeping Rules

The State of Oregon’s special forest products regulatory system interfaces with the District’s harvesting permit system. In 1995, the Oregon State Legislature amended ORS 164.813 to include wild mushrooms under the category “special forest products” and requiring anyone transporting special forest products to show evidence that they had permission from a landowner to harvest those products. The legislature also

inserted a clause that requires buyers keep a record of all special products purchases, including the names, addresses, and permit numbers of pickers. The Oregon SFP statute thus sets in place a permit recording system at the buyer level. Forest Service employees legally can examine a buyer's records if they wish to find out who is selling mushrooms at the District's buying camp without obtaining a harvesting permit. Once the Oregon law went into effect and county and Forest Service law enforcement officers working at Sisters made it clear that they would cite buyers who did not comply with the law, it became much more difficult for unpermitted pickers to sell their mushrooms at the Sisters mushroom camp.

Through the application of these three permit systems in combination with the Oregon State's SFP regulations, the Sisters District has the potential to keep track of who is picking on the District and whether they are commercial pickers or personal use pickers; who is buying mushrooms on the District and where their buying stations are located; and which commercial pickers are camping on the District, and where their camps are located. The District's permit systems are aimed primarily at keeping track at people; as yet the District does not have a well-developed system established for keeping track of the mushrooms themselves, or the effects that different forest activities, including picking, may have on them. As part of the conditions of the buying permit, buyers are required to supply statistics about the volume and value of the mushrooms that they purchase, but in both seasons that I worked as a buyer, enforcement of this condition was weak.

Although the Oregon State regulations also require buyers to keep track of the quantities of mushrooms they buy, the State of Oregon has no system for determining how commercial harvesting affects the mushrooms. Neither the state nor the District have established harvesting quotas for wild mushrooms, so pickers can pick an unlimited amount of mushrooms on their permit. Thus far the District has also made no effort to limit the number of people who are allowed to harvest on the District during the spring season. In essence, the permit system as it is currently structured serves as a

means for the District to monitor and track who comes to the forest to pick mushrooms commercially, it does nothing to limit picking pressure on the mushrooms themselves.

How Permit Rules Are Made

Permit regulations for the District are made in two ways. As noted above, some regulations, such as the minimum fee for the commercial permit and the maximum number of days that a personal permit is valid, are established either at the Regional level or by Washington Headquarters. Legally the District is obligated to apply these provisions. Although the Districts can't change the rules established by Regional and Washington directives, they can and do adjust the levels at which they enforce those provisions.

Other permit conditions are established by the Districts, which historically have had considerable autonomy in setting regulations to fit local conditions. Because Sisters participates in the Four-Forest permit system, the District's permit conditions are largely a product of a consensus among the SFP Program Managers or Coordinators for the participating Districts and Forests:¹⁴

There are some general guide rules and regulations that go in all permits or all permits of that type or whatever, but as far as some of the specifics, it's folks from these four forests getting together and talking about it and deciding how we want to manage the program, what regulations we need to put in effect, to protect resources (SFP Program Manager).

The spring season rules are established at an in-house meeting among the participating Forests that usually takes place in January or February. The Sisters Ranger District also participates in a fall season meeting with District staff from three other National Forests to discuss changes to fall season regulations. The fall meetings are

¹⁴ Remarkably the Four-Forest permit system is completely ad-hoc, and no written agreements among the four Forests have ever been signed.

nominally open to the public, including wild mushroom pickers and buyers.¹⁵ No equivalent public meeting is held at the end of the spring season, largely because the Sisters District is the only district in the four-forest area with a substantial spring harvest.

At the time I conducted my field work participation in these meetings by wild mushroom pickers and buyers was extremely limited. Prior to 1998, the Four Forests held the fall meetings weeks after the harvest had ended. Since most pickers had left the area for other harvesting sites, very few of the people impacted by the changes attended the meetings. Although the Forest Service now holds camp meetings during the fall mushroom season, they hold them at a site on the east side of the Cascades, some 70 miles south of Sisters. This site is convenient for the Forest Service, since it is centrally located for the various districts that participate in the joint-permit system that the Sisters Ranger District also takes part in. It is also convenient for those matsutake pickers who are based at the site during the fall season. However, pickers who focus on the spring harvest or who harvest matsutake or chanterelles on the west side of the Cascades in the fall season, as many pickers at Sisters do, face a three to four hour drive one-way, possibly on snowy and icy roads, to reach the fall mushroom meetings.

In years when the Four Forests have made major changes in the regulations, such as when the Sisters District decided to shut down its matsutake harvest in 1998 and when significant changes were made to the matsutake season closing date, the Four Forests have also held public meetings in the summer months to discuss the upcoming changes. The public mushroom meeting I attended in the summer of 1998 functioned as a forum for the Forest Service to tell people about changes they had already decided to make rather than as a participative forum in which pickers and buyers had a voice in the content of the rules. The summer meetings occur at a time when all but a few local

¹⁵ I use the term “nominally” here because the one fall meeting I participated in had only three people out of about 50 who could be labeled “members of the public.” Not one of the three public participants was either a picker or a buyer.

pickers and buyers are working elsewhere. Most pickers who pick at Sisters, for example, are either working near their homes on the west side of the Cascades, or are travelling the morel circuit to the Rockies and Alaska during the summer months. Realistically, given where pickers live relative to central Oregon and the mobility of their lifestyle, opportunities for pickers to participate in the Four Forests' public mushroom meetings are limited.

In advertising its public mushroom meetings, the Forest Service follows its standard procedures for other types of public involvement -- posting of notices on local bulletin boards, mailing notices to people who have asked to have their name placed on the "mushroom" mailing list, posting notices in the classified section of the local newspapers and the Oregonian, Portland's daily newspaper, which has state-wide distribution. In addition, the Special Forest Product program managers at the district level occasionally notify by word of mouth owners or field managers of the major buying companies who buy out of Crescent, scientists, regional Forest Service staff, local business owners, and pickers they know personally.

However, mushroom meetings are not a high priority for most SFP program managers on the Four Forests since many are simultaneously managing other programs or coordinating major district and forest analysis or planning processes. Consequently, public notices are often not put together or posted until the last minute, the mailing list is not updated on a regular basis, and even key players in the Forest Service often remain uninformed until the very last minute.

The idea that a mailing list is a useful tool for disseminating information to members of the various wild mushroom picking and buying communities is in itself questionable. For a picker or buyer (or anyone else) to get her name on the list, she has to request that it be placed on the list. This presupposes (generally incorrectly) that pickers are aware that a mailing list exists. Moreover, since pickers and buyers often spend a lot of time on the road, many do not have reliable mailing addresses and others are unable to check their mail on a regular basis.

Similarly, reliance on the posting of notices locally whether on bulletin boards or in newspapers is also problematic from the standpoint of encouraging widespread picker and buyer knowledge about the location and timing of meetings. As the statistics cited earlier from Sisters illustrate, most pickers in Sisters are not "local," and are unlikely to read newspapers or bulletin boards in central Oregon unless they happen to be harvesting in the area at the time. Forest Service attempts to engage wild mushroom harvesters and buyers in public meetings are further hampered by the agency's heavy reliance on passing word to interested forest users through organized groups, such as environmental organizations, lumber associations, sports clubs, and the like. Until 1998, no association for commercial wild mushroom pickers existed, and thus the Forest Service has relied upon newspaper notices, posting notices in public locations, and word of mouth to let pickers and buyers know when meetings were to take place.¹⁶

¹⁶ Wild mushroom buyers and floral greens companies have made several unsuccessful attempts to organize themselves into associations since the late 1980s. The Northwest Special Forest Products Association (NWSFPA), which held annual meetings between 1993-1996 and sponsored a region-wide conference on SFPs in 1994, managed to obtain seed money from the Oregon Economic Development Council in 1994. This failure was due in large part to internal divisions within the association as to whether harvesters should also be allowed to be voting members, as well as to divisions between the floral greens and mushroom industries as to what types and level of regulation are appropriate. The association's lack of internal cohesion rendered it politically ineffective.

Since the mid-1990s, the Jefferson Center, a not-for-profit organization based in Grant's Pass, Oregon, has been supporting efforts by SFP harvesters, reforestation, and restoration workers to organize into state and regional associations. In 1998, a group of about thirty people spread across western Washington, Oregon and northern California formed the Forest Worker and Harvester Alliance (FWHA). One of the goals of the FWHA is to help its members gain access to forest management decision-making processes (McLain and McDonald 2000; McLain and Jones In press). At the time I did my field work, none of the buyers or pickers I talked with at Sisters participated in either the NWSFPA or the FWHA.

Permits As A Molding Technique

Although breaking the conditions of a permit carries sanctions, ranging from getting a warning, to a citation, to a possible jail sentence or large fine, the discourse of the law enforcement people I talked with, as well as other District employees, suggests that they see the permit system primarily as an educational tool for constructing new behavioral norms and as a way for the District to begin developing a knowledge base about the wild mushroom activities taking place within its boundaries. Monty, for example, observes that in his view, a law enforcement officer's job is to prevent crime by making sure that people know what the rules are and abide by them:

Really my personal view and what I've been trained to do is I'm a law enforcement officer, I carry a weapon and just like any other law enforcement officer, unless it's a special agent, but anyway I'm happy with the reduction in crime, that makes my day because that proves that our prevention program - prevention is my main thing, is to gain compliance from whether you're calling a person a violator, or a potential violator. It's to give them knowledge.

As an example of the educational role of the permit system, he cites the case of Asian pickers, many of whom come from cultures in which it is considered acceptable practice to throw cigarettes down in the woods without extinguishing them. He notes that when Asians first entered mushroom picking in large numbers, Districts like Crescent and Sisters experienced a much higher incidence of fires. By incorporating fire prevention education materials with the permits, and explaining to violators the reasons for the rules on extinguishing cigarettes before tossing them on the ground, Asian pickers learned the "Smokey the Bear" fire prevention rules that most rural Americans who've grown up in the West are very familiar with already.

Asians typically start fires. They don't have the concept of Smokey the Bear from their culture. They'll be walking through the woods and they'll be smoking a cigarette and they smoke, boy do they smoke! And they just throw down a cigarette. We used to have all kinds of fires. We haven't had any now this year that I know of - we've had one fire that I

know of caused by a mushroom - which is a great improvement. That was due to the prevention people coming down and doing a heck of a lot of prevention work and fire folks doing a lot of prevention work. Teaching them about these things. Not giving them tickets and all this kind of thing because that's not our main goal. It's prevention and teaching, education. Then if that don't work, then we come in a little harder.

Monty notes that it isn't just Asians who have to learn new cultural norms in the woods. Even people who have spent their whole lives working in the woods may need to be taught new norms as conditions change:

Oh, yes! You betcha. What they've done in the past is fine, "I can do this." We used to get the old time loggers, call them gyppo loggers: "We used to do this way back, why can't we do it now?" "Well, I'm sorry, sir, but times have changed and we've got to manage resources better." It's education.

The educational role of the permit system is also the reason that Monty prefers to make his presence very visible in the picking camp early on in the season.

In the years past they weren't highly visible and I won't say why, that's neither here nor there. But I'm here now and we make it visible. Let them know you're there. And if you've got to hammer one or two of them, you do it quick, you do it early. The sooner you react, the better off you're going to be because as I told you before, word spreads. Because if you don't, then it's just going to be like a cancer and it's going to grow and it'll overwhelm you.

By talking with people, making sure they're familiar with the conditions on their permits, and letting them know that you're around and may see them breaking the rules. Monty believes most people will learn to behave according to the norms laid out in the permits.

Dale, the resident deputy sheriff for Camp Sherman, who also patrols the Sisters District and the mushroom camp concurs with Monty on his role as an educator:

And to me it's proactive instead of reactive law enforcement, get to know the local people, get to know the places around and if there is potentially

any problems hopefully you're a step ahead instead of a step behind. And I'm able to take care of a lot of problems before they really blow up into a mess. You know, the mushroom camp is a good example - instead of letting a problem fester and get out of control we're hoping that with daily visits through camp, just letting people know that there is law enforcement in the area, maybe they won't go that extra six inches and start a problem that law enforcement needs to come in and break up.

The Fisheries Biologist also supports the view that the permit system's function should be primarily educational, but he notes that it is educational for the Forest Service as well as for pickers:

We're in the business to publicize proper use and I think that's probably the biggest benefit from permits is not the money you generate but the ability to actually contact a person and tell them what you're concerned about, the dos and don'ts of how you go about doing whatever you're doing in the woods. And it's a way for us to track how much of it is going on out there to whether we need to put more effort into it.

Dale and Pat believe that the District's system for tracking and monitoring pickers and buyers is working quite well, at least for commercial pickers:

We had about 95% compliance on the first check point, but we didn't stay into the late hours so maybe missed some people that way. On the next one we had an 80% compliance, which is still pretty good. We caught more people that time I think because we stayed out until late. Most people think the Forest Service doesn't work after five. But we stayed out to 11:30 that night. We caught people trying to sneak in the back ways, but we had 'em covered. But overall I'd say we had pretty good compliance this year (Pat).

I think the permit itself is fine. We're approaching autopilot on that. We get together as a group and we make minor tweaks but overall I think it's working pretty good (Dale).

Dale notes, however, that it isn't just a matter of teaching people new norms, but also a matter of making it convenient for people to adhere to the norms:

We have also increased the availability of them [the permits]. We have this four-forest permit, so they can get a permit in Sweet Home or Detroit or Chiloquin and pick anywhere on these four forests. It is a lot more convenient for them to get these permits so I think that might have something to do with better compliance as well as just the increased awareness. So that problem is getting better... The one change I can think of that we've talked about is maybe making these permits available through vendors as we do firewood permits so we'd have an outlet available on the weekends. The advantage is the pickers would be able to obtain permits on weekends. They're getting pretty good at planning ahead for that, knowing that we're closed on weekends, but still there's people that don't know and it would provide a service that we don't provide.

The Sisters District's enforcement system is also characterized by a certain amount of flexibility on the part of the enforcement staff. Monty, Pat, and Dale all noted that there are times when the rules don't fit very well with local circumstances, and that they use some discretion in deciding when to enforce the rules and when to let things slide. Dale notes, for example, that typically pickers are reluctant to part with the minimum permit fee of \$10 at the beginning of the season when most people are still scouting out the area's potential for the upcoming season and waiting for the first major flush to begin. Many times they will get a personal use permit, which is free, rather than buying a commercial permit in the early part of the season. When he encounters a commercial picker picking off a personal use permit, he'll often let it slide in the early part of the year, but will cite the person if it happens later in the season when the mushrooms are in full swing:

I guess one thing that seems to come up every year is the use of personal-use permits while they are doing commercial picking. That always happens early when the mushrooms are scarce. When they are only finding \$10.00 worth of mushrooms a day they're kind of loathe to come in and pay. It's only \$2.00 a day, but they have to buy a \$10.00 permit. They don't like to come in and spend the money when they are not finding the mushrooms, and I understand that. We do not enforce the personal-use versus commercial-use permit vigorously early in the year.

Similarly Pat reports that he occasionally will let personal use pickers who don't have permits or who have picked more than the 20 mushroom limit off with a warning if he thinks that they won't try to sell their mushrooms:

We issue a lot of personal use permits. Usually it is after I write people warnings on it, because a lot of people aren't aware that you are going to have to have a personal permit to pick more than 20 mushrooms... They don't even check on it, which in a way, that is why I am really lenient if I don't think they are selling, then, I won't cite them on the fact that they might have 40... Most of them are weekend pickers. They are local people that are just picking mushrooms.

On the other hand, if he feels that the pickers he has stopped are trying to pull the wool over his eyes, then he will go ahead and cite them:

When they are not really respecting me, I kind of look at it like they are not respecting the mushroom program. There are the people out there who are doing it right and they are the ones that I am trying to help out there. People that are trying to steal mushrooms or make money without paying the government, they are the ones that I want to make sure that they are brought to justice.

Several important points related to Foucault's work on disciplinary power emerge from the above discussions of the workings of Sisters' permit system. First, the permit system's main function in the minds of the District employees and county and Forest Service law enforcement officers is to instill pickers with new behavioral norms, to reshape the ways in which they interact with each other, the agents of the state, and the woods. This function is analogous to the function of the documenting apparatuses that Foucault describes for the criminal justice system in *Discipline and Punish* (1979:277-282). Second, the mushroom permit system does not merely act upon pickers, but it too is molded and remolded by the interactions that take place as the system is applied on the ground. This interactive process is similar to the criminal justice system that Foucault describes which not only molds prisoners into delinquents, but that in turn is transformed as it attempts to deal with delinquency (Foucault 1979:277-282).

Informants

Just as the Oglala cooperated with the Red Cloud BIA Agent in the establishment of a surveillance system that allowed the BIA to track the actions of individuals, the move to extend state control over wild mushrooms is also a process in which pickers and buyers are intimately implicated. Although there is a lot of talk about “us” against “them,” the reality of the Sisters wild mushroom world is much more complex. Just as the Forest Service has its internal fissures, so too does the mushroom world have tensions amongst its participants. As a result, it is not uncommon for pickers and buyers to report to Pat when they see someone picking without a permit, camping in a developed campground, or shooting guns off in the camp. For Pat, this type of inside information is extremely useful, and his network of picker and buyer informants provides him a much better sense of what is happening on the District:

Well, certain pickers and buyers give me license plates and names; one of the pickers was picking on a personal use permit for example. One of the buyers told me he was coming in on a free use permit, coming in late at night and could I check that out. We caught him at the checkpoint, he had 7 gallons of morels. The legal pickers pretty much feel like they're being cheated by people like that, they'll help me as much as possible. It's a good thing, because I'm only one person. The pickers see a lot more than I do. And things have changed over the years. The first year no one would tell me about things like this. But I didn't know anyone then. But as I've gotten to know people they've been willing to work with me. I'm getting a lot more support from pickers and buyers now.

Buyers also report to Pat when they have problems with a picker getting violent, or when people they've had trouble with in the past show up in the camp:

Buyers will let me know when pickers come in that are usually kind of shady, or they've had problems with them in the past. Buyers will contact me and say “Hey, you might want to watch this guy a little more closely than what you watch everybody else.”

The fact that Pat grew up in a small town in rural Oregon, and has a similar

educational and work background as many of the pickers do very likely gives him an edge at making connections within the mushroom world. And unlike Monty, who is more focused on the law enforcement aspects of his job, Pat takes the time to talk with pickers and buyers on a regular basis:

I try to make it more of a personal level than Monty does. He is visible to the public and he does do PR work, but I can sit there and chit chat about mushrooms longer than he can because he is always on the go and my job is more of a personal one and I make it more of an informative stop than it is a compliance.

In the three years that Pat has worked on the mushroom program, he has learned many pickers' names and has also taken the time to learn about the mushrooms and the wild mushroom industry. In the process he has earned a reputation among many pickers as a "Forest Service cop" who is a bit "gung-ho," but who is sufficiently flexible that he will cut pickers slack if they have a good reason for not having gotten their permit.

Although resistance to the permit systems and their accompanying enforcement system exists within the picker and buyer communities, pickers and buyers also express positive views about these systems. Luanne, for example, notes that it isn't fair for some pickers to have permits while others get away without getting them. She thus supports permit enforcement activities such as the roadblocks and buyer record checks:

I don't think it's right, these guys going out picking without a permit. Other people, you have to buy it from there - no, I think it's right, them stopping the ones that do not have a permit (Luanne).

Ray, who picks matsutake on the Oregon Dunes as well as morels and boletes at Sisters, echoes Luanne's feelings that if the Forest Service is going to have a permit system, it needs to be out there enforcing it so that the people who pay for their permits get the support they pay for:

Sometimes you run into quite a few [pickers], especially over there at Florence, you get so many people. You know there's only supposed to be 96 people pickin', it's on that whole coast there. And when you run into 30 of 'em in one day, you know, you know there's somethin' not right! Most of 'em, lotta of 'em don't have permits. Lotta people that live around, walkin' through you know, but Forest Service never seems to be around when they're in there. I told 'em, Yeah, I'll take you right back there and show you about ten guys, at least ten guys every time I go in there. That guy in there, got to the point last year I had to just leave because there was, I went in there and there's whole families. You know, you have a permit and here's a whole family that's in here. Mom and Dad and kids and everybody else. It's kind of, you know, when you pay out \$1000 for the permit you'd think law enforcement would try to protect your rights a little bit (Ray).¹⁷

Rod, Luanne's husband, also voices support for the Forest Service's enforcement activities, noting that with the permits and enforcement he now feels safer:

But I like it more now that we have the law enforcement we had, which we never had before. Before, you'd hear guns going off up here, guns going off down here, and things like this. And you don't know when a stray bullet's going to come on through. And this is what we had before. Now since Pat's been doing this, we don't have this problem. Last two years. And then on the fires, they'd go away and leave the fires. He put a stop to that. Like I say, they're moving in the right direction on this. I agree with it 100 percent (Rod).

Although he doesn't object to people carrying guns in the woods, Rod feels that it is dangerous for a lot of people to be using those guns on a regular basis, even if only for signaling, since a bullet can easily go astray and hit someone. In addition, he emphasizes that the fire prevention activities that Pat takes, such as giving people warnings when they don't extinguish their campfires, are important for ensuring safety by keeping the number of wild fires down. Mark, a picker from the Coast Range, supports and expands on Rod's comments about safety:

¹⁷ Matsutake permit prices are much higher than permit fees for morels and boletes.

Yeah, but if you notice the people around Camp Sherman, even law enforcement around here don't hassle you like they do around Crescent or they do over there in the Valley. Unless you're out there breaking the law, driving stupid or something, then, yeah I can understand that and I understand why they're over here cause last year they had a bunch of teenagers over here just raising hell. And with fire dangers and all that they do have a lot of burns. People being stupid and careless (Mark).

Luanne agrees with Mark on the fire safety issue, and moreover is favorably impressed by the responsiveness of the Forest Service to complaints about people who are breaking the rules:

I like the rules they had this year. Your campfires have gotta be out before you leave. Which I agree. I don't know if it was last year or the year before last well, we'd go tell 'em what was goin' on and half the time they weren't coming down. So now if anything happens and you go call 'em they come down now... I mean they're on the ball. We got a good one this year. My boy had a BB gun, was out there practicing with it. He gave him strict orders that no BB guns. Now that's good, they're on the ball.....But I mean they're on the ball. I really like it. They got one guy here now that by golly he said, "Anything happens you tell us!" (Luanne)

Luanne also observes that the low cost of the permit makes it more bearable:

And I don't mind the permits. If I could find the mushrooms. No, 'cause about 3, 4, maybe 5 years ago you hadda pay, what? 10 dollars for I think 2 days. But see they've come down: 5 days for 10 dollars.

Gary concurs that the price is quite reasonable, noting that even if you buy the annual permit, you can still recoup the cost of it over the course of the year since it's good for four forests, and not just the Sisters District:

If I wanna just pick for myself, since I pick commercially, I abide by the rules. I got my \$100 season full year permit and what not and actually that permit isn't a bad deal. When you look that it's good from the 1st of January to December 31st, and it's good on four forests for all species of mushrooms except the matsutake. It really isn't a bad deal, because a person is gonna be able to make the money eventually, if they do it all year (Gary).

Luanne also notes that there are other positive aspects to having the Forest Service employees like Pat and Monty out on the District's roads:

And if you're broke down or something they stop and try to help you. We were broke down a couple years, oh we were trying to change a tire, about three years ago and this one guy pulled out and he helped Rod change the tire. Rod was having a hard time doing it and he got his jack out and helped, and I thought that was really nice of him (Luanne).

Daniel, a picker who also picks matsutake during the fall down at Crescent, notes that he was pleased that the Four Forests had set a minimum size limit on matsutakes in the fall of 1998.

I'm glad they did that [rule on minimum size for matsutakes]. I suggested that down there a couple years ago. It was impossible and that's why they were having the problems. Literally been through patches down there where I've seen a thousand little dinky things laying on the ground, raking them up (Daniel).

The above examples of positive views about the permits and law enforcement presence on the Sisters District illustrate that the picker and buyer community is by no means unilaterally against the intensification of state control in the wild mushroom realm. A stronger state presence has helped address concerns that pickers have about their own safety, including concerns about excessive use of guns in the woods and the increased risk of wildfire that often accompanies the entry of larger number of people into the forest. A stronger state presence also means that people have one more source of support if they break down or, as happened in 1998 to one picker, have a heart attack or other health crisis, in the middle of nowhere. And importantly, a stronger state presence may be one way of getting other pickers to follow the informal picker codes for reducing conflict and ensuring patch sustainability, such as "courtesy," farming (i.e. letting the smaller mushrooms grow a little before picking them), and picking carefully so as not to destroy the mycelial mat.

Some pickers, like Daniel, feel that there are areas where the state presence needs to be increased:

I'd like to see them do that [institute a quota on permits issued]. On a residence and seniority and with certain criteria. I don't know how they could do it on a resident of Oregon because it's National Forest but I would like to see them do it with maybe some seniority. if they're going to restrict it. I'd like to see some criteria. I'm not even sure if that's fair, but people that can prove that they are driving with insurance, not breaking the law, picking in closed areas, don't have any tickets for - basically being responsible. Maybe with some criteria behind it, yeah. I'd like to see that. And then I think it would be fair. A lot of people say well, yeah, if you speak perfect English and the complexion of your skin is okay, then - that's just a bunch of horsehockey, but I think that either that, or they're going to have to open up some more of that closed area that they have (Daniel).

Daniel's suggestions for regulating the number of pickers, however, also bring the spotlight onto one of the biggest complaints that pickers and buyers have about the Forest Service permit system. Pickers note that while the Forest Service talks about the importance of permits as a way to protect the resource, the way in which the permit system is structured actually does nothing to protect mushrooms. The forests issue permits to anyone who pays the fee, and place no restrictions on the number of pounds that a person can remove from the forest. In addition, the permits do not grant exclusive access to the permit holder, and thus anyone who pays for a permit is a potential competitor for all mushroom patches located in the areas where harvesting is allowed. From the picker's standpoint, the current permit system is nothing but a system to gather information about and keep track of pickers. It does nothing whatsoever to protect the mushrooms themselves, whether by limiting the number of people who can pick in an area or by limiting the number of pounds that a picker can harvest.

As a rule, pickers are not in favor of limiting the number of pounds that a picker can harvest. However, there is strong support for a quota system, with pickers often suggesting either residency, seniority, or proof of expertise in picking as the criteria the agency could use to issue permits. The Forest Service has also experimented with a

lottery system and sealed bid system for wild matsutake on the Oregon Dunes National Recreation Area (ODNRA) since 1993. The people I talked with at Sisters who picked in the Dunes universally opposed both systems. Betty, one of the field buyers who has picked at the Dunes, summarizes some of the major objections pickers have with the lottery system:

Over at the coast - they put the lottery way [of limiting pickers]. Which is a big mistake. And I talked to them about that. And I told them, man this is really stupid. You go in and you put a lottery thing, okay, you're putting somebody's living on the lottery, is what you're doing. Say I've been picking this area for 15 years, ok, and been getting mushrooms outta there and I take care of the beds, I cover 'em up, and I do exactly - cause I don't want anybody to know they're there, you hide it. So they have to cover it back up. So that, they're doing it good there. Then you go in and say "This is what we want you guys to do, you're gonna not get to go in this year, you didn't get drawn." There goes my patches. They're gonna get all big and everybody's gonna know where they're at. Somebody's gonna come along and they don't know what they're doing and "Wow,!" and just pull em out, and go on down the road. They're not gonna cover those holes back up, because I'm probably never gonna get drawn again. So they're taking what they can get and go, and then they decide. "Well, this is a bad thing," they're going to decide, "This is a bad thing and it's not working. People are sneaking in anyway, this happens, that happens, let it go back the way it was." Well, I don't know if they will or not, but this is probably what they would do. If they did do that, then I say, "Well gee, I can go back to my beds now." No I can't, 'cause they're ruined. And I protected them for years. And that's exactly what will happen. And I don't know if they've stopped that lottery thing now, I think it's still going. It's about the stupidest thing that they've ever done. That's just saying that a few of you, that don't even know what you're doing can go in there and just do what you want in there. It should be whoever gets there can get it, because if they do that way, anybody is going to cover that up and take care of it so nobody else is gonna know it's there because there's gonna be another one next year. And maybe in a few days -- it's like picking your tomatoes, you know -- you pick your tomatoes and the vine just keeps growing and puttin' out more tomatoes. Well, the matsis are the same way, and the boletus are too. You pick it, cover it back up, some more right around that mycelium are gonna grow. Because it's like, if you leave that one and let it die there, ok, it's gonna take all that energy to try to keep that one mushroom alive and the rest of

these are gonna grow a little bit maybe, kind of puny and little, and maybe they won't grow at all. But you pull it out and you keep it, take care of it, and just more just keeps popping up, popping up.

Betty's argument against the lottery system is a classic example of the tenure security argument: the idea that most people will not take care of a resource over which they have no security of access. Like boletes, matsutake are ectomycorrhizal species and will often fruit in the same general areas year after year. As at Sisters, pickers on the Dunes have developed patchlines that they tend carefully, knowing that if they don't destroy the beds, they will be able to gather additional mushrooms from the patch that season and mushrooms from that patch the next year. As Betty explains, the lottery system disrupts the incentives to tend for the patches carefully since you have no idea whether you will get a permit the next season or not. Thus the incentive is to maximize your current year's harvest, even if in the process you destroy the long-term viability of the patch.

Ray, another picker who pick the Dunes, notes that the sealed bid system is just as bad as the lottery system:

Over on the coast last year I paid \$1000 to get the bid on it, I mean they have an auction. They ought to set a price instead of auctionin' 'em off, I think. There was about 30 people that didn't get it. They put in their bid, -- 96 permits -- and the lowest bid was 365 dollars or something like that got in. There was about 30 people that didn't get in, their bids were under 300. You just guess, just hope you get in (laughs). That's why I bid too high for last year. Well, the year before I had to pay the bid \$750 for the one site and then they had the other site you had to buy a 250 dollar permit for over there so I just combined them. And that's why I bid \$1000 last year. But I wasn't the highest bidder, though still. There was 2 or 3 other guys that bid over that. I'm gonna lower my bid this year, I don't know. I hope everybody else don't raise theirs like crazy (laughs) but I don't think they will. They didn't have that good a year last year. Well, normally over there they start out at \$30 and go up [for the price on number one buttons]. Last year they started out at \$25 about a week, then they went down to \$16 and \$8, you know... it's just like farmers, you know. One year they have a good crop and the next year they don't. You just hope it's gonna be there. I lost a lotta money.

As Ray explains things, the bid system has two major flaws. First, it has the same disincentives as the lottery system since you don't know from one season to the next whether your bid will be high enough to be accepted and thus you have insecure access. Second, because of the risk of not getting permit if you bid too low, a picker will tend to bid high in order to get the permit. In a good year, the picker can expect to easily recoup the cost of the permit, but in a bad year, she may end up spending more than the value of the harvest she is able to gather. The bid system thus increases the risks to pickers in two ways – by eliminating resource tenure security and by increasing the upfront costs that a picker has to lay out in order to gain access to the crop. These examples from the Dunes area, which are recounted around campfires and in the buying stations in Sisters, indicate one reason for the skepticism among pickers at Sisters about the District's motives in establishing permit systems, as well as their skepticism about the Forest Service's ability to manage the national forests in ways that pickers believe are sustainable.

Resistance

Although pickers and buyers are complicit in the enforcement of the permit systems, at the same time many also resist them or attempt to openly negotiate different terms. Two very common forms of resistance include defiance and grumbling about the injustice, ineffectiveness or wastefulness of the permit system.

Defiance

Until 1997 when Pat started his second season of monitoring and enforcing wild mushroom pickers on the Sisters District, defiance among pickers was widespread. Pickers refused to get picking permits or they got personal use permits instead of commercial permits and sold their mushrooms anyway. At least one buyer bought clandestinely during the latter part of the 1996, and pickers commonly picked patches located in the developed campgrounds. With Pat's continued presence, defiance of the

requirement to obtain a picking permit as become much less common. However, a few pickers still refuse to get picking permits.

Some pickers, like Del, a picker in his 70s who has picked cones in the area for years and branched out into mushrooms a few years ago, refuse to get permits on principle – they have always picked without one and they have no intention of starting to get them now. Others don't get them because they don't have enough cash to buy one. For example, in the spring of 1997, when the morel crop was a near failure and many people were lucky to make \$20 a day, not including their expenses for gas, the rate of open defiance was much higher than in 1998 when the mushroom crop was much better.¹⁸ Even pickers who agree with the principle of regulation may defy the permit regulations simply because they lack the money to pay for the permits:

I realized on down through the years everything has to be regulated to a certain extent. Not an extreme extent, but a certain extent. So now that I've picked professionally I realize how it is, it's the way to be. They're pretty fair about it. Then again, I remember being dirt poor and not having nothing. No way I could buy a permit. I didn't even make enough - I never really made anything off mushrooms. I'd come in, I'd make ten, twelve bucks a day, but we really weren't seeking [to make money] - that wasn't really our profession (Jack).

Still others don't get permits because they have warrants out for their arrest or suspended driver's licenses, often for driving under the influence of either alcohol or drugs. To obtain a permit, pickers with outstanding warrants or driver license suspensions run the very strong risk that the Forest Service will turn up that information on them and turn them into the local police authorities. Understandably, pickers who are on the run from the law, or who are driving illegally, often refuse to get permits. Other forms of defiance continue to occur despite Pat's presence, though in his view at a

¹⁸ At our buying station in 1997, for example, I estimated that roughly 30% of the people who came to our station to sell mushrooms didn't have a permit. In 1998, when enforcement was much stricter, the percentage dropped to almost zero.

lower level than before: People camp where they aren't supposed to camp, people use personal use permits and then sell the mushrooms they pick, and people pick in developed campgrounds.

Buyers also defy the buying permit regulations. For example, buyers some times move into the area on a weekend when the ranger station is closed. Rather than waste the weekend, they prefer to buy without a permit. For example, during spring 1998, the prices at the Sisters camp remained quite high a good two weeks past the time that they normally took a sharp drop. Many of the smaller companies thus had to spend a larger amount of money upfront than they normally did in order to keep their customers supplied with boletes. When the price dropped from \$13 a pound to \$6 a pound for number one boletes in mid-May, most of the smaller buying companies no longer had enough money to continue buying. Our station and the other smaller station at Sisters shut down, leaving only Betty, the buyer for Cascade, the biggest company in Oregon at the time, open for buying. She maintained the \$6 a pound price even though buyers at other sites in Oregon were paying up to \$10 a pound for number one boletes. Several of the pickers got together and called a company in Canada to finance a buyer at Sisters. Thanh arrived the next day, which happened to be a Saturday when the ranger station was closed. He bought mushrooms anyway, even though he didn't have the required buyer's permit or the porta-potty set up by his buying station. Knowing that the white pickers in the camp were likely to report his buying activities, Thanh did not advertise that he was buying and bought only from the other Laotians he was travelling with, a group of Cambodians in a neighboring campsite, and Fumi, my Japanese buying partner.

However, buying clandestinely in a small mushroom camp is not easily accomplished. Word that Thanh refused to buy from white pickers spread like wildfire through the camp, and the news that a clandestine buyer had moved into the camp soon filtered back to Dick, the county deputy, and to Pat and Monty. They began patrolling the camp more heavily in hopes of catching Thanh buying. The following Monday he

was cited for buying without a permit over the weekend even though the Forest Service lacked any proof that he had actually purchased mushrooms. Thanh chose not to appeal the fine because the court appearance was slated to take place in Bend in July, at which time he planned to be buying mushrooms in Montana or Idaho. In retaliation, for the rest of the time he remained at Sisters he gave Asian pickers and the few white pickers who he trusted better prices than the other white pickers.¹⁹

Some clandestine buyers are more successful at hiding their tracks than Thanh was. In the spring of 1997, two white pickers who have picked in the Sisters area since the early 1980s and who were camped in a distant corner of the mushroom camp, occasionally bought mushrooms without obtaining a buying permit. Unlike Thanh, who occupied a buying site and who had quite a number of pickers from whom he would buy, these two pickers bought only from close friends and family members. Although Pat suspected that they were buying, he had no proof and thus was unable to give them a warning or cite them for illegal buying.

The Oregon State law requiring buyers to keep a record of who they purchased mushrooms from, however, constituted the biggest point of contention between buyers and the District. Although technically Pat and Monty could not enforce that law since they lacked jurisdiction in state matters, they could and did threaten to bring in the county deputy or the state patrol to enforce the law. Even though by 1997 most buyers accepted the idea that pickers should get permits,²⁰ without exception they objected to

¹⁹ The price differentials were not trivial. For example, Thanh paid Mayumi and me \$8 a pound for our number one boletes on a day when Barb was paying only \$6 a pound for the same mushrooms. With ten pounds of number one boletes, the difference amounted to \$20 for our day's harvest on number ones alone.

²⁰ By 1997, the idea that the Forest Service should require people to get permits had become much more acceptable among pickers and buyers than it was in the late 1980s and early 1990s when the Forest Service began to require wild mushroom permits. This was especially true at Sisters where permits cost \$2 a day, which many pickers and buyers thought was reasonable, particularly since the District tended to

having to record picker's names, addresses and permit numbers. Betty summarizes the buyers' main objections to this rule:

I can't say, "Let me see your driver's license," 'cause I'm not a cop. I have no right. They had the sheriff up here couple years ago he was a real ass and he told me, he said, "You write down this, and you write down that," and I told him, I said "I'll tell you what, you give me a badge and a gun and put me on the payroll and I'll do it." I don't have the right to (Betty).

In Betty's and most other buyers' view, taking down that type of information is a job that should be done by law enforcement officers, not buyers who have plenty of other work to do. Indeed, through my work as a buyer, I can attest to the fact that taking down the required information does add quite a bit of work to a buyer's workload, especially at the beginning of the season when you don't yet have a picker register established and are still getting to know some of the pickers. If the buying is slow, it isn't a major problem, but if there are a lot of pickers waiting to sell their mushrooms having to take down this information does slow down the buying process substantially. It also puts the buyer in the awkward position of having to enforce the District's rules requiring picker permits, a position that has the potential to put the buyer in physical danger if a picker becomes angry when you tell him you won't buy his mushrooms.

Although the District employees don't believe that the process involves significant extra work or that it is dangerous, as a person who had to deal with filling out the information, as well as with irate pickers who couldn't sell their mushrooms, I disagree with their assessment. It is one more point of tension to add to the buyer's life, which is already very stressful given her position in between the buying company, which wants to keep the prices as low as possible, and the pickers who want the highest prices possible and take their dissatisfaction over prices out on the nearest available buyer – the buyers in the field.

be lenient on enforcing the permit requirements early and late in the season when the mushrooms were scarce.

Grumbling

Perhaps the most common form of resistance among pickers and buyers to the permit policies is grumbling, both to each other and to the Forest Service employees they encounter in their work. One particularly sore point is that most pickers and buyers feel that the permit fees are not being reinvested into improving the mushrooms or the services available to pickers and buyers. Randy's comments below, for example, summarize many pickers' questions about why the permit fees can't be used to provide basic services, such as running water and garbage dumpsters, in the buying camp:

Used to be you go out and pick, make a couple dollars, then after you started makin' a couple dollars the Forest Service started wantin' the permits and stuff. I haven't seen no change in - I mean, what am I payin' for the permit? For campground improvements? Okay, we have no garbage cans here. The boss man buys the commode, and maybe water, giardia in the crick and most people don't know about that and they walk down to the crick. I don't see no reason for me to buy a permit, cause I'm not gettin' nothin' out of it. I mean, if it was goin' back to research to replenish the mushrooms or somethin' like that, sure. Or camp improvements. That would be worth buyin' a permit, you know, \$100 per year is not a lot for garbage disposal (Randy).

Another common grumbling theme in the same vein, but with a slightly different twist to it is expressed in the following comments by Rod and Daniel:

As for the Forest Service - who pays for that? We pay for the son of a bitch, paid it all my goddamn life, right? Like the money for the permit. That ought to go back into planting fir. No, it goes in the general fund. Which is bullshit! Why don't it go to enhance the forest that we're paying for? Okay? (Rod).

I think their efforts and money, if they want to invest some money, is better invested in forest management and the issue you were talking about earlier with their wanting to restore, the restoration. Put it there. That's more helpful to me than anything. I mean, it's more helpful to the mushrooms. Probably won't benefit me in my lifetime, but ultimately it will. And we're not the only ones on this earth. There's hopefully going to be future generations (Daniel).

These statements articulate two themes. First, Rod points out that he pays taxes, and that his taxes go to fund the Forest Service. He thus feels that that gives him a valid foundation for insisting that the Forest Service ought to be doing things that enhance mushroom picking opportunities, rather than decreasing them, like planting pines instead of fir. Second, it isn't the permit per se that he objects to, but rather he objects to the permit money going into a general fund rather than being funneled back to enhance the forest in ways that are helpful for mushroom pickers. Similarly, Daniel observes that he would rather see the Forest Service spend its funds on improving the forest, rather than on enforcing a wild mushroom permit system.

A third common grumbling theme relates to the Forest Service's regulations that anyone transporting mushrooms on national forest roads has to obtain a Forest Service permit. Since pickers at Sisters have no choice but to sell to buyers located on Forest Service land, by default they must transport their mushrooms over national forest roads. Thus a picker has to get a Forest Service mushroom harvesting permit, even if they pick their mushrooms on private land:

But a lot of that ground where people were pickin' was not Forest Service. I mean like, last year, most of my big money came off of private land. And this year, I know, the two good days that I really had pickin' mushrooms, I think three, best days that I had, were all on private. If you wanna fight em, I think you could win, but you'd get a ticket and then have to go to court (Gary).

Gary, for example, notes that in 1997 most of his mushrooms came off of private land and in 1998, he made his best money on his private ground patches. Yet because the Forest Service requires him to have a mushroom harvesting permit to transport his mushrooms to the buying camp, he is forced to purchase a permit from the District even if all of his mushrooms come from private ground.

The requirement that pickers have a Forest Service harvesting permit in order to transport their mushrooms was particularly contentious in 1997 when the vast majority of the morel crop fruited on land belonging to Willamette Industries, a private timber

company. The concentration of morels on Willamette land is very likely a direct result of the reduction in timber harvesting activities on the Sisters District since the early 1990s. Morel production is stimulated by ground disturbance and fire, and unlike the Sisters District, during the 1990s Willamette Industries continued to harvest timber, thin stands, and carry out burning activities associated with their timber harvesting and thinning activities.

The influx of pickers onto Willamette land in 1997, however, prompted the local manager for the company to shut down Willamette land to commercial picking in 1998. The company is concerned about liability issues, as well as the increased risk of fire associated with the presence of large numbers of pickers. Thus in 1998, pickers no longer had legal access to Willamette lands. From the Forest Service perspective, this strengthened their position considerably in the permit war, since few pickers could legitimately claim to have picked their mushrooms on private land.²¹

Another common grumbling theme concerns the money that the Forest Service wastes on permit enforcement when neither morels nor boletes have a great deal of value:

I'm a little skeptical about how effective it is. First of all, they checked my license and they didn't even know if I had any mushrooms or not, they just wanted to know if I had a commercial mushroom license. They never did check my mushrooms. I don't know. All that is over a two dollar permit, I don't know how they can justify having that many people sit out there for that. Because there was probably a few hundred, I don't know (Butch).

Well, I pay taxes. And I don't think we need four federal employees standing there hassling a bunch of people who are trying to make a buck. Now one or two I could have went along with, but they had three government vehicles there, the sheriff was there and two Forest Service vehicles and four men. You know they're on overtime. That's the kind of

²¹ Very little private land exists in the Sisters area. With the Willamette Industry land shut down to commercial harvesting, virtually the only land available to pick on legally is national forest land.

stuff that doesn't set well with me. If they want to come in there and have a guy there, have the sheriff there, maybe Pat or something, that's fine. But what are the other two guys standing around there for? (Rod)

The two examples of grumbling listed above articulate several points. First, as Butch notes, when the dollar amount that the Forest Service is losing from not getting full compliance is far less than the money they spend on enforcement, it seems counter-productive for the government to spend its resources on enforcement. Second, as Butch observes, enforcement practices sometimes seem to have little relationship with what pickers view as the reason for the permit systems. To him, it makes little sense to ask to see someone's mushroom permit without first determining whether or not they have even been picking mushrooms. Both he and Rod look at this type of heavy-handed enforcement as yet one more example of the lack of respect that the Forest Service has for pickers, and as structured in a way that is both a waste of money and designed to hassle pickers, rather than providing a useful service.

Yet another common grumbling theme is that Forest Service employees don't understand what it is like to make a living as a self-employed person who doesn't have a guaranteed paycheck coming in every couple weeks, and who has to work, good weather or bad:

I went into the Forest Service, "I'd like a mushroom permit." "Oh, there's big money in this. You ought to be paying us a whole bunch of money and this and that." [That was in] Sweet Home, two years ago. I looked at the gal, "No, there ain't." She can say that probably because she's never picked a mushroom before in her life. She's never spent the day out when it's blowing snow down your backside and bent over checking gopher holes, never know what's going to bite you on the finger. She's never done this and this and that. She's nice in her cozy little office, saying, "Oh, there's big money in this, I wish I had this, wish I had that." But she's probably got benefits that my taxes are paying for. And she's sitting there not cold, got her nice little uniform with her little nametag (Jack).

In some ways it almost seems like an adversarial relationship. Because it's "Oh, we're gonna really enforce the laws this year" and then the only place they do it is right here [at the buying station]. It's like they want things done a certain way, they're gonna enforce the laws, they're gonna enforce 'em how? Where it's easy. We go out and hike and hike and hike to get the mushrooms and it's not easy. But the Forest Service doesn't want to go out and invest the time and effort to do it right (Gary).

The above comments by Jack and Gary are examples of grumblings linked to class tensions. Both Gary and Jack posit a perspective of the world in which pickers are out in the woods, working hard, braving the weather, and if they make any money, it is hard earned cash. Forest Service employees, on the other hand, are office people, or at the very most car people, who are hardly ever in the woods where "real" work takes place. Safe in their office cubicles and their rigs, Forest Service people have no understanding of the hardships that pickers have to go through or the risks that they run trying to make a living in the wild mushroom world. Yet, they are the ones who are telling pickers and buyers how they should behave in the woods.

A related grumbling theme centers on the issue of risk, and the differences in terms of pickers and Forest Service employees in the amount of risk that their professions entail:

I paid \$100 for my permit this year. Which isn't a lot of money for the season permit but the thing is that I haven't made \$100 on Forest Service land. The Forest Service wants their pound of flesh whether you make yours or not, you know and most everything else the government wants, it's like the contractor going out and workin' usually will make money or break even. And Forest Service employees are always gettin' paid. The logs that sell generally get sold and people make a profit off of it but mushroom pickers you know, is like, don't you dare! [Gary].

At the end of the above statement, Gary reiterates a theme that emerges also in Jack's earlier comment on the desk clerk who felt that pickers were getting a good deal on the permits. In the view of many pickers, the media has vastly oversold the amounts of money that can be made by pickers (and buyers) in the mushroom industry. The Forest Service has picked up on the abnormally high values paid for matsutake in the

early 1990s and many employees (in the view of pickers) act as if those types of prices are the norm, rather than an aberration. This view is also reflected in some of the previous grumbling examples. For instance, part of the critique that Butch and Rod make of enforcement as a waste of money is the implication that the Forest Service has put into place a regulatory system that is way out of proportion to the value of the mushrooms and the threats that exist to public safety at Sisters.

Linked to the grumbings about the Forest Service's lack of respect for blue collar workers are grumbings like the following comments from Gary about Forest Service arrogance:

Twenty years ago, how they wanted you to treat the public and that was respectable, and help educate the public before you made their experience a bad experience by citing them. And I wrote NOVs,²² so, you know, it's not like I'm not aware. But you have people out there who don't really care about the public. The public is not there, they don't work for the public, they work for Uncle Sam and they'll make the rules regardless of whether they're right or wrong and they'll enforce 'em as they see. Like somebody said, Monty came out here and said that, "Look, I am the landlord and you are the renters," or something like that. And that's totally a wrong attitude. He's not the landlord, he's the caretaker. We are the landlords. And he is part landlord, also, but no more than you or I. And he's our caretaker, and he better respect his employer, you know, just like we need to respect him for the position of authority that's he's been placed in as a caretaker. But this "I am the landlord and you're the renters and what I says goes" is a bunch of bull (Gary).

Gary portrays the Forest Service as an agency that used to understand its place within the American governmental system – namely that it was a steward of the national forests which are owned by the American people as a whole. Over the past twenty years, however, he believes that the agency, or at least some of the key people who interface with pickers, have lost sight of their role as stewards and employees of the American people. Instead they have come to see themselves as the owners of the

²² Notice of violation.

national forests, and the people, such as pickers, as tenants who can be ejected from the national forest at the owner's whim. In Gary's view, this arrogance on the part of the Forest Service has created a situation in the agency has lost sight of its obligation to make and enforce rules that are beneficial to the public, mushroom pickers included.

Negotiation

Pickers and buyers don't just categorically oppose or resist the permit systems that regulate their lives, they also take a proactive role in supporting and negotiating the terms of those regulations. For example, Dale who used to buy for a buying company based in Eugene, talks about how he participated in a Forest Service meeting one time that actually led to some changes that he thought were worthwhile:

Well, gosh, it's been a couple, three, four years now back, but I remember Betty and myself and J.B. and M.B., we all went to a big thing that the Forest Service put on. They wanted to hear from the buyers and the companies and they brought in people that were expert mycological experts, and they brought in the truffle society people, and it was a huge gathering of all aspects of people. I think some good came from it. They held it in Eugene in one of the big hotel conference centers. And those were the days we were arguing with them over the permit routine. They had a different set of rules in every ranger station. One place was \$100 for a permit, one place was \$5 for a permit - it was just ridiculous. So what we were suggesting was that they just have one permit for the state of Oregon, you know? Well, they got it bunched up by forest, but it's better than it was. The permit you buy here is good on the Deschutes and I don't know, two or three forests anyway, I forget what it says on the thing.

Other buyers besides Dale have also taken part in such meetings. Over the past decade, the Forest Service has sponsored a number of conferences on SFPs (Redhead 1996) throughout western Washington and Oregon. Although Forest Service and Bureau of Land Management employees have outnumbered pickers and buyers at these meetings, nonetheless some of the buyers that work at Sisters have taken part in such

conferences. Karla, the woman that I bought for, for example, recounted how in the early 1990s the Willamette National Forest asked her to come in every year to do a presentation on wild mushroom harvesting and buying. These presentations were part of an effort by the US Forest Service to bring its Special Forest Products program managers up to speed on the wild mushroom industry and some of the concerns and issues associated with picking and buying.

All of the buyers that I talked with at Sisters and elsewhere have taken some steps to change permit conditions, ranging from talking with District employees and law enforcement officers, to attending meetings and conferences sponsored by the Forest Service, to calling state and national senators or representatives to put pressure on the Forest Service to change their regulations.²³ The pickers that I talked with, however, were much less likely to have taken such steps, and were much less likely than buyers to have attended public meetings or conferences. The reasons pickers gave for not participating in such meetings fell into several categories. Many said that such meetings are a waste of their time:

Because what the heck good would it do? They wouldn't listen. They're already stuck on what they're gonna do (Randy).

What happened at Crescent Lake, they took the input but they went ahead and did it anyway. So it didn't do anything - they just listened and took suggestions and stuff, and then they went ahead and did what they did (Sandy).

²³ For example, during the second year I worked at Sisters, Willamette Industries, the largest holder of private timber land in the Sisters area, decided to shut down their lands to commercial pickers. The Forest Service played a prominent role in enforcing that restriction. One of the buyers contacted his national congressman to see if he could intervene to get the restriction changed, or at the least to get the Forest Service to stop patrolling private timber lands. The senator told him that since it was private land, there was nothing that he could do.

You know years ago I went to a meeting and what it was, was the Forest Service wanted to take a camp ground over near the headwaters of the Metolius. And they wanted to do certain things with it. Well it was sort of an unimproved camp ground and you just pulled in anyplace and parked and made your campsite, right? A few tables here and there. And they were all upset about what was happening with that ground and they wanted to go in and improve it or do this and do that, or to protect the land, okay? Well, what's happening to me like, it was the only camp ground on Metolius that was free use and on the Metolius River, okay, like that? And I went to the meeting and basically the upshot of it was that the Forest Service did what the Forest Service wanted to do, you know? (Gary).

Randy, Sandy, and Gary all voice a theme that I heard again and again from pickers at the camp: the Forest Service comes to its public meetings with its position already established, and anything pickers and buyers say (or anyone else) isn't going have any influence on the decisions that they make.

The following quote by Rod as to why he doesn't go in and talk with the Forest Service employees when he has suggestions for changes to improve the permit and enforcement system, demonstrates other important barriers to picker participation in forest management decision-making:

It don't do any good. They won't even talk to you. Hell, no! As an individual you've got no say, see? You can't talk to them people. They wouldn't talk to me like you talk to me. All right? They won't! If I went in there and set down and said, "I'd like to talk to you about this, replanting this and doing this." In a forest management situation that affects everybody, not just you (Rod).

Rod's reluctance to take a pro-active response to the wild mushroom regulatory process is linked to two issues. First, he feels that the Forest Service doesn't respect what he has to offer, and thus they are unlikely to talk with him in the first place. Second, he links this unwillingness on their part to talk to him in part to the fact that he'd be going in as an individual, rather than representing some larger group.

Still other pickers, like Butch, note that they don't take part in meetings and discussions on wild mushroom issues because they aren't interested in being involved in those kinds of activities in general:

That's not really why I do this. I don't do this to get involved with a bunch of other people (Butch).

As Butch notes, he got into wild mushroom picking to get away from people, and the idea of taking an active role in developing the rules that govern mushroom picking is not something that interests him at all. He also qualifies his statement of disinterest in attending meetings with a comment that he doesn't believe going to the meetings would do any good:

I think this is just a sideline - I don't know if they're working on orders from Washington or whatever it is, but right now they're in the tree farming business, and anything that gets in the way of the tree farming business is not allowed. I don't know. It's something that they have to deal with that they probably wish they didn't, because it's not a big revenue for them, probably more of a headache than it is a revenue. And it's really not what they do (Butch)

In Butch's view, the Forest Service is interested primarily in farming trees, and they really don't care about forest products like wild mushrooms. In essence, his argument is another version of the "they've already made up their minds" argument advanced by other pickers.

Yet another reason that pickers cite for not taking part in public participation processes is that they don't feel as if they have the skills to participate effectively:

Maybe if I were a little bit better at writing and what not then it'd be easier, you know, but I'm not a good writer to be able to put that kind of statements to the Forest Service, you know (Gary).

Gary, for example, notes that he doesn't comment on the Forest Service's management plans primarily because he doesn't believe that he writes well enough to articulate his position persuasively.

Betty, the major buyer at Sisters, who often interfaces with the Forest Service on behalf of pickers, provides some additional reasons for why pickers don't take part in meetings:

Oh, they have [held public meetings] down at Crescent, but the only ones that show up is people like me and the people like you, and people that are interested in doing that and as for pickers, most of the pickers could care less, all they want is the mushrooms. And you may get groups of people here, but most of the people that are here can't afford to go. And they wouldn't know what to do about it anyway, you couldn't get em to go do that. Only way they can go do that is if I went and said "Come on, we've got something to lose, they're going to shut us down, let's go." And I drug 'em there, they would go.

In her view, some of the pickers simply are interested only in picking mushrooms, and they simply don't have any interest in attending meetings about how mushrooms should be regulated. Additionally, if they do want to attend meetings, many simply can't afford the time and money that it takes to participate. And finally, she articulates Gary's point that many pickers she's worked with don't know how to participate in such meetings in ways that would be persuasive to the Forest Service. She does, however, identify two things that would motivate pickers to attend public meetings: If someone like her pressured them into going, and if the stakes were high enough that they felt their ability to continue mushroom picking would be severely hampered.

Section 4: Professionalizing the Wild Mushroom World

A fourth element of disciplinary power is the professionalization of knowledge used in making decisions about the social domain over which state control is being extended. In the case of wild mushrooms, and many other special forest products, managing these resources requires knowledge that the FS doesn't have and that for the most part "big" science doesn't have either. Indeed, the "Survey and Manage" guidelines in the Northwest Forest Plan, exist largely to address that lack of knowledge by providing both an interim management framework and a framework for data collection and analysis that will enable the state to produce the knowledge that it needs to manage a much larger set of species than it has managed for in the past. One aspect of professionalization in Sisters wild mushroom world is linked to District employee perceptions that the District needs to develop a scientific knowledge base about its commercial wild mushroom species. Another aspect of professionalization in the wild mushroom world concerns the notion that pickers need to go through a certification process before they should be allowed to pick. This notion is still very much in the discussion stage, and has yet to be implemented anywhere in the Pacific Northwest.²⁴ I thus confine the following discussion to the professionalization of knowledge production about Sisters' wild mushroom world.

District-Level Knowledge

Knowledge, experiential or scientific, about wild mushrooms and the wild mushroom industry is quite limited among District employees, even among the Special Forest Products program staff. A number of employees pick mushrooms for their own use, but all claimed to know very little about how they grew or what conditions

²⁴ The Crescent and Chemult Ranger Districts do require pickers to watch a video tape explaining how to pick matsutake, and what the norms are regarding smoking in the woods, campfires, and littering. It is not a certification process per se, since pickers don't have to show that they understood the video. However, it does represent a first step toward establishing a certification program.

hindered or favored their growth (other than fire and ground disturbance for morels). Even the botanist, who comes from a family with a long tradition of picking mushrooms and who is the person that the front desk calls upon when people come in to ask for help identifying mushrooms, professes to an inadequate knowledge of mushrooms:

I don't think there is anyone [in the District] who has had any formal training. I think people like Joel who has just been around forever and has learned so much, he just knows everything because he has been here forever, and SFP Program Manager and Pat. I think we are all just kind of learning as we go. Probably some family experiences and some class or, maybe some exposure to it in college a little bit and then just learning as we go, but yes, that is a real need that we have, is for more training for mycology because it is an important area and I think certainly from a special forest products standpoint, it is something that we need to know more about.

Dale, who has learned quite a bit about morels over the years from picking them for his own use, underlines just how little anyone on the District knows about where the major mushroom grounds are, much less how those patches are affected by changing forest conditions, such as the recent insect and disease epidemics in white fir stands:

It is pretty tough to inventory for mushrooms. You'd know of areas that are traditional harvest areas or traditional occurrence areas, I guess, for species like boletes. As far as individual bed locations that is a pretty closely-guarded secret by people that know those locations, so it is kind of like up to us to find them or probably more typical is that we protect an area and hope that we are protecting an area where they occur. In these areas of high mortality I don't know what the effect of all these trees dying is on the mushroom. I can't think it is good. So, whether we are doing something that is neutral, harmful or beneficial, I don't know.

Moreover, he notes that the Northwest Forest Plan's call for returning the forest to its historic range of variability poses a problem as far as knowing what effects that will have on mushrooms since none of the early surveys mentioned what mushrooms were in the area:

So, our aim with that treatment, with most of the silvicultural treatments we are doing is to return the stands to more historic, natural conditions. With that, we would expect that the fungus would also go along into what may be a more historic condition. What that condition is, we don't really know. We've got photos from the turn of the century. We've got surveyor's notes from the turn of the century telling us what the forest was like. Nobody was talking about what the mushrooms were like. So, I guess, we just have to have a little faith that the mushrooms will respond as nature would intend and try and do our job of the vegetation manipulation in the best way we can.

Dan, the NR Team Leader, also emphasizes the lack of scientific knowledge that the District has on where the mushrooms are and what type of production ranges can be expected:

One of the things that we don't have a grasp on is the inventory of our product. And you need time and effort to do that. You know we do it for all our other [programs], our timber program. And that's really a key to how we would manage it. So if we get the same kind of commitment from these mushrooms and these other special forest products, and then we can figure how much we can sell, and more or less regulate it to levels that it needs to be managed at. That's really important, it's more still being handled catch-as-catch-can. I hate to say it. But you're just monitoring what your buyers are willing to pay, rather than try to figure out what your resource can handle. And with mushrooms especially, that is probably the hardest program to regulate, because you don't know what kind of a crop you're going to have.

In Dan's view, without such knowledge the District is not in a position to really manage mushrooms. Although he acknowledges that the kind of information that the buyers provide about the species, quantities, and values is important, he believes that a more concerted effort to get a handle on what commercial mushroom resources exist on the District and what the District can expect in terms of annual productivity needs to be funded.

Strategies for Developing Mushroom Expertise

The Special Forest Program employees and other employees interested in mushrooms, such as the District Botanist, are using three strategies for acquiring the knowledge that they need to manage the commercial wild mushroom program. One strategy consists of developing links with “big” science, primarily in the form of asking advice from scientists employed by the Forest Service’s research branch about how to inventory and monitor wild mushrooms. A second strategy, and from which the bulk of their knowledge on wild mushroom knowledge currently comes, is to develop links with “little science” – the pickers and buyers.

“Big” science provided the knowledge on wild mushrooms that was used in the drafting of the Northwest Forest Plan, including a database that the District Botanist uses for evaluating how different forest management activities might affect the Survey and Manage species, including wild mushrooms and truffles:

When they put the Northwest Forest Plan together they brought all the best experts that they have together and they assessed the zillions of species and we have a database that has known science on it. This has most of the good stuff about various ecological requirements and habitat.

Much of the concern over commercial picking in the LSRs stemmed from the scientists who were involved with providing advice on the potential effects of the Plan’s nine alternatives. Even though Dale and Joel managed to keep the LSRs at Sisters open to pickers, as part of their negotiations with the biologists and ecologists they agreed to set into place a monitoring system to track the effects of commercial harvesting on morels and boletes. Just as the pickers and buyers have to learn to live with the variability in morel and bolete fruitings, so too must the District and “big” science. Unfortunately from the District’s standpoint, thus far “big” science has not yet come up with a method for doing that:

We have agreed to attempt to do some monitoring to try and tell if we are having any negative effects to the resources [in the LSRs]. That's proving very difficult to implement. We are still struggling without a doubt to set up an effective monitoring program, but we haven't given up. We have also been talking to some of the researchers. Dave Pilz is coming out on a morel expedition, so I will bend his ear some on that. See if he's got some ideas... A lot of the researchers are scratching their heads on how to monitor mushroom harvest. Nobody can come up with a good protocol for it. So the best we come up with is just see if we can identify any perceived decline in production over a long term trend (SFP Program Manager).

An additional problem in terms of conducting scientific research on wild mushroom patches is that it is extremely difficult to keep pickers from picking in those areas and thus disrupting the results of the study:

We will come up with some beds and attempt to monitor their production over a number of years, probably see if we perceive a decline in fruiting abundance and hope that the mushroom pickers aren't responsible for removing those fruiting bodies before we get to them. That is the hard part, finding our own little beds and keeping them our own. If we ever find them, we will have to make sure we harvest them regularly so that nobody else finds them (SFP Program Manager).

Dale's concern about pickers picking scientific research plots is justified – poaching has been a problem in other mushroom experimental plots in Washington and Oregon (Love and Jones 1998; Hosford et al. 1997).

With the lack of scientific knowledge on commercial wild mushrooms, the Sisters SFP Program staff have relied heavily upon pickers and buyers to augment their understanding of wild mushrooms and the people who harvest and buy them. As illustrated in Chapter Five, some pickers and buyers have a very good grasp of where the mushroom patches at Sisters are located and what their fruiting patterns are like. They also have quite a bit of knowledge about the effects of different forest management activities on morel and bolete production. This level of experiential knowledge based on years of observing ecological patterns allows people to develop theories about mushroom productivity cycles that seem to be fairly reliable in terms of

allowing pickers to locate productive patches even in poor fruiting seasons. In short, this type of knowledge amounts to the form of knowledge that anthropologists' Smith and Jepson (1993) refer to as "little" science.

Both Dale and Pat are willing, indeed anxious, to learn more about the "little" science of wild mushrooms. In his enforcement rounds, Pat goes out of his way to strike up conversations with pickers and buyers in an effort to learn as much as he can about wild mushrooms and the industry:

See, I have never been to a mushroom meeting or anything. I learned about it pretty much the hard way. I never knew what a bolete was or anything until someone showed me a picture and said "That is what that is." I didn't know where it grew or anything and through just talking to buyers and pickers, that is where I have learned. It was kind of through the hard way. I was kind of, like last year, I always felt like I was a lot lower then them because they had so much more knowledge about mushrooms and the rules even. I would say, I don't know what that is. Now, I can tell what type of mushroom they have, like "Yeah, sure that is a morel." Now I feel I am more on an equal basis and I have shown enough respect to the picker and most of them have shown respect to me.

By his third year working as the District SFP Technician, Pat had developed good enough relations with pickers that many were willing to share their suggestions for ways in which the District could better manage mushrooms:

Yeah, we talked about having some restrictions on boletes, where once they blow out you're not allowed to pick 'em. Pickers brought that to my attention, said it would help the patches. I brought it up with Bonnie. We've also talked about getting a vendor to sell weekend permits. The vendor thing might happen. But the thing on boletes probably won't happen. We would need more monitoring to enforce it, and how are we going to test for greenness? It's hard enough to test for size, but for the color of *green*? That's what the criteria would have to be, not size. The Edwards' thought we should set a date, a closing date after which no more boletes could be picked. But I disagreed. I've seen Mayumi bring in nice young boletes. It's not fair to people who pick late and bring in nice buttons late in the season. It's so weather dependent anyway. I have a problem with setting a season like that.

Dale also has made an effort to learn from pickers and buyers, though he hasn't had as much time as Pat has to devote to it. Consequently he hasn't developed deep enough relations with people in the mushroom world to get the detailed kind of data from pickers and buyers that Pat has been able to obtain:

Mostly the information I get is, "Yeah, the picking was good here, but it was lousy over there." That kind of thing, or, "They seem to be in this kind of area but not in this kind of area." Nothing real specific as to maybe some of our treatment alternatives that we could try and implement. More just what they found as far as mushrooms and its relationship to what we did.

Nonetheless, the following comment Dale makes about theories that pickers and buyers have that fall burning is more likely to result in a better morel crop than spring burning illustrates that he respects the experiential knowledge that pickers and buyers have, and sees the usefulness that it could have for helping the District manage its wild mushroom resources better:

This spring versus fall burning subject I was talking about was initiated by a buyer working with a different district and I have been talking with the other district and talking with the buyer and pretty much she filled me in and the guy on the Big Summit filled me in. I grant it is pretty minimal data and it is not real formal but the evidence seems to be pretty clear that the fall burning is much more productive for stimulating morels. So, there is very little formal research going on. It is also just informal talk-to-the-neighbor kind of thing. As such, very little of that is being recorded also. I guess that if we see that a lot of this is holding true over time and see some pretty firm relationships then it would probably be real good for somebody to write it down.

Indeed, Pat commented that he'd already started writing down some of the information that he had learned from pickers and buyers in order to help him design an informal bolete monitoring project for the following year:

I think there is definitely a lot more monitoring going on which is starting to get more tense. I am supposed to start doing some monitoring in the mushrooms areas, like where boletes are. Taking pictures of the

area and documenting what type of area it is to grow and marking it on the map for Dale and Alice and that is something that I am going to start doing next year. This year I'm just writing down notes on where I knew people are picking boletes and morels. I knew personally where they were and I can share that information with Dale or Alice or whoever wants to look into it. So that is something that is up and coming. I think that around here that is something that I think the mushroom program, from our standpoint, is going to actually be looked at a lot harder for monitoring areas and checking what type of mushrooms are growing where, and starting to understand the mushrooms. It probably will be just commercial species because that's all we have the money to do.

In Pat's view, these monitoring efforts could serve as the basis for developing realistic rules that could help minimize the negative effects of commercial picking on the District's "community" patches:

I would have to say that the program itself for wild mushrooms does bring in a lot of people to certain specific sites for mushrooms and like Monty says, it does cause resource damage, but anytime you have any commercial activity be it woodcutting or even personal use, you are going to have some resource damage and so you just need to be careful of how much resource damage is going on in that area. I do think it is a vital issue to watch because there is a commercial market and it is on our land. We need to be able to help the people get to the areas and supply information to them. We don't want to make it too tough for the pickers but yet they just need to follow some simple rules to be able to do it.

Thus by linking "big" science with "little" science, the District SFP Program staff hope to be able to develop sufficient knowledge at the District level for them to feel comfortable about allowing commercial harvesting in LSRs. For the moment, the major obstacle from the District's standpoint is the lack of funds to mount anything more than a very informal monitoring program.

Resistance to Professionalization

Although "big" science has barely filtered into the Sisters District's disciplinary power framework, it has gained a much stronger foothold in other parts of the wild mushroom world, notably at Crescent and on the Oregon Dunes National Recreation

Area. Two long-term matsutake experiments have been established in these areas since the early 1990s. The experiment that pickers at Sisters are most familiar with is the one at Crescent, since many people who pick at Sisters also pick at Crescent in the fall. The Miller Lake experiment as it is called, was begun in 1991 by the Chemult Ranger District. Scientists from the USFS Pacific Northwest Research Station's forest science lab in Corvallis helped the SFP Coordinator for the Winema Forest set the experiment up. It covers three sections of land, or nearly 2000 acres, and was designed to measure differences in matsutake fruitings over time.

The designers of the experiment deliberately chose an area with a reputation for being one of the more productive matsutake grounds since they didn't want to run the risk of setting up the experimental plots only to have no mushrooms fruit for several years in a row. They also chose an area that was easily accessible to the Ranger Station, to decrease the time and expense of conducting the experiment. The sections containing the experimental plots were marked with signs and declared off-limits to commercial pickers. After several years of having pickers poaching matsutake from the experimental area, the Winema Forest SFP Coordinator arranged to have a picker from southwestern Oregon train a crew of local residents to pick matsutake. The crew was responsible for keeping the areas around the experimental plots "picked down" in order to discourage encroachers. Information from the study has already been used to formulate matsutake policy – in 1998, the study's findings that a high percentage of the matsutake harvested in late August and early September were wormy (and thus not very valuable economically), were used to justify a post-Labor Day starting date for the matsutake season.²⁵

Skepticism among pickers and buyers about the Miller Lake Experiment, and the policies that have been developed from its findings runs high. Butch, who has picked at Crescent since the early 1990s summarizes the objections that many pickers have to the

²⁵ The Four Forest system has fixed a matsutake season that starts the day after Labor Day and ends the first week in November.

Experiment from the standpoint of its representativity of the matsutake ground at Crescent:

That ground up there [at Miller Lake] it's kind of different from a lot of the area. From what I remember, that's an early riser too. Comes on early and it's off by probably the middle of the season, I think. And the amount of time you'd actually have to really run that experiment. Like a decade probably to really get the full cycle. You'd think they would spread it out a little bit. A station there and then a station at Summit Lake or whatever. You know that's different. You can have your whole season in two weeks, I mean your very best part of the season can happen over a two week period like that, and you may - if you choose to follow those rules you may miss it. We let the weather govern when we go out and start looking. If it's been dry and hot for a couple three weeks in August and it rains or it freezes, then we go out and look for matsutakes in about four, five days. Or a week. Yeah, there's all kinds of different habitats, there's some stuff that's up there - it doesn't even resemble Miller Lake, not even close. It looks more - doesn't even look like a place that you'd get matsis. It's wet and it's got ground cover stuff all over it, but it's got the big old growth on it (Butch).

In Butch's view, the Miller Lake experiment is a problem for pickers because the Forest Service is likely to assume that the results from those experimental plots are valid for all of the matsutake ground in the Crescent area. He notes that the Miller Lake ground is an area that comes on early in the season, and thus the results are not applicable to the latter part of the season, nor to matsutake ground that is located in the wetter, old growth areas. Second, thus far the experiment has been used by the Forest Service to justify setting an opening date for the matsutake season during the first week in September. But as Butch points out, the timing of the first good flush of matsutake varies so much that setting a starting date based on an average starting time makes very little sense from a picker's point of view.²⁶

²⁶ The Crescent matsutake season begins on the day after Labor Day every year. The Forest Service set that date primarily because it marks the end of the summer tourist season, and thus chances of conflicts between pickers and other forest users are lower.

Section 5: Creating a Wild Mushroom “Panopticon”

As illustrated in Sections 1-4 of this chapter, the disciplinary power elements of categorization/ranking, separation/enclosure, documentary apparatus, and professionalization are now in operation to some extent in the Sisters wild mushroom world. Foucault’s work, however, suggests that the crux of modern state control lies in the construction and application of forms of surveillance which combine all of the elements and apply them within a panopticon type of framework. In the case of the Lakota, the BIA succeeded in exerting significant control over their off-reservation hunting activities only after the Indian Agent developed a centralized food-distribution system in which food was rationed to individuals and thus permitted the agency to keep track of individuals rather than groups. Similarly, the housing camps in central California also functioned as a panopticon that permitted the CCIH to control farm workers’ labor organizing activities. At Sisters, the District has created a forest management equivalent of Bentham’s panopticon structure through the establishment of a designated buying camp that serves as an (almost) “obligatory point of passage”²⁷ for people wishing to sell wild mushrooms harvested on the Sisters District.

Camps and Everyday Life

To understand why control of the buying camp in Sisters has proved to be a surprisingly effective mechanism of controlling wild mushroom activities, it is necessary to understand the role that camps play in the wild mushroom world. In mushroom harvest sites such as Sisters, where picking seasons last only six to eight weeks at most and many pickers live too far away to make a daily or even every other day commute financially feasible, camps are as crucial to pickers’ lives as farmworker camps were for migrant harvesters in central California in the 1930s. When their picking day is over, the majority of pickers at Sisters go back to camps to spend their

²⁷ I borrow the term “obligatory point of passage” from Michel Callon’s (1986) work on attempts by marine biologists to construct conservation policies aimed at protecting scallops in St. Brieuc, France.

evenings. Mushroom camps on the District range in size from one or two shelters nestled close to the banks of First Creek to close to a hundred shelters clustered in among the lodgepole and ponderosa pine in Jack Flats. Camp shelters also vary tremendously in terms of their luxuriousness and permanency. They run the gamut from a single plastic tarp tied to a couple of trees, to an old camper on a pick-up, to large tents elaborately constructed from tarps and furnished with wood stoves and floors to keep the heat in and the cold out, to comparatively luxurious trailers and motor homes complete with television, microwave, and computer.

For most mushroom pickers at Sisters, their camp is much more than a place to sleep. It is --however temporary -- their home. Camps are worksites -- where pickers clean and dry their mushrooms, plan their next day's harvesting or scouting trips, and repair their vehicles. Camps, like buying stations, are education centers -- places where pickers learn from others about potential picking sites and how to care for patches, what picking regulations exist for the area and whether or not law officers are patrolling the roads, where to get a shower and do laundry, and how different buyers' grades and prices compare. Camps are places where people carry out their daily life maintenance activities -- preparing meals, chopping wood, washing dishes, and sleeping. And importantly, camps are places where people relax and have fun -- sitting around the campfire talking. Camps are equally important to wild mushroom buyers at Sisters. Field buyers, many of whom are also pickers, often live in semi-permanent camps with other pickers and buyers. For stationary field buyers, camp is simultaneously home -- where they cook, sleep, and relax, and a workplace -- where they grade, purchase, pack, and process mushrooms for off-site shipment. In short, camps are similar to farms, in that they are places where a variety of everyday life activities take place and where work and leisure spaces are intermingled, rather than sharply separated from each other.

Jack Creek Camp

Historically, the earliest commercial pickers at Sisters either marketed their mushrooms directly to restaurants and produce suppliers, transported them to buying

stations in the Willamette Valley, or dried them for later sale. In the early 1980s when mushrooms were plentiful and buyers scarce, a few pickers at Sisters began to buy mushrooms from other pickers in order to transport them over to buying companies on the westside. Eventually one of these early picker-buyers decided that he and his wife could make more money by developing their own mushroom markets instead of selling to the established buying companies. This picker-turned-buyer couple perfected a “roving buyer” strategy, in which one of them would travel a circuit from camp to camp, picking up mushrooms from their “customers” to bring back to their buying station located eighty miles west of the Metolius Basin on the main highway:

The camp was over at Jack Creek in those days, and Sven would come over and he'd come over every night, and what people were camped here, he'd come over and buy mushrooms off the tailgate and away he'd go. And Nat would come over. He goes way back and we used to take them to him sometimes and what we'd do sometimes if there was no buyer, if there was five or six of us here, we'd pay one person to run them all over so that's kind of the way we did that in the old days (Dale).

Under the District “laissez-faire” policy during the 1980s, pickers and buyers camped wherever they wished. Over the years pickers in the Sisters area established a tradition of setting up their camps in the area around and below the headwaters of Jack Creek. Initially pickers camped in the Jack Creek Campground itself, one of the District’s most popular semi-developed campsites. Pickers liked the Jack Creek Campground for a number of reasons. It is located in the middle of some of the District’s most productive mushroom grounds and thus by camping there pickers minimized their travel time to and from patches. Jack Creek has many features that campers typically seek: large flat areas for setting up camps, a nearby creek for drinking and washing water, a park-like setting of large ponderosas with little underbrush, plenty of nearby fuelwood, and a pit latrine and tables provided by the Forest Service. Camping at Jack Creek also fit into many pickers’ traditional forest use patterns, as

many of them traditionally set up camp there on hunting, fishing, and camping trips to the Sisters area.

As the number of pickers working at Sisters increased, the mushroom camp expanded along both sides of Jack Creek and down onto the flats east of the campground. Mushroom pickers also established several other “mushroom camps” at sites such as the Sheep Springs and Whispering Pines Horse Camps. These camping sites also offered amenities such as park-like settings, nearby water, pit latrines and tables, and a short commute distance from camp to mushroom patches.

As pressure to control picking on the District increased, the special forest product program manager and the District’s law enforcement officer decided that restricting the location of buying locations to one area was the most efficient way to identify people picking commercially without a permit. Instead of spending time patrolling the woods and roads checking people for mushroom permits, the District could focus the bulk of its law enforcement efforts on checking the buy stations periodically to see whether people selling mushrooms had permits. This tactic had the additional advantage of making it difficult for pickers to argue convincingly that they hadn’t intended to sell the mushrooms they had harvested without obtaining a permit. In putting the buying station control strategy into action, the District began by restricting buying to the area around Jack Creek where the majority of mushroom pickers and buyers camped during the early and middle part of the season.

Change Comes to Jack Creek

Two things occurred in the early 1990s to disrupt the camaraderie at the Jack Creek mushroom camp: The District shut down an RV campground near the headwaters of the Metolius in 1991 (see Figure 11) and exceptionally productive morel and bolete crops in the early 1990s attracted a large number of pickers to the area. The occurrence of these two events at the same moment in time served to concentrate a large number of campers into the Jack Creek Headwaters area during the months of May and June, raising the specter of riparian habitat damage precisely at a time when riparian

protection had become a focal point for protectionist intervention in forest management on the Sisters District.

Sisters' peak in mushroom production and picker numbers coincided with the discovery of the Layton – Bartlett timber theft, Judge Dyer's injunction on timber harvesting in the spotted owl zone, and the emergence of the locally influential environmental protection group, Friends of the Metolius. Besides old-growth protection, Friends of the Metolius (FOM) also had a strong interest in water quality and riparian habitat protection. In the 1980s, the Riverside Campground near the Headwaters of the Metolius had become an informal gathering place for large numbers of recreational vehicle campers, who set up camp regularly on the major holiday weekends from Memorial Day to Labor Day. In response to complaints from the FOM and its own staff about the riparian habitat damage caused by these campers, in 1990 the FS came up with a plan for restructuring the camp to make it less damaging. However, when they presented their plan at a public meeting heavily attended by RV campers, Camp Sherman residents, and members of Friends of the Metolius, opposition to all of the Forest Service's alternatives was fierce. Two members of Friends of the Metolius describe that battle in the following terms:

C: It [Riverside] was a flat campground and people had driven in and they'd circled their RVs, five or six families or whatever. They had the big community campfire at night, and the place had just been beaten into a dustbowl. This was a good sized campground, sort of a marginal water supply. But it had been obviously a source of concern and so the Forest Service planned a change and they had a big public meeting down at the Camp Sherman community and these two bright young architects present

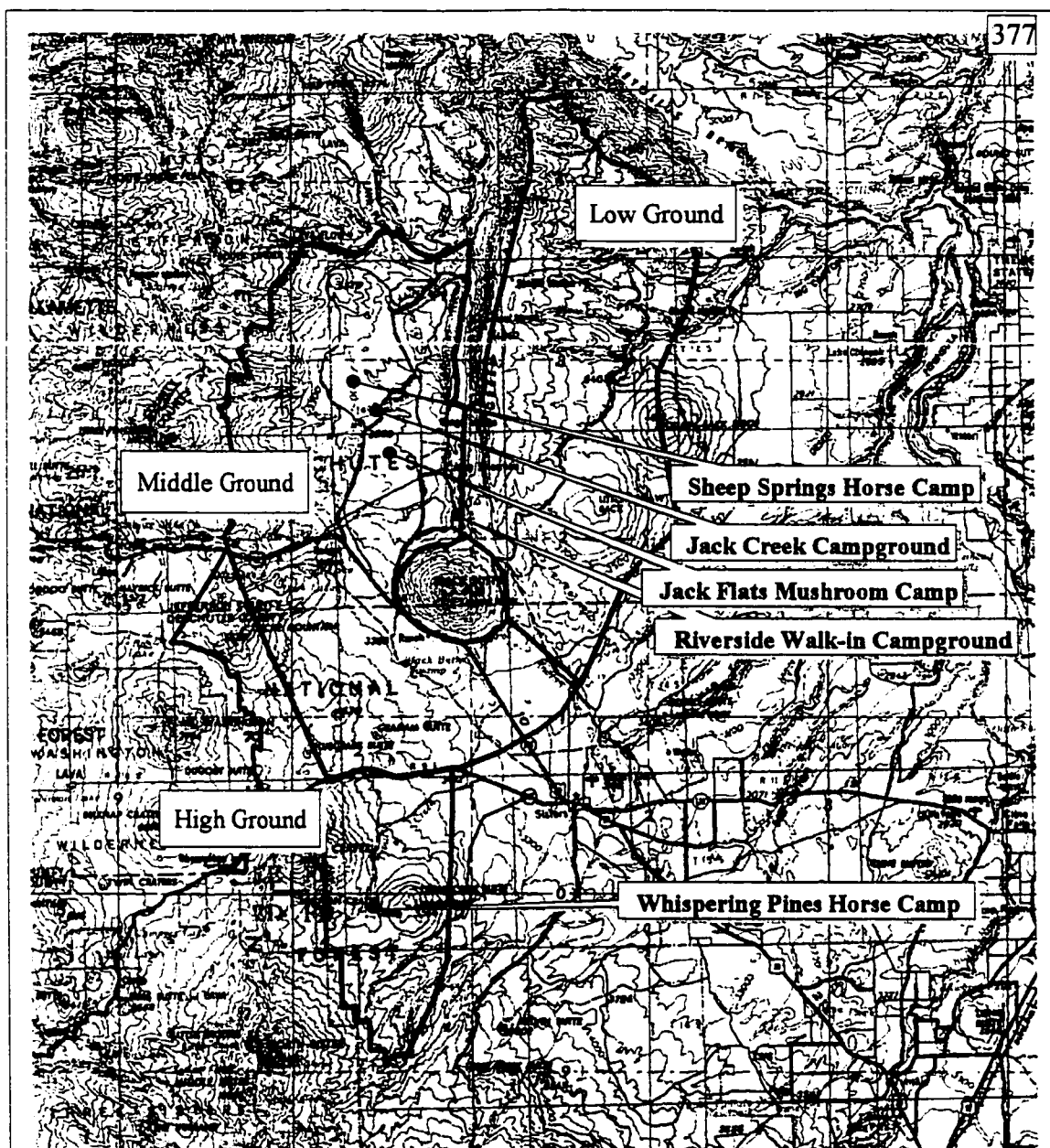


Figure 11
Contested Camps

their plans for a 200 and some unit campground complete with shower buildings and flush toilets and the whole works.

L: And the community just came unglued! Oh!

C: And these poor guys didn't know what hit them. They were new to the Forest Service and they didn't know how these things work and they just fled in terror. People were not nice to them.

L: That was really kind of the impetus for Save the Metolius and Friends of the Metolius because that meeting was kind of the thing that [set us thinking] "We got to do something here!"

C: So the Forest Service in their inimitable way overreacted, they just said, "All right then, we'll close it." And they did, except they allowed walk-in camping and there are sixteen walk-in sites now. It is just lovely over there now. And it was the right thing to do.

Shutting down Riverside Campground had the unintended, but not very surprising, effect of shifting RV use to other undeveloped campgrounds in the Metolius Basin. For the RV campers who wanted a campground on a site big enough and flat enough to allow them to form "wagon train" circles, their preferred style of camping, Jack Creek Campground on the western edge of the Metolius Basin provided the most attractive alternative to their old site along the Metolius River.

By coincidence, the closure of Riverside Campground to RV campers took place during the middle of several consecutive years of high poundage morel and bolete seasons on the Sisters district. By 1991, when the Riverside Campground decision was announced, hundreds of wild mushroom pickers had begun to make Sisters a regular stop on their yearly mushroom circuits. Many of the new commercial pickers who came to Sisters in the early 1990s were Southeast Asian refugees, who looked, talked, and acted differently in the camps and woods than the area's predominately Euroamerican residents and forest users. The entrance of non-Euroamerican pickers into the industry

coupled with an overall increase in total picker numbers, rendered the once-hidden commercial mushroom pickers -- and their camps -- visible to other forest users.

As the number of pickers increased, so did their local visibility and their impacts in and around the main centers of mushroom buying and camping. Traffic in the Jack Creek Campground area increased, especially in the evenings when pickers brought in their day's harvest to sell. With the nearest public bathing facilities in Sisters, a 12-mile drive one-way, many campers chose to wash in Jack Creek. Jack Creek also served as a place for washing dishes and clothes. Many pickers cut down small trees to get the post and poles needed to construct the frameworks for tarp shelters. Pickers also cut standing dead trees and cleaned the surrounding area of fallen branches and logs for firewood. Some pickers did a poor job of cleaning up their trash and garbage, leaving other campground users with the impression that pickers were a slovenly group as a whole. Area residents, including FOM members, pinpointed wild mushroom pickers as the major culprits in the degradation of the riparian areas near the head of Jack Creek:

I don't know that there were very many but they certainly attracted us and year after year. I think probably we watched it for two or three or four years and kept seeing it just get bigger and bigger. They were out of hand. We even had photographs of makeshift toilets and showers, you couldn't see the stream. And that's when we said: "You have to have them bring in porta-potties." We knew maybe they wouldn't use the porta-potties but at least it was a start. They were coming in, they were camping up by Jack Creek, and Jack Creek has got a headwater springs - - oh probably less than a mile away -- spring-fed, prime bull trout spawning grounds, very cold water, pristine stream. And so as a community, citizens with the Friends of Metolius, we got a little bit outraged with the Forest Service because they weren't implementing their forest plan standards of riparian setbacks and they were letting these guys do dispersed sites, urinate in the creek, just do a whole host of things that really break the riparian area down (Teri).

In response to complaints from the Friends of the Metolius in 1993, the Forest Service required the buyers to set up their stations across the road from Jack Creek Campground as a way of shifting traffic out of the campground area. When the Friends

of the Metolius expressed concern about the effects of this camp on the riparian zone in that area as well, the Forest Service shifted the camp to its current location at Jack Creek. A comparison of how the three major social actors – the Friends of the Metolius, the Forest Service, and participants in the wild mushroom industry – view the move from Jack Creek Camp to Jack Flats Camp reveals a number of points of agreement, but also some very different perspectives on both why the move took place and what the effects of the move on pickers and buyers have been.

FOM Views

In the following account, one of the FOM officers provides one version of how the mushroom camp came to be located in Jack Flats:

And what we eventually did was got together with the Forest Service and said, "Let's make Jack Creek off limits." So we found a spur road where you can get to it off Highway 20 easily, good secondary roads. And it's off the beaten path, where when you drive by you're not going to see what it is everybody's up to or not up to or whatever. And so they established an official mushroom picking camping area and in the meantime brought in rocks and closed off the riparian area on Jack Creek. We said, "Find a place where they're close to Highway 20, they can put up their signs, the guy off the street who wants to buy mushrooms from them or sell doesn't have to come in and drive as many roads so that the transaction doesn't have to be in the midst of everything, especially in a riparian area." So I think that narrowed it down.

So the other thing was they [the Forest Service] felt that there was a social camaraderie where they [the pickers] don't want to be on top of each other but it's sort of like a community. And they had to find a way so that they didn't say, "Two go here and five go there," so where could we put a large group and not have a lot of damage, where you wouldn't see the damage and the damage wouldn't be riparian. And they picked the area, and we were satisfied.

And it wasn't just the mushroom pickers, it was just that the mushroom pickers were here all the way to Memorial Day or well into June and

then they were followed up by the Fourth of July crowd, so the damage they did in the spring they left traces where then people would start camping in those spots and then they became permanent. When they were in the forest and they were littering - I mean both physically and with trash -- this area, we got pretty upset about it. But they [the Forest Service] monitored it and what they've done is put the squeeze on the buyer. In terms of, "Don't plan on being back if you leave a trash site and don't this and that, and we got your name and number and all of the rest." And then the buyer can pass that on to the seller, or the pickers.

So our experience with mushroom pickers here in the Metolius Basin and with working with the Forest Service has actually been pretty positive. We went to them, we said, "This is a problem, this is how we think." And collectively they agreed.

In this FOM member's story, the FOM and the District collaborated closely in the selection of the new site for the mushroom buying camp. In her perspective, the ideal site was one in which the pickers and buyers were both hidden from view of other forest users and located in a site removed from any riparian habitat. At the same time it had to be an area large enough for several hundred people to camp. From her viewpoint, the new site has been beneficial in large part because it allows the Forest Service to hold buyers accountable for any damage or littering done in the buying camp. Teri is careful, however, to note that in asking the Forest Service to find a new site for the mushroom camp, the FOM didn't intend to target mushroom pickers as the sole problem campers. However, she does blame them for littering and polluting the Jack Creek area, and targets them as the starting point for environmental destructive site occupation patterns that campers later in the season then aggravate.

Lori and her husband, Carl, also members of FOM, provide a similar version, with a slightly different slant on the degree to which the FOM was targeting the mushroom pickers as a problem:

C: I think we were concerned about that stretch [across from Jack Creek Campground] because it's open country and there was a lot of camping right down next to the stream, and I think the mushroom pickers tended

to be in there, and then it was three or four years ago that they decided to require them to relocate.

L: And they set up a special camp -

C: And I'm sure that they had - I'm sure this was part of their plan is to get them out of sight so we wouldn't even know that they were there.

L: I think as much as the forest health issue we were - well, it's part of the forest health issue, but the degradation of where they were camping, I think we were also very concerned about that.

C: I think initially concerned and interested was that not just the mushroom pickers, anybody that was camping in what they call dispersed camping, close to the water in sort of an unsanitary mass way. This was one of the kinds of things that we were observing, sort of out in the general forest, where the Forest Service was not paying much attention to it, or if they were, they weren't doing anything about it. They were just sort of staying away on Memorial Day Weekend so they didn't have to deal with it.

L: "What we don't know won't hurt us." Friends is tremendously concerned in the water quality and we want to keep this a pristine place as it is.

C: And this concern is certainly not focused on mushroom pickers, it's probably focused more on things like these huge horse parties that come on a three day weekend and there was casual camping going on where people were staying well over the length of time they're supposed to stay in the campground, there's a 14 day limit. People were sort of camping out and living there. This being the warm weather part of the year only, and then the mushroom pickers were kind of one of the elements that were involved in this. So that's forest health in a whole different way.

Several points emerge from Carl and Lori's account of how the move to Jack Flats came about. First, they interpret the Jack Creek move as an attempt by FOM to address forest health issues related to both water quality and soil degradation due to camping

activities. Like Teri, they see mushroom pickers as an important source of riparian damage, but unlike Teri are more adamant that other campers are also a problem. They also bring up the issue that pickers were staying over the 14 day limit that people are allowed to camp in recreational campgrounds. Unlike Teri, Carl and Lori project an air of skepticism about the motives of the Forest Service in locating the camp in its current out of the way location. They suggest that it might perhaps be linked to the Forest Service's desire to hide pickers from public view, so that people will forget that commercial harvesting is taking place on the forest.

Forest Service Views

Teri, Carl and Lori all remember the Jack Creek camping issue quite vividly. In contrast, with the exception of Joel, the District employees involved with the move had a difficult time recalling more than the vague outlines of the reasons for the move and how the selection of the new camp site was accomplished. Nonetheless, it is useful to explore the details they were able to recall and to compare their accounts with those of the FOM members and the pickers and buyers at Sisters. Joel was the SFP Program Manager on the Sisters District in 1993 when the Friends of the Metolius came to the Forest Service with their complaints about pickers camping along Jack Creek. He summarizes his recollection of the event in the following terms:

For a number of years, I allowed pickers to use our campgrounds while they were picking. And about four years ago [i.e. about 1993] the issue was brought to us by the public that the bonafide legal use of our campgrounds are for recreation. And commercial picking is not recreation. It's an industry and you're not allowed there. So we quit allowing that and basically ran them out of the campgrounds. It's really gone from "we don't care" to "we want." From "Yeah, you can use our campground," to "We've got a very specific area that you can go to and that's where you're gonna be.".... That spot [the Jack Flats Camp], I picked that spot. In a rush, I had to come up with something because the Camp Sherman people and biologists were upset because the situation that was going on along Jack Creek there. So I picked that spot just at

the drop of a hat. I thought about it. I knew that spot, I thought it was fairly pretty. I knew it had a crick right behind it right there; grassy, and so I picked that spot.

Joel's account mentions the two reasons for moving the pickers that Lori and Carl brought up: Commercial pickers aren't legally allowed to camp in recreational campgrounds and the biologists and the residents of Camp Sherman had raised concerns about sanitation and riparian habitat degradation. He notes that he was the person who selected the Jack Flats site, and that he had to do it in a hurry so picked the best place he could think of on the spur of the moment. Although he didn't involve pickers or buyers in the selection process, he did give some thought to the types of things mushroom pickers would be looking for in a camp.

Dale, who took on Joel's job shortly after the camp selection, recounts the move as follows:

I think they were just very visible there. They were in a campground along a creek - true or not, we were getting reports that people were washing their dishes in the creek and doing things that just were detrimental to water quality and just the riparian habitat - that campground is right on the creek. And so being a sensitive area that's not someplace we want to concentrate activity. So that's why we pretty much prohibited industrial camping in there and tried to find someplace that we could set up for the long term and not have to worry about the impacts. It [the decision to move the camp] was a Camp Sherman and Forest Service thing. Kind of together. We were starting to look at it with an uneasy eye. Started getting people talking to us also from the communities that were concerned and thought it was time to come up with a different spot. In general the pickers and the buyers weren't happy with that decision. They wanted to be near the creek, near water, just like everybody else likes to camp near water. Pretty much the response I got from people in the industry was they were unhappy with that change (Dale).

Dale's version sheds a little more detail on the Forest Service view of the move - residents of Camp Sherman had begun to voice their disapproval of the way in which pickers were occupying the site, and the Forest Service reacted to that pressure. He

notes that the pickers and buyers he has talked with were not at all pleased with the shift, primarily because they aren't near a source of water at the present site. Dale also provides additional details on the selection criteria for the site:

Well, it is not on a creek. There is a good road going through it with a number. It's in an old timber sale area so we knew there were a number of landing locations right along the road that are pretty natural setups for buying stations. The road is long, the good improved cinder road through there. We know we can accommodate quite a few people. We haven't come close to matching the capacity of that spot with the numbers of people. I went through the usual hoops of threatened, endangered, sensitive plants. We have concerns there and we have archeological concerns, silvicultural concerns. I went to the various resource shops in the district and that area came out as being a good spot. The buyers were a little concerned that they weren't as visible. They were moving out of the tradition, you know, an area where they were traditionally found, to an area where they were afraid that the pickers wouldn't be able to find them. We let them put out a sign, we handed out the maps and that kind of thing. It doesn't take pickers very long to figure out where the buyers are (Dale).

From the Forest Service perspective, the Jack Flats site is a good site in part because it is located in an area that is not considered ecologically sensitive. At the same time, it is a big enough site to accommodate a large number of people, and the road is passable even when wet. Dale also recognizes that a part of the industry's resistance to the move is rooted in their feelings of having tradition disrupted. However, he attributes their concern to economic reasons – namely the fear among buyers that pickers won't know where they are. However, he notes that the Forest Service has made an effort to address those concerns by letting buyers advertise their presence on the main national forest road located a mile from the camp. In addition, they provide pickers with a map of where the buying station is located when they issue harvesting permits.

Mushroom Industry Views

Like the FOM members and the Forest Service, pickers and buyers at Sisters also attribute the move from Jack Creek to Jack Flats to the influx of a large number of

Asian pickers to the Sisters areas whose camping practices had a negative effect on the creek and the surrounding riparian vegetation. Rod's account of the move follows:

Well, I know the reason it happened - pollution. I mean, when you put a toilet ten foot from a creek, just dig a hole and put a tarp around four poles, that's pollution....{The move} was another intergovernmental thing. They just said, "Well, we're going to put all the buyers down here so we'll put all the pickers down here too." They wanted to centralize everything. Because at that time the buyers were setting up wherever they felt like it and it was a disorganized thing. And the buyers were bickering over spots and all this shit, right? And I agree with that. They didn't pick the best spot in the world, but still they picked a spot. Which is fine with me as far as that goes. They had to do something. Because it was really getting out of hand, that buyers could pull in there and buy and leave. And they couldn't keep track of anything, they couldn't keep track of buyers or nothing. So people were coming in and buying without having a buying permit. Just pull in the evening, buy, and they was gone. So it was completely disorganized, completely. And they organized it. And I agree with that.

In addition to the sanitation and habitat destruction problems associated with the large wild mushroom harvester population at Sisters between 1990-1993, Rod also observes that the big crops also brought in a lot of buyers to the area. Some of the buyers began to argue over buying spots, and other buyers avoided the conflicts entirely by adopting a roving buyer strategy. In Rod's view, the Forest Service's desire to bring an end to the conflict between the buyers over buying station locations, as well as the Forest Service's wish to put an end to the roving buyer practice, constituted an important impetus for moving the mushroom camp to Jack Flats.

Betty, Sisters' most prosperous mushroom buyer, also identifies the arrival of Asians in Sisters wild mushroom world as the catalyst for the Forest Service to move the buying camp out of Jack Creek:

After I was here about three years, then the Cambodians started to come in, because they found out about it. There was no change in the mushrooms, there was no change in anything except for they did get us throwed off because they like to go down and Jack crick and take baths

in the crick and they went to the bathroom on the edge of the cricks, and all that, and so they threw us out of that area and put us out in here with no water. That's why we're here. There's no water, no nothin', except dirt, dust and it's nasty and it's miserable, and it's been miserable ever since I've been over here. They come over and they said we've got a change and this is the way it's gonna be. Now, the forestry is real good, they're nice to work with, they're all decent people, we've had our share of lousy law enforcement officers, but they don't last very long....So they've been real good about it. It's just that, they thought we were an eyesore, over there, along the crick, along the main road (Betty).

Unlike Rod, however, who thinks the new camp is fine, Betty is quite displeased with the Jack Flats camp and with the idea that the Forest Service felt that it was acceptable to move the camp without consulting with the pickers and buyers. She also has a much less benign view of their motives for moving the camp. For example, her comment that the Forest Service considered the pickers at Jack Creek to be an "eyesore," carries the strong implication that she believes that the Forest Service treats pickers as second-class citizens and lacks respect for them and their work.

Dale, a sometimes buyer, sometimes picker, articulates even more explicitly the notion that the public and the Forest Service view mushroom pickers as inferior forest users in his account of the move from Jack Creek:

And they moved us out of there [Jack Creek] because they said that the public didn't like the mushroom pickers being there. Nothing was ever said. They just moved it. Well, it started by moving us first when you go across the little bridge there, at first we were all off on the right hand side - there was nobody up there. Then they moved us across the road into that little hole. Then they moved us out of there down here. So it took them a couple years to figure out where they wanted to put us (Dale).

Like Betty, Dale is clearly angry that the Forest Service moved the camp without consulting any pickers or buyers. His account portrays a world in which the Forest Service employees view pickers and buyers as objects, rather than human beings, who can be moved about at will and without any attempt to bring them into the discussions

on alternative ways to address the problems at Jack Creek or the criteria that ought to be used in selecting a new camp.

Jack Flats: A Wild Mushroom Panopticon

The new campsite lacks many of the attributes that most campers look for when selecting a camp site. It is located in a relatively hot, relatively open spot and has no water within easy carrying distance. Additionally, it is quite unsuitable as a buying site: it has a linear configuration so that the first buying station has a clear competitive advantage. It is also a mile off the main road and the location is unmarked and thus is invisible to anyone unfamiliar with the area.

The configuration of the Jack Flats buying camp is, however, nearly ideal from the standpoint of mounting effective surveillance of the people who come and go from the mushroom camp. In selecting the location of the new camp, Joel looked for a site that had only one entrance. Law enforcement officials can thus easily observe the comings and goings from the camp by stationing their vehicles near the camp entrance or adjacent to the first buying station. They can and do carry out patrols through the camp, and since the buying sites are all located right next to the road, it is very easy to observe who is coming in to sell mushrooms at each station. Pickers are somewhat more difficult to observe within the camp since they are not obligated to camp adjacent to the road. However, they are required to register their general camping location with the District when they obtain their industrial camping permit, and thus it is fairly easy for the District to link pickers to campsites. In addition, because pickers are required to include the license number of their car on their picking permit, the District can readily cross-check car licenses with their list of permittees.

In 1998, the district tightened its monitoring activities by setting up occasional road blocks at the camp entrance to check for people picking without permits. Because there is only one road in and out of the camp, anyone who wants to sell mushrooms has to pass through the roadblocks. In short, unlike the Jack Creek Campground, which had

very “porous” borders, and thus constituted a logistical nightmare for anyone trying to keep track of the people coming and going into the camp, the Jack Flats camp has a very limited number of escape routes,²⁸ and thus functions as a forest equivalent of Bentham’s panopticon. The notion that the Jack Flats Camp functions as a wild mushroom panopticon is supported by comments from Joel, Pat, and Monty about the disadvantages of allowing a roving buying system, rather than using the fixed mushroom buying camp system:

In the interest of the public who I'm supposed to be serving, I can't administer that. I can't stand here face to face and say, “We are administering the commercial mushroom pool, ma'am.” I cannot say that if we allow roving buyers. I just can't do it. I mean people'd come over from the valley one day and buy and be gone and they wouldn't be paying their dues. Whereas the fixed buying station I can administer that. I'd like to [be able to have a roving buyer set-up] 'cause I know it's better for the pickers that we serve and the buyers that we serve. I know it's a good thing but it's public land and it's gotta be administered in a certain way and it's that that makes us have to do the localized buying station (Joel).

I like it fixed a lot more. That is where my standpoint is and I think Dale would agree that, yes, it wouldn't be bad then maybe, if we had areas in all three, but then it is still really tough to be able to patrol all three areas. If I have problems, if a buyer calls me, where he gets it up to me somehow saying, “Hey, I am having problems.” “Which one are you at?” I think it is a good suggestion, I just think it would be tough to do from a Forest Service standpoint (Pat).

²⁸ Pickers quickly realized that there was only one good way in and out of the Jack Flats camp. However, many of them drive four-wheel drive trucks or sport utility vehicles and a number of pickers have identified several alternative entrances and exits that are difficult, but possible, to negotiate with a four-wheel drive vehicle. The Forest Service blocked the most commonly used alternative road in spring 1998 to make their road blocks more effective. However, within a day, three pickers mentioned to me that they had located another way to get out of the camp without passing by the roadblock.

This [Jack Flats Camp] is easy because I can come in, drive the main road and check everybody. This way if people are leaving garbage, I can say, "Hey, you know it is an industrial campground permit for this area, you are the one camped here and I am citing you for it." No more of this, "Well, we just moved in here." We can keep track of them [the buyers] when they're at one place, plus we can kind of keep track of the pickers too that way. If you're just out there roving around wherever they wanted to go, it would be a logistical nightmare. We want to control this because it's a forest product (Monty).

In the view of these District employees, one fixed buying camp is preferable to multiple fixed camps and roving buyer systems because it greatly reduces the amount of territory that they have to travel in order to maintain a watch on the camp or respond to calls for assistance. As Monty points out, the existence of one fixed camp makes it harder for pickers to claim that they just arrived in an area as a way to avoid getting a citation for camping without getting an industrial camping permit. Although pickers are free to camp in dispersed camp, the fact that they have to pass through the buying camp at some point during the day to sell their mushrooms makes it easier to keep track of who is picking on the District as well. Joel brings up the issue that the fixed buying camp helps level the buying playing field by ensuring that all buyers who buy on the District pay the buying permit fees. With a roving system, it would be too easy for a buyer to come in and buy without passing by the District to obtain their buying permit. Pat looks at the situation from the perspective not just of enforcement, but also of assistance – in his view the fixed buying system has advantages both for the District and for the buyers themselves.

Living in A Panopticon

Picker and buyer reactions to living or working within the wild mushroom panopticon in which the Jack Flats camp plays a central role vary considerably. As Dale and Betty's comments early on the move indicate, some pickers are convinced that the Forest Service moved the camp because they consider mushroom pickers to be inferior

forest users and wanted to hide them from the view of wealthier campers and recreationalists. If that was a motivation for moving the camp, it has been quite successful. The comments of the Recreation Planner, who is in charge of administering the District's campground program, suggest that the desire to make the pickers less visible did, indeed, play a role in the move of the camp:

I know one of the buying stations was right on Jack Creek. Right where Jack Creek meets the bridge and so it was also in a very visible area. Where it is now it's not on a main traveled road, so you can't see it.

Comments by FOM members, Teri, Lori, and Carl, indicate that the strategy of moving the camp has accomplished the objective of hiding pickers from public view:

And so how the mushroom pickers are conducting themselves in their own little social kind of experience they have is unknown to us because we don't see them. And so it appears to us the problem's gone away (Teri).

L: I don't think most of the people around here are aware that they're there at all. We don't see them. Ever seen the people down at the store that you would identify as mushroom pickers? I don't know how you identify them.

C: I don't either. I'm thinking stereotypes -

L: Stereotypes of Southeast Asian probably.

C: Or Hispanic. I don't know. I certainly have not ever been aware of people in the community that I connected with mushrooms.

The above comments from members of Friends of the Metolius, coupled with my own findings that almost none of the people I encountered at Camp Sherman or Sisters were aware that commercial picking took place on the District, much less where the mushroom camp was located, indicate that moving the mushroom camp from the very

popular and highly visible Jack Creek Campground to the Jack Flats area has rendered the wild mushroom industry at Sisters invisible to the public eye. As Teri remarks, from her perspective, the lack of visibility leads her to assume that wild mushroom harvesting is no longer a problem that FOM needs to be concerned about. Carl and Lori's reflections as to what a mushroom picker might look like also lend support to the hypothesis that the visibility of the wild mushroom pickers in the early 1990s was due in large part to the entry of Asian pickers into Sisters' wild mushroom world.

As with other aspects of the wild mushroom regulatory framework, picker and buyer reactions to the Jack Flats camp and associated enforcement activities vary and in many cases are tinged with ambivalence. Daniel, for example, paints a picture of the times at Jack Creek as very social and fun:

Yeah, it was Mayumi, and Dan and Bunny and Sven and Dick and Don - who else was there, Vernie? Jeb and Nickie would come over and camp. In those days we didn't have any problem. Everybody got along. Everybody helped each other pretty much. Now it's a dog fight. Yeah, that was the year they moved us out of the campground, across the road: "You got to move across the road, you can't be here no more." But there was some new people that Jack and Candy and Kent [brought in]. Nat, yeah, he was across the road. Yeah, we had a lot of fun back then.

However, even though he talks resentfully of the way in which the Forest Service accomplished the move, he also believes that the move may have been justified:

My opinion is that the campgrounds are for recreational use and mushroom pickers are here for commercial reasons, and basically there's a conflict there and they should be moved. I agree with it and I think the people that complain have a legitimate complaint. They're there for their family, to have a nice peaceful good time. They don't need to be pushed out by - it would be like if they were logging over there and they put all the loggers camps there at the campground. Yeah, they had a right to do that.

Dale has similar ambivalent feelings about the moving of the camp. His earlier comments in this section express his displeasure and frustration with the District for

deciding to move the camp without talking to pickers and buyers about it first. On the other hand, he notes that the new camp does have its good points:

Well, it has some advantages, I have to admit that. There is a safety aspect because there's a lot of people around so you're not going to get your trailer or your camp ripped off as likely as you would if you were way off someplace in the distance. And there's something to be said for having the law enforcement around. Because there are some undesirable people that do come through these camps, and in the last three years, a lot of those folks don't even come here because it's got too hot for them. You don't see them, they don't show up. Because they know they're going to get checked and if they've got warrants they're headed for jail and so we haven't seen a lot of that. [Dale]

The theme that the new camp and associated enforcement activities provides pickers protection from potentially dangerous people is a theme that another picker, Jack also picks up on:

This is better because of the Forest Service and I feel that the element of people, letting people out of prison all the time they do now, this is safer. In other words the more law that we have around here, I feel safer. The law is my safe guardian. Where before it was like, eh, I didn't know that much about society. I was really immature. But now they're dumping out people that have been in there for 10, 20 years - a lot. You wouldn't realize the statistics. They're letting them out on the streets and a lot of them, they're ending up here, wherever they can pick up a fast buck and live for nothing, sure.

In their comments regarding the positive aspects of the Jack Flat camp, both Jack and Dale focus in on the opportunity that the camp situation provides for law enforcement officers to systematically check pickers and buyers criminal and driver's license records. Such checks allow the Forest Service to identify people who are using the wild mushroom world as a way to hide from the law, which in Jack and Dale's view is good from the standpoint of increasing their feelings of personal safety and the potential for the wild mushroom world to acquire a more positive public image.

Other pickers and buyers had similar feelings that the new camp and surveillance system have their positive side in terms of providing a safer environment for pickers and buyers. However, as illustrated in the following observations, there is a strong feeling that law enforcement officers have gone overboard on the level and type of surveillance activities that they have instituted at the camp:

It stinks in here. We used to camp down along the creeks and it was really nice and we picked nice places. So they've took a lot of the enjoyment out of camping here....My gut feeling is that I'm getting fed up with the rules and regulations to the point to where it's took all the pleasure out of coming over here. I doubt that I'll come back here next year.... I'm getting tired of the hassle of all of this baloney (Dale).

They've taken the fun out of it is what they've done. It's taken the fun out of it... this here is more of a residential type area, this has always been local people, people from the valley, people from Bend, people from Sisters - we got people now that aren't even coming back in that live in Bend. But as far as affecting anything else, it's just that I've lost some of my best - maybe they don't pick so many mushrooms, but I've lost my friends, I've lost my honest pickers. That's why we come up here, it's like a reunion, because we have people that own businesses in Bend and people that work in Bend and people from Redmond, especially from Bend. A few from Sisters and some from Camp Sherman - they don't even want to come in here (Betty).

It's like for our safety and stuff. But over at Crescent Lake one time me and him and one of my buddies, we got lost - I mean we're concerned about finding the road. Instead of him telling us where to go, they arrest us. Get my I.D., his I.D., my buddy's I.D. - run up our name and check the car serial number and everything. They want to know if it's stolen, man. It pissed me off. I mean, if I'm a criminal, why would I want to go to you and ask you? I'd rather avoid you (Samboung).

Yeah, he had a free use permit and I had a commercial permit. I said, hey, we're trying to find some for supper. I didn't think that [the road block] was quite right. But I can see why they do it. I guess they have to do it, to control it. But I kind of felt like I was being interrogated (Jill).

These observations come from a Euroamerican man in his 40s who sometimes picks and sometimes buys, and who used to work for the Forest Service but now owns a ranch in eastern Oregon; a Euroamerican woman in her 50s who buys for the largest mushroom company in Oregon and runs a shiitake farm in the Willamette Valley; a Cambodian man in his late 20s who immigrated to the United States in the early 1980s and picks mushrooms as a way to build up a stake for following dream of being a professional musician; and a Euroamerican woman in her 60s who works picks mushrooms for fun and to supplement her income as a waitress at a cafe in a small central Oregon town. In short, these comments come from four people with very different backgrounds yet all have similar negative feelings about the ways in which the Forest Service has transformed their experience on the District. Betty's observations in the following paragraph sum up many of the objections that pickers and buyers raised about the Sisters' District's approach to the wild mushroom industry during the 1997 and 1998 spring seasons:

You know, there's one thing that I don't like. I do think yes, they need to keep the police - they know who the troublemakers are to begin with, why don't they just come in and say, "You guys, we don't mess with you, get out!" Instead of letting everything keep happening. And treating us all like we're criminals. I mean they're being prejudiced. They say they aren't. Now I like this forestry department here...But the thing I think is prejudiced about it is I told them too, I says, "You're enforcing this law which is fine - but you're treating us all like we're criminals." I said, "You got us penned in here like we're in a corral and they went and blocked the other end. Which is fine, because some of them sneak in and out when the police are here. Do your thing." "But get out here too," I said, "On these holiday people. That have harassed us for years when we're buying. They ride their motorcycles all around us, up and down through the boletes patches where they aren't supposed to be and police some like you're policing us. Put up a road block and stop every damn one of those guys on their motorcycles, see if they got a driver's license to drive on that road." But they're too busy because the big parties down at Billy Chinook, that they can't put anybody over here. But yet look how many people they put out here for us. There were five police! To me, now that's being prejudiced. It's being prejudiced not to race or

creed, it's being prejudiced because of they're holidayers and they're going to be gone and they're just out having fun. "You guys are going to be here for a month, month and a half. And we have to show you who's boss." Because we're all scuzz. We're all scummy scuzz mushroom pickers because some of them are. Because some are don't mean we all are. And some of the buyers are some of the lowest scum of the earth, but we aren't all.

An analysis of Betty's comments reveals several themes that surfaced in pickers' comments about the permit system earlier in this chapter. Betty qualifies her statements by acknowledging that there are some pickers who do pose threats to public safety, and that thus some level enforcement is acceptable to her. She stresses that it isn't the enforcement activities per se that are the problem, but rather that they seem to be disproportionately targeted at wild mushroom pickers. Moreover, in her view, the resources that the Forest Service is devoting to wild mushroom enforcement in her view are inappropriately large and concentrated for the relatively small kinds of problems that the mushroom world creates compared to activities of other types of forest users.

In response to my question as to whether she encounters the same level and type of law enforcement in other areas that she works, Betty provides an answer that gets at the heart of much of what underlies picker and buyer frustration about the emerging wild mushroom regulatory framework at Sisters:

No. At Crescent – but not in my area at all. Crescent does [have this type of enforcement], but Crescent has so many people. But they only had like road blocks at certain areas. It isn't getting everybody that comes through. It's only certain areas where they know the mushroom picking areas are. *They're treating us like we are Crescent.*

In one short sentence, "They're treating us like we are Crescent," Betty identifies what is wrong from the picker and buyer standpoint about the Jack Flats panopticon surveillance framework. It isn't the idea of having a framework itself that is the issue, but rather the degree to which a regulatory framework developed for a large and lucrative mushroom pick like Crescent is appropriate for a small and marginally lucrative mushroom pick like Sisters. Questions arise in pickers' mind as to whether

conditions at Sisters warrant setting into place such a visible and intrusive wild mushroom regulatory framework: Does the Forest Service really need to patrol a mushroom camp in which less than a hundred people are camping three times a day? On what grounds can the Forest Service justify spending the resources to have five employees checking permits at a second roadblock when the first roadblock of the season revealed a compliance rate close to 100%? Is it really necessary for the Forest Service law enforcement officer, the state patrol, and the county deputy to station themselves next to a buying station for three hours to make sure that buyers are abiding by the Oregon State rules regarding data recording? These questions, and the logical answers to them given the size of Sisters mushroom harvest, create a sense among pickers and buyers that the Forest Service is treating them like criminals, rather than with the kind of respect that they treat other forest users, such as campers, hikers, and hunters.

An analysis of the reasons that pickers and buyers give for what brings them to Sisters to pick wild mushrooms provides additional insight as to why pickers and buyers have such negative reactions to the emerging state wild mushroom management regime at Sisters:

To me this is my physical and mental therapy. I got a busted up knee, I got two toes missing, got my big toe's been chopped off and this one next to it, I been that way since I was 18 months old, my back is messed up, da da da - after a long winter I come over here and I walk for miles and I think and I look to the maker of the stars to try to better my life. To get my sights again, and actually that's what I use it for. I usually make \$500 a season. That's after my expenses, not including my mileage. My mileage covers my taxes. So actually it's break even. If I can do that and come out here and do what I'm doing right now I'm happy.[Jack]

I just like to be out here. This camp like this right now is stress releasing, don't have to worry about nothing. Relax my mind. Let it clear out everything. Stay in town, too much pressure in there. Just like a walk in the woods, you're by yourself. Your head be like, you feel like stress free (Samboung).

I work in a company, about nine dollar an hour, before I work [in mushrooms]. So you're doing better [in mushrooms]. Except you don't have medical. Not easy, but it's what I like. I like because no supervisor. I can supervise myself, no boss, no supervisor. If I want to go, I go. If I want to stop, I stop. Easy on my mind (Laotian).

This here is just something I like to do. In August, I'm doing cones there for about 3, 4 months. And I pick brush in the winter. And that's what I keep going on....Sometimes I go into Washington to do cones, sometimes Shasta, all over the coast. Sometimes over here. What the hell. It's just life. And I love doing it, I do. It's hard when you do this for a few years, you meet so many people. They're good people, they are. And that's just something I like to do. I've met a lot of mushroom pickers in the last 12 years, hope to meet a lot more (Del).

Mushroom picking is something I do to get rid of stress. I've got a bad back and it helps me to do the walking. I love it. The kids have to come up here if they want to see me. They all came up for Memorial Day weekend. It's beautiful country here and it brings the family together more often. Here you see us -- grandmother, aunts, uncles, children and grandchildren. Everyone comes up. It's good exercise. I get up here and my back is better after a couple days. My sister is the same way. And it's like I look forward to it every year. I told her -- I'll bring you up if I have to in a wheelchair (Jill).

I'm hardcore cause I enjoy it. And I enjoy it for my own use and what not. If I make some money fine, if I don't, fine. Like this year I haven't made any money, I've lost basically, lost money. Last year I made pretty decent money plus I was working as well, you know. I mean out of Bend. I've run out and pick mushrooms and I made you know, it was like a side job, I was able to make money (Gary).

And I used to come up here just to get away, it's a reunion. You get to see the same old people. You see this old man standing out at the campfire right now, they're just the nicest people in the world, him and his wife, a lot of these other people around here - we come up here because we get to see each other once a year. I'm up here because I know the people up here. And I don't care if they got a lot of money or if they're the poorest people in the world - I like them because they're real

people. And it isn't what they have or what they don't have, it's the way they are and the way they treat me and the way we treat each other (Betty).

I still love to get out there and pick a mushroom and run around the woods for a few hours and enjoy the beauty of it all and then sit down on a log and pet the dog and that part of it. I think we're throwbacks from the Gold Rush. We're the same kind of people that - we're all looking for that pot of gold at the end of the rainbow. I don't know how to explain it, but we're the gold seekers of the 1800's. We're still around, we're just doing a different thing. It's interesting. There's a certain amount of excitement when you walk into a big patch of mushrooms, and I've done it a thousand times but I still get that same thrill. It's a lot of fun. But I can make ten times as much money doing other things. It's not the money. It's a certain freedom thing (Dale).

What the above comments reveal is that for many pickers and buyers at Sisters making money is by no means the sole or even primary reason that they participate in the Sisters pick. Picking at Sisters also serves as stress therapy for many participants in the wild mushroom world; it gives them a chance to reconnect with nature and with their own spirituality in an environment far removed from the worries and cares of their often hectic home lives in the Valley or in the fast-paced cities of the west coast. Mushroom picking also provides a challenge, a thrill and sense of adventure that many pickers crave and are unable to find in the rigidity and inflexibility of other jobs that they have held or continue to hold. Picking at Sisters is also important for the opportunities it provides for people to reconnect with friends and family members in a setting where they can make money but still have time to kick back a bit and enjoy other aspects of living in the woods. While the Jack Flats panopticon might perhaps be an appropriate model for another type of wild mushroom setting, at Sisters it is clearly at odds with the expectations of the present set of pickers and buyers about what life in a mushroom camp is about.

Section 6: A Disciplined Wild Mushroom World

The data presented in the above sections illustrate how each of the five elements of disciplinary power contributes toward the capacity of the American nation-state (through agents of the Forest Service) to link particular actions taking place in Sisters' wild mushroom world with specific individuals, thereby enhancing the effectiveness of enforcement and the likelihood that people will behave in desired ways of their own accord to avoid social sanction. The capacity of these elements to control wild mushroom pickers at Sisters is enhanced by the links between the wild mushroom regulatory framework being constructed at Sisters with similar locally constructed frameworks in neighboring Ranger Districts and National Forests. The effectiveness of the disciplinary power framework at Sisters is further augmented by its ties to broader disciplinary power frameworks, including those operating in the forestry sector (i.e. such as the Northwest Forest Plan) as well as disciplinary power frameworks operating in other social domains (i.e. criminal justice, traffic control, etc.).

As was true with the Lakota in the 1870s, and the migrant farmworkers in California in the 1930s, not all pickers and buyers at Sisters have accepted passively the application of disciplinary power over their world. Some wild mushroom pickers and buyers at Sisters have made extensive use of covert and overt resistance strategies. Others have played the role of informant, serving as the eyes and ears that gather the information needed for the wild mushroom world surveillance system to function. A few people have sought to negotiate the terms of control in the Forest Service's formal and informal public involvement processes.

The disciplinary apparatus that is being set in place creates resistance among pickers and buyers because it seeks to fix people into uni-dimensional categories (i.e. commercial picker = industrial worker) when the reality is that many pickers at Sisters shift between picking for money, picking for fun, camping for fun, occasional buying, fishing, and hiking. In addition, the disciplinary apparatus seeks to fix people in place and time in order to facilitate monitoring and tracking. This fixing-in-place is

antithetical to the mobility and flexibility that constitute the very core of picker and buyer lives. Most importantly, perhaps, the district's efforts to create a wild mushroom panopticon in the form of the industrial mushroom camp has transformed what was once picker living space (i.e. camp) into a working place. Many pickers got into harvesting because they disliked working in industrial workplaces. Much of their current resistance to District regulations appears to stem from feelings of having lost control over their living spaces, as well as over their work places.

CHAPTER 7: RE-THINKING FOREST MANAGEMENT

Section One: Overview of Study Results

I sought to answer three questions with this study of the changes that have taken place in Sisters' wild mushroom regime during the past twenty years: 1) By what processes has the American nation-state managed to attain a considerable degree of control over wild mushrooms and the people who harvest and buy them? 2) How have the people whose livelihoods depend on wild mushrooms resisted or contributed to the efforts to construct a nation-state wild mushroom management regime? and 3) What are the implications of my story of wild mushroom politics at Sisters for political ecologists, Forest Service managers, and wild mushroom pickers and buyers?

Question 1: Processes for Establishing State Control at Sisters

This study of wild mushroom politics at Sisters indicates that the processes of disciplinary power have played an important role in the ability of the American nation-state to expand and intensify its hold over the domain of wild mushrooms on national forest lands. All five elements of disciplinary power systems -- categorization/ranking; separation and enclosure; establishment of a documenting apparatus; professionalization, and the construction of a panopticon-like surveillance system -- are presently in operation at Sisters.

The use of categorization and ranking as a technique for exerting power has involved the simultaneous reconstruction of wild mushroom pickers and wild mushrooms. In the eyes of national forest planners and administrators, during the past twenty years, wild edible mushrooms have shifted from the category of obscure and little understood culinary ingredients and forest understory organisms to the category of economically valuable and ecologically important ecosystem components. At the same time, the agency has placed commercial wild mushroom pickers into the category of forest users who participate in the harvest primarily for economic gain. The Forest

Service has also placed pickers into the category of armed and potentially dangerous users of the forest, as well as into the category of ecologically destructive forest users.

As these categorizations emerged and solidified, the Forest Service embarked on a program of separating wild mushroom pickers from other forest users. The Sisters District accomplished this separation process in part by enclosing wild mushroom buyers in the Jack Flats buying camp, and in part by excluding commercial pickers from camping and picking in areas designated for recreational forest use, such as developed campgrounds and wilderness areas. Ecologists and biologists working for the agency have sought to exclude commercial pickers from picking in the newly designated late successional reserves. Their efforts have succeeded in the national forests south and east of Sisters, but a strong pro-commodity production sub-set of district employees at Sisters has managed to keep the LSRs on the Sisters District open to commercial picking.

To facilitate the separation and enclosure process, the District simultaneously began to develop a system for keeping track of who came to the area to pick wild mushrooms, as well as where they camped. This apparatus now includes district-level camping and buying permit systems, a four-forest wide picking permit system., and a state-level buying record system. These documenting systems are the product of more than a decade of experimentation with a variety of wild mushroom regulatory approaches and practices. Many of these practices are rooted in regulatory systems developed for resources, such as timber, that differ considerably from wild mushrooms. In addition, these documenting systems have been heavily influenced by the nature of wild mushroom harvesting conditions and social interactions on national forests located to the east and south of Sisters.

At the time of my fieldwork, the District's wild mushroom management regime's individual elements had begun to solidify. The District had shifted its energies toward linking the elements together in a smoothly functioning system of surveillance. The surveillance system hinges on the existence of the Jack Flats mushroom buying camp,

which is structured spatially in a way that allows the District and county law enforcement personnel to monitor the comings and goings of pickers and buyers working in the area with minimal effort. Within the camp, each buying station also serves as a focal point for finer resolution surveillance. Buying records constitute the key mechanism by which the Forest Service has been able to expand its enforcement gaze to cover those times when District employees are not physically present in the camp or in the woods. The extension of the nation-state's enforcement gaze involves coordination between federal, state, and county levels of government. Coordination takes place at both the documenting stage (i.e. the buyer records are required under a state law and are enforceable by the state although thus far only the District makes use of those records) and at the monitoring and enforcement stage (i.e. the buying camp's success as a panopticon depends on patrols carried out on a regular basis by both county and federal law enforcement officers).

The weakest element in Sisters wild mushroom disciplinary power framework is the professionalization of knowledge element. Wild mushrooms, with their highly variable fruiting patterns, continue to defy efforts by mycologists to develop reliable methods for inventorying mushroom patches and to monitor and track their fruiting patterns. Without such methods, scientists are unable to gather the type of data that the Forest Service can use to support its decisions regarding wild mushroom management through appeals to science. The District thus has had to rely heavily upon the experiential knowledge of its own staff, supplemented by experiential knowledge from pickers and buyers, for making judgement calls about decisions such as whether to shut down LSRs to commercial harvesting.

Despite the gaps in scientific knowledge about wild mushrooms, the evidence from my study indicates that a state wild mushroom management regime is solidly emplaced on the Sisters Ranger District. The Achilles heel of Sisters state wild mushroom regime, however, is that the high compliance rates are linked to the continuous presence of a District employee charged with monitoring and tracking the activities of wild

mushroom pickers and buyers. By chance, that employee is someone who comes from a background rather similar to the largely Euroamerican picker population at Sisters. He also has an intense and genuine interest in learning more about the wild mushroom industry. He thus has developed a degree of trust and respect among the pickers and buyers at Sisters that other employees have not been able to achieve. Additionally, the high compliance rates are linked to the development and maintenance of a web of surveillance around the camp, a web that is expensive in terms of the numbers of employees and financial resources that it takes to maintain. A big question over the next five years will be whether in a climate of declining budgets the Sisters Ranger District will be able to continue the same level of enforcement. The answer to this question is not trivial, as the current protectionist management ideology favors a precautionary approach to management and thus without the funds to enforce the program, pressure will increase to shut the harvest down.

Question 2: Resistance and Contributions of Pickers to Disciplinary Power

My work indicates that pickers and buyers resist the imposition of disciplinary power over their lives in a variety of ways. At the same time, however, they also play a part in constructing and solidifying the disciplinary power framework. Resistance to efforts to establish a state wild mushroom management regime has taken a number of forms, including open defiance, covert defiance, grumbling, and recounting counter-narratives and constructing counter-images. During the late 1980s and early 1990s, many pickers and buyers openly defied buying, picking, and camping regulations. As the District's surveillance capacity increased, however, compliance rates also increased. Pickers and buyers who choose to defy the regulations now do so covertly rather than openly.

My work confirms the Sisters special forest products program manager's assessment that the District's permit system is almost on autopilot. True, some pickers and buyers continue to resist the regulatory framework, but much of the resistance has shifted into the realm of grumbling and the construction of counter-narratives. Although people

continue to defy the rules through such actions as picking without permits, using a personal use permit to pick commercially, picking in campgrounds and wilderness areas, and refusing to inform the District's special forest products technician when they move their picking camps, the scale at which these incidents of defiance occurs has reached a level that is tolerable to the District.

My study of wild mushroom politics at Sisters also indicates that pickers and buyers play an important role in ensuring that the disciplinary power framework over wild mushrooms is able to function. Pickers and buyers, for example, serve as the eyes and ears for the special forest products technician who has played a crucial role in expanding the field of vision and refining the degree of resolution of the District's wild mushroom surveillance system. Moreover, pickers and buyers have taken a proactive role in shaping the ways in which the disciplinary power framework affects their lives. For example, one reason for the relatively high level of compliance at Sisters is that the District and the neighboring Forests have made attempts to address the most contentious areas of the permit system. Permits for the spring season mushrooms are priced at a level that even poorer pickers can afford, the permits are valid for multiple Districts and Forests and thus take into consideration some of the concerns that pickers and buyers have about the need for a system that takes into account their need to be mobile. In addition, the Sisters District has sought to address picker complaints about their ranger station not being open to issue permits on weekends by allowing pickers with day permits to select non-consecutive days instead of requiring them to pick on consecutive days from the starting date of the permit. One reason for the lack of compliance in the early 1990s is that the rules had not yet become integrated into people's lives. It is possible that now that most people are used to the idea of getting permits for various mushroom activities, that most will continue to get them even if enforcement levels drop. My data suggest that many pickers are accepting of permits and regulations, provided that the ways in which they shape their lives make sense to them and if they can be relatively easily integrated into pickers' daily lives.

Question 3: Implications of this Study

My study of wild mushroom politics at Sisters has a number of implications of relevance to political ecologists, forest managers, and wild mushroom pickers and buyers. A summary of the major implications for each set of social actors is provided below.

Political Ecologists and Policy Researchers

One objective of my work was to explore the usefulness of applying a political ecology approach to the study of natural resource policy in a post-industrial setting. The narrative presented in the preceding chapters illustrates that the political ecology framework is, indeed, helpful for framing the analyses of conflicts such as those taking place at Sisters over wild mushrooms. By focusing my study on pickers and buyers, for example, rather than primarily upon the agencies who administer the nation's forest reserves, I was able to construct a picture from the ground-up of the various factors that shape how the wild mushroom industry at Sisters functions, as well as the strategies that pickers and buyers develop to cope with and take advantage of those uncertainties. I could then more easily identify the points of disjuncture that exist between the emerging wild mushroom regulatory framework and the everyday lives of wild mushroom pickers and buyers. The use of multiple scales and units of analysis also allowed me to illustrate the ways in which local, regional, and national levels of the state resource management regime intersect and combine to form a more solid and wider encompassing web of disciplinary power.

In addition, my work also suggests that political ecology analyses can be further refined through the explicit incorporation of a disciplinary power model of politics into the political ecology framework. As my work illustrates, the disciplinary power model of politics foregrounds the myriad forms of informal, everyday exercises of power that ultimately play an enormous role in shaping the contours of people's lives. For example, if one looks carefully at the micro-politics of forest policy, the fractured nature of a seemingly solid "state" becomes very apparent. Thus, although the discourse

of “forest as production place” dominated the Forest Service and thus national and local forest policy for much of the 20th century, a closer examination of the conservation literature reveals the on-going presence of other discourses. Similarly, while the discourse of the Northwest Forest Plan is strongly protectionist, within the Sisters District all three of the mainstream forest management discourses manifest themselves. The existence of local-level fractures allows other social actors to mount effective resistance to policies or to negotiate regulatory conditions that are more favorable to them. The Sisters District’s Special Forest Products program staff’s successful battle against the efforts by biologists and ecologists to shut down the District’s LSRs to commercial mushroom harvesting illustrates how such fractures can undermine the local effectiveness of policies framed at regional levels.

My work also suggests that non-state actors play an important role in facilitating the intensification of state control over their own everyday lives. Informant networks, in particular, constitute an important mechanism by which the Sisters District has been able to develop surveillance systems with a fine enough resolution to monitor and track individual picker and buyer behavior. My analysis suggests that just as state actors are not homogenous, neither are other social actors. Just as the fractured nature of the state permits other social actors to mount effective resistance to certain state control measures, so too do the fractures within the wild mushroom industry serve as points where the state (or other social actors) can begin developing an informant network.

Although this study focuses on wild mushrooms, in the course of conducting my fieldwork it became apparent that many of the issues related to disciplinary power and public involvement in the wild mushroom arena are broadly applicable to other forest management arenas. During 1997, the year that I started working at Sisters, the Deschutes National Forest and several other nearby National Forests initiated a user fee demonstration project requiring people who wished to park their cars at certain recreational trailheads to obtain parking permits. That project has since expanded to include most popular trails in most national forests in the Pacific Northwest. My work

suggests that the trailhead permit program is very likely the incipient stages in the construction of a much more extensive and widespread system for controlling recreational use and users on national forest lands. The Forest Service has put into place similar permit systems, along with the accompanying monitoring and enforcement systems, for wilderness users, campground users, wild and scenic river users, and snowmobile trail users. In the fall of 1998, one of the buyers I had interviewed, called to report that she'd just seen a sign on one of the roads in the national forest near where she lives in western Oregon stating that the local ranger district had set up surveillance cameras to track the comings and goings of people using Forest Service roads. My work thus suggests that a political ecology approach based on a disciplinary power theory of politics would be useful for examining resource conflicts in a variety of natural resource policy realms. This study also reveals the limitations of sovereign power models of politics, which if applied to the Sisters wild mushroom world, would have revealed very little, if any, of the power dynamics at work in that arena.

This work also underlines the importance of including a dynamic equilibrium model of ecology in political ecology analyses. For example, as I illustrate in Chapter Five, the ecological reality of wild mushrooms is that they do not come close to approximating resources that exist in a stable equilibrium. Pickers and buyers, who have developed an intimate acquaintance with the ecological characteristics of wild mushrooms over time, structure their lives in ways that reflect the dynamic equilibrium nature of these resources. They have developed complex livelihood strategies based on inter and intra-site mobility and, often, occupational and activity flexibility, to take advantage of the dynamic equilibrium characteristics of wild morels and boletes. For example, the combination of spatial mobility with occupational and activity diversification and flexibility allows pickers and buyers to take advantage of the moments when the mushrooms flush and to have fallback activities or sites in between flushes and crops. As indicated in both Chapters Five and Six, a major source of tension between the wild mushroom industry and the Forest Service is that the Forest

Service's policies are based on equilibrium ecology assumptions, focusing on averages rather than ranges of variability in terms of mushroom productivity and prices as the drivers for shaping new policies. This disjuncture between ecological reality and policy assumptions is most clearly represented in the decision by the Four Forests to set fixed opening and closing dates for the matsutake harvest in central Oregon, a policy that fails to take into account the considerable range of variability in the timing of matsutake fruiting from year to year.

In short, my work on wild mushroom politics at Sisters constitutes an important contribution to the political ecology literature in that it provides an example of how a more explicit incorporation of a disciplinary power model of politics into political ecology analyses works to nuance state-society relations. It simultaneously illustrates that political ecology is highly applicable as a research framework to the study of resource politics in industrialized, wealthy nations rather than a framework suited only to the exploration of natural resource politics in the Third World. As such, it implies that there are more similarities between Third World and industrialized nations in terms of the power dynamics that shape and are shaped by resource conflicts than many scholars have been willing to concede in the past. My work thus serves to help break down the dichotomy that has been constructed between Third World and industrialized countries, and points out the need for resource policy scholars working in the U.S. to examine forest policy discourses and prevailing power dynamics as critically as they would if they conducted their work in Third World countries. Lastly, as indicated in the following sections my work indicates that political ecology is useful, not merely as a critique of how power operates in given situations, but it can also provide practical suggestions for how policy analysts and activists can modify their assumptions and approaches to more directly address their objectives.

Lessons for Forest Managers

Rethinking Public Participation

This study of wild mushroom politics has several important implications of relevance to forest managers. Most importantly, my work suggests the need for fundamental change in how forest managers conceptualize public participation in natural resource management. Environmental laws, such as the National Environmental Policy Act, the National Forest Management Act, and the Resources Planning Act, have among their objectives ensuring that natural resource decisions remain reasonably transparent and that the American public has opportunities to provide input into those decisions. The public involvement processes established under the authority of these laws, however, are based on sovereign models of power. If disciplinary power is at operation and is as pervasive as I demonstrate that it is in the realm of wild mushroom politics at Sisters, then the questions to ask about public involvement is what constitute decision points when disciplinary power is so pervasive, and how are various social actors involved at those points? An additional question to ask is, to what extent is it possible for pickers and buyers to participate in these disciplinary power processes without having to buy into the humans-are-separate-from nature discourses that presently shape those processes and the goals of forest management? In other words, is it be possible for pickers and buyers to participate in the disciplining of the wild mushroom world without simultaneously giving up their view of humans-as-embedded-in-nature, a view which runs counter to the assumptions of the more powerful social actors active in forest management politics.

Using a sovereign model of power, a policy analyst would be tempted to focus on the fact that few pickers show up at meetings and hearings as the major problem in terms of giving mushroom pickers a greater voice over the management decisions that shape the room in which they have to maneuver to make a living. A logical solution would be to identify the barriers to picker participation and to change the nature and/or sites of those policy venues so as to encourage wider participation. My work, however,

suggests that such an approach, while important, addresses only one aspect of broadening picker participation in forest management decision-making. If successful, such an approach would provide pickers access to the formal decision-making processes, but would still not address Foucault's point that much of the time power is exercised, and important decisions are made, outside that formal legal framework. It is in the realm of disciplinary power where the sideboards for action are identified and fixed into place. Even if pickers became intimately involved in the public hearing and scoping processes required by the various environmental and public participation laws and regulations that govern our forest policy system, if they are not also involved in some of the key points in which the underpinnings of disciplinary power frameworks are established, then it is meaningless to speak of pickers having significant input into the decisions that affect their lives.

The Sisters wild mushroom case illustrates how focusing solely on sovereign power decision-making processes neglects the roles that different social actors play in constructing and solidifying disciplinary power frameworks. For example, the Forest Service categorizes both the LSR Assessments and the Watershed Analyses required under the Northwest Forest Plan as informational, rather than decision-making documents. As a result, the development of neither is subject to the NEPA process. Yet an examination of the Metolius Watershed Analysis and the Metolius Late Successional Reserve Assessment, as well as conversations with District employees about how those documents are likely to shape forest management activities on the Sisters District, clearly suggests that those documents set the sideboards as to what activities are likely to be accepted under the new ecosystem management regime and which ones are not. To the extent that mushroom pickers have not had a chance to contribute to the setting of those sideboards, and my work indicates very clearly that they have not been involved at all in that process, one cannot say that wild mushroom pickers have a significant voice in forest management decisions made at Sisters. In addition, to the extent that participating in those processes requires pickers and buyers to re-shape their

fundamental assumptions about the relationship that humans have with nature, one can also not speak of pickers and buyers as having a significant voice in policy-making.

Local-Regional Policy Tensions

Another implication of my study of relevance to forest managers is that sovereign power frameworks seem to favor the application of uniform policies over large geographic areas, thus enlarging the potential for locally inappropriate regulations. For example, the story of wild mushroom politics at Sisters is in part a story of mushroom pickers and buyers seeking to distinguish their harvesting site from harvesting sites to the east and south. Again and again, pickers and buyers emphasized during interviews that Sisters and Crescent are different places, and the rules that might make sense at a major harvesting site such as Crescent are completely inappropriate for a small-scale harvesting site like Sisters. My story suggests that maintaining locally appropriate policies is, nonetheless possible, as evidenced by the battle over whether Sisters should follow the lead of Crescent District in shutting down the late successional reserves to commercial wild mushroom harvesting.

Planning-Ground Connection

My work on the interactions taking place within the Sisters Ranger District relative to the implementation of the Northwest Forest Plan and the discussions surrounding the potential effects of commercial wild mushroom harvesting in the late successional reserves reveals that most of the planning on the district level is done by people who spend very little time out in the woods. As indicated in Chapter Six, most of the employees who know something about wild mushrooms and the effects of specific types of management activities, such as burning or thinning on their productivity, are technicians who spend the majority of their time out in the woods but who play very minor roles in the District's planning activities. A similar disconnect between planning activities and the involvement of employees with extensive ground-based knowledge

likely exists for other forest resources as well. My analysis of the Sisters' wild mushroom management regime suggests that the District's hiring of a special forest product technician to spend time on the ground played a key role in enhancing compliance among pickers and buyers. In part increased compliance is due to the technician's presence, but it is also due in part to the changes that the technician has suggested in permit conditions to address the needs of pickers and buyers. Forest managers seeking to improve regulatory compliance might thus wish to develop mechanisms for integrating staff members with ground-based knowledge into forest planning processes.

Little Science and Mushroom Policy

My work also indicates that an extensive and detailed knowledge base about wild mushroom ecology and economics already exists among participants in the wild mushroom industry. Much of this knowledge is experiential knowledge, acquired over years of repeated visits to mushroom grounds in the Sisters area and elsewhere. Although most of it is not codified or analyzed in ways that natural scientists recognize as scientifically valid, the body of "little science" knowledge is, nonetheless, an important resource that can contribute to the development of a wild mushroom management regime that has some hope of addressing the ecological, economic, and social issues associated with mushroom harvesting on national forest lands.

Implications for Wild Mushroom Pickers and Buyers

While it is clear from my work that wild mushroom pickers don't have much of a voice in setting the sideboards of national forest decision-making, and equally clear that there are ways in which the Forest Service's public involvement processes could be modified or expanded to better incorporate picker voices, it is much less clear whether it is wise for pickers and buyers to seek to expand their interactions with the Forest Service, and thus increase their visibility and the ability of the Forest Service to control

their activities. One buyer expressed the view that the Forest Service's interest in mushrooms is closely linked to the abnormally high prices that the Japanese had paid for American matsutake during the early and mid-1990s. In his view, the price inevitably will fall, bringing with it a corresponding decrease in the number of pickers and buyers competing for wild matsutake. Once that happens he believes it will only be a matter of time before the Forest Service decides that the cost of enforcing wild mushroom regulations is too high. His hope is that the agency will then revert back to its previous practice of turning a blind eye to pickers in the woods. If his prediction is correct, the less the Forest Service knows about the industry, the more difficult it will be for them to maintain an effective surveillance system. It thus could be better in the long term for pickers and buyers to have as little interaction with the Forest Service as possible, even if it means that the rules the agency makes are based on insufficient understanding of wild mushroom activities.

This conclusion is all the more persuasive if one looks at the history of the agency's timber management program. Despite rhetoric in the early 1900s that the federal forest reserves should exist to benefit the "small man," by the 1950s the agency's timber management policies clearly favored larger timber companies. My study indicates that administrative efficiency concerns already play an influential role in the decisions that the Forest Service special forest products coordinators and managers make. For example, the fixed opening and closing dates for matsutake on the Four-Forests exist solely for administrative efficiency reasons, rather than having an ecological basis. One national forest in eastern Oregon has also experimented with issuing exclusive wild mushroom leases on burns. Although that experiment failed due to a generalized spring mushroom crop failure in the year following the fires, many pickers and buyers voice the fear that the agency will institute a system of large acreage leases, which only the larger mushroom companies would have the funds to acquire.

On the other side of the argument, some pickers and buyers believe that it is too late for pickers and buyers to seek to remain invisible. In their view regulation is

inescapable, and thus it is important for industry participants to assume proactive roles in reconstructing the public image of pickers and buyers as legitimate and important users of the National Forests and making an effort to have a significant voice in the processes that shape the regulations that affect their lives. For example, since 1998, a small number of pickers and buyers who participate in the matsutake harvest at Crescent have enlisted the aid of a locally-based not-for-profit educational organization, The Jefferson Center, to help them initiate meetings on their own turf with representatives from the four National Forests straddling the central Oregon Cascades. These meetings have enabled pickers and buyers to influence certain regulations, such as the timing of the closing date for matsutake season. Although expanding picker and buyer influence over ground-level regulations can help various industry sub-groups participate in the construction of a state management regime that takes some of their key concerns into account, without the ability to influence the larger disciplinary power frameworks that provide the sideboards to the wild mushroom disciplinary power framework, pickers and buyers may ultimately find that they are fighting a losing battle. For example, the Northwest Forest Plan requires the Forest Service to take a strongly precautionary approach to commodity production activities in late successional and riparian reserves within the northern spotted owl zone. This requirement, over which pickers and buyers had little (if any) influence, greatly constrains the mobility strategies that pickers have relied so heavily upon in order to cope with the variability in mushroom fruiting patterns.

Areas for Future Work

My study of wild mushroom politics at Sisters has opened up a number of interesting avenues for future research. In my exploration of the workings of the wild mushroom world, it became clear that buyers are often targeted as the villains in the wild mushroom world, both by pickers and by the Forest Service and the media, which have developed the impression that buyers are making a fortune off of poor underpaid

pickers. My life in the mushroom camp and at the wild mushroom buying station in the Willamette Valley, however, revealed that buyers, like pickers and the Forest Service, are a heterogeneous lot. Moreover, they incur considerable costs in the process of moving mushrooms from the woods to the plates on the tables of the end consumers. My study at Sisters focused on the woods to the buying station part of the wild mushroom commodity chain; an interesting direction to move my work would be to follow that chain to the end consumers' tables to get a better sense for how profits from the industry are distributed among the various social actors who participate in that chain.

A second area for further research that my study opens up is the importance of looking at the intersection between "big" and "little" science. In Chapter Six, I touch lightly upon the ways in which the District is seeking to link big and little science. In the course of my work, however, it became clear that pickers and buyers are also seeking to make those linkages, and to some extent, so are the practitioners of "big" science. While doing my research on wild mushrooms at Sisters, I had the opportunity to observe several efforts by mycologists to involve pickers in scientific studies of chanterelles and matsutakes. A useful direction to move my work would be to explore whose knowledge within the picker and buyer community becomes incorporated into the state wild mushroom management regime framework and how, as well as what the consequences of those patterns of knowledge incorporation into mushroom policy are with respect to ecological conditions and the political and economic power of different social actors.

Epilogue: Why We Need the Rural West

I prefaced the prologue of this work with a quote from an article entitled “Do We Really Need the Rural West?” In that quote, the article’s author, western historian Hal Rothman, maintains that America no longer needs the rural west. In his view, national forests in the information age have more value as playgrounds and protected places and their use by resource extractors is no longer a policy that contributes to the well-being of American society. In his view, inhabitants who continue to derive their livelihoods from natural resource extraction or harvesting have become ecologically destructive anachronisms. He thus suggests that, as a society, we should consign loggers and ranchers, and by extension, wild mushroom pickers to oblivion and cease giving them the access that they need to national forest lands to pursue their outmoded livelihoods.

My study of wild mushroom politics at Sisters, however, suggests that Rothman’s term “resource extractor” probably lumps together a heterogeneous set of people who engage in resource harvesting activities for a variety of reasons and in a variety of ways. For example, as illustrated in Chapter Five, mushroom pickers at Sisters range from people who rely upon wild mushrooms for the bulk of their incomes to people who participate in the harvest primarily for enjoyment and relaxation. The examples I describe in the same chapter of the ways in which harvesters seek to improve or maintain patch productivity indicate that stewardship ethics are by no means absent among mushroom pickers, even those who have only recently begun to engage in picking as an occupation. Some pickers have accumulated extensive and detailed knowledge about wild mushroom fruiting patterns, as well as about forest ecology more generally. In some cases, this knowledge has been or is being passed on from generation to generation. Moreover, from the standpoint of many pickers, recreational users are far more destructive of the forest than they are, yet recreational users are much less likely to be the targets of Forest Service enforcement efforts. The view expressed by the Sisters District’s Wilderness Planner that commercial harvesting is less challenging and spiritually fulfilling than wilderness hiking or climbing is belied by the

evidence in Chapter Six, where many pickers note that the daily challenge of finding mushrooms and the spiritual fulfillment they get out of being and working in the woods are among the things that drew them to and keeps them in the commercial wild mushroom world.

Other studies of non-timber forest product harvesters in post-industrial settings provide similar conclusions. The maple sugar producers that Hinrichs (1998) describes in an article on the cultural economy of maple syrup production in Vermont and Quebec vary in terms of the degree to which they are dependent upon income from maple sugaring. Like wild mushroom harvesting at Sisters, maple syrup production provides a venue for bringing families together around an activity that they carry out in common in the woods. And like wild mushroom harvesters at Sisters, maple syrup producers engage in syrup production partly for money and partly as a form of work-based recreation.

These same themes of work that is simultaneously leisure, of work that serves as a means to bring family members together, and of work that provides an important cushion of safety for rural inhabitants are also present in Emery's (1998) study of non-timber forest product harvesters in Upper Michigan. Likewise, French anthropologists, Larerre and de la Soudiere (1985) emphasize the work-leisure nature of wild mushroom harvesting in the Massif Central area of France, the spiritual importance that rural inhabitants place upon their participation in the yearly mushroom harvest, and the importance of wild mushroom gathering as a supplemental source of income for rural families.

Taken together, these studies as well as my work on wild mushroom harvesting at Sisters, provide a very different answer than Rothman's to the question of whether we really need the rural west, or more specifically the west's resource extraction/harvesting traditions. In addition, my work raises questions about the sovereign model of power that underlies Rothman's argument. Contrary to Rothman, these studies and my own of non timber forest products social and political dynamics suggest that America has much

to gain by supporting new and old traditions of land-based work, whether logging, ranching, mushroom picking, or moss gathering. As Richard White (1995:185), another western historian notes, work is where environmentalism should begin:

And if we do not come to terms with work, if we fail to pursue the implications of our labor and our bodies in the natural world, then we will return to patrolling the borders. We will turn public lands into a public playground; we will equate wild lands with rugged play; we will imagine nature as an escape, a place where we are born again. It will be a paradise where we leave work behind. Nature may turn out to look a lot like an organic Disneyland, except it will be harder to park.

There is, too, an inescapable corollary to this particular piece of self-deception. We will condemn ourselves to spending most of our lives outside of nature, for there can be no permanent place for us inside. Having demonized those whose very lives recognize the tangled complexity of a planet in which we kill, destroy and alter as a condition of living and working, we can claim an innocence that in the end is merely irresponsibility.

If, on the other hand, environmentalism could focus on our work rather than on our leisure, then a whole series of fruitful new angles on the world might be possible. It links us to each other, and it links us to nature. It unites issues as diverse as workplace safety and grazing on public lands; it unites toxic sites and wilderness areas. In taking responsibility for our own lives and work, in unmasking the connections of our labor and nature's labor, in giving up our hopeless fixation on purity, we may ultimately find a way to break the borders that imprison nature as much as ourselves. Work, then, is where we should begin.

My work on wild mushroom politics strongly supports White's suggestion that work "is where we should begin," when looking for ecologically healthy ways of conceptualizing human-nature relationships. After just a few decades of working in the wild mushroom world, mushroom pickers and buyers have developed a far richer knowledge of wild mushroom ecology, sociology, and economics than mycologists, resource economists, and sociologists have during the century that those disciplines have been in existence. Even as more funds become available for scientific studies on topics related to wild mushroom harvesting and buying, it is unlikely that scientists will ever be able to

produce knowledge with the same depth and breadth of the experiential knowledge produced by commercial wild mushroom sub-cultures in which pickers are in the woods and at the buying stations, day in and day out, season after season, year after year, noting internally the changes and patterns they see as they seek to make a living from harvesting wild mushrooms. Similarly, buyers who spend day after day in the buying station, tracking prices and supplies locally, regionally, and globally, produce a type of experiential knowledge of a depth and breadth that is difficult for economists to replicate of the links between weather, prices, competing sources of supply, changing market demands, transportation strikes, technological innovations and so forth. While scientific knowledge has important uses for managing natural resources, it is important that we continue to recognize that working in nature provides people with knowledge that is equally valuable and perhaps more likely to enable us to craft policies that acknowledge that humans are a part of nature rather than its master or its destroyer.

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APPENDIX A: PICKERS' MUSHROOM CIRCUITS

PICK LOCATION	P1	P2	P3	P4	P5	P6
Oregon						
Sisters/Ochocos	S	S	* S/F	S	S	S
Eastern Oregon	S			S		S
Keno/Bly	S					S
Mt Hood /White Salmon						
Willamette Valley /Coast Range	F/W			F/W	F/W	
Oregon Coasts	M	M/F		M/F/W		
Crescent Lake	F				F	F
Brookings	W					F/W
Cave Junction	F					F
California	W					W/S
Washington						M/F
Idaho/Montana					M-1x	M
Alaska						
Canada						
Total Picks	9	2	1	4	3	9

S=Spring, M=Summer, F=Fall, W=Winter

*Non-commercial activity 1x=Participated in pick one time so far

PICK LOCATION	P7	P8	P9	P10	P11	P14
Oregon						
Sisters/Ochocos	S	S/F	S	S	S	S-1x
Eastern Oregon			S			S/M
Keno/Bly						
Mt Hood /White Salmon	S					
Willamette Valley /Coast Range	F/W			F/W	F/W	
Oregon Coasts	M/F/W					
Crescent Lake	F	F	F	F	F	F
Brookings						
Cave Junction						F
California						
Washington						F
Idaho/Montana			M	M-1x	M-1x	
Alaska						
Canada						
Total Picks	5	2	4	3	3	5

S=Spring, M=Summer, F=Fall, W=Winter

*Non-commercial activity 1x=Participated in pick one time so far

Note: Pickers 12 and 13 were not included in this chart since they did not pick in the Sisters area.

PICK LOCATION	P15	P16	P17	P18	P19
Oregon					
Sisters/Ochocos	S	S	S	S/M	S
Eastern Oregon		S/M		S/M	
Keno/Bly				S/M	
Mount Hood/ White Salmon				S/M	
Willamette Valley/ Coast Range			F/W		F
Oregon Coast				F/W	
Crescent Lake	F	F	F		
Brookings		F		F/W	
Cave Junction		F			
California		F/W		W	
Washington				S/F	
Idaho/Montana			M-1x	M	
Alaska		M-1x			
Canada		M/F			
Total Picks	2	7	3	9	2

S=Spring, M=Summer, F=Fall, W=Winter

*Non-commercial activity 1x=Participated in pick one time so far

PICK LOCATION	P20	P21	P22	P23	P24
Oregon					
Sisters/Ochocos	S	S-1x	S	S	S
Eastern Oregon		S/M			
Keno/Bly		S/M			
Mount Hood/ White Salmon					
Willamette Valley/ Coast Range	F			F/W	
Oregon Coast	F		F		
Crescent Lake		F		F	
Brookings		F/W			
Cave Junction		F			
California		W/S			
Washington					
Idaho/Montana		M			
Alaska					
Canada					
Total Picks	3	8	2	3	1

S=Spring, M=Summer, F=Fall, W=Winter

*Non-commercial activity 1x=Participated in pick one time so far

APPENDIX B: PICKERS' ACTIVITY CYCLES

	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
P1	Mountain Matsutake											
	Early chanterelles/Fall mushrooms											
	Winter mushrooms/lichens											
	Morels						Morels					
	Boletes						Boletes					
P2	Dune Matsutake											
	Child care						Child care					
	Boletes						Boletes					
P3	Construction											
	Chanterelles*											
	Boletes						Boletes					
P4	Early chanterelles											
	Moss											
	Seed cones											
	Dune Matsutake											
	Fall mushrooms											
	Winter mushrooms											
	Cedar shakes											
	Brush											
	Fiddlehead fern											
	Morels						Morels					
	Boletes											
	Ornamental cones											
	P5	Fishing*										
Odd jobs (farm)												
Seed cones												
Mountain Matsutake												
Fall mushrooms												
Winter mushrooms												
Fiddlehead fern												
Morels												
Boletes												
P6	Early chanterelles											
	Mountain Matsutake											
	Winter mushrooms											
	Morels						Morels					
	Boletes											
	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May

	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
P7	Mountain Matsutake											
	Early chanterelles/Fall mushrooms											
	Winter mushrooms/ truffles											
	Morels						Morels					
	Boletes											
P8	Construction											
	Mountain Matsutake											
	Morels						Morels					
	Child care						Child care					
	Boletes											
P9	Rancing											
	Morels						Morels					
	Boletes											
P10	Fishing*											
	Odd jobs (farm/mechanic)											
	Seed cones											
	Mountain Matsutake											
	Fall mushrooms											
	Winter mushrooms											
	Fiddlehead fern											
							Morels					
	Boletes											
P11	Moss											
	Metals recycling											
	Seed cones											
	Mountain Matsutake											
	Fall mushrooms											
	Winter mushrooms											
	Fiddlehead fern											
							Morels					
	Boletes											
P14	Musician (clubs and restaurants)											
	Brush/beargrass											
	Early chanterelles											
	Mountain Matsutake											
	Fall mushrooms											
	Factory work											
	Morels						Morels					
	Boletes											
	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May

	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
	Restaurant cook											
P15	Mountain Matsutake											
	Morels											
	Boletes											
P16	Furniture											
	Brush/beargrass											
	Mountain Matsutake											
	Fall mushrooms											
	Morels											
	Boletes											
P17	Fishing*											
	Odd jobs											
	Mountain Matsutake											
	Fall mushrooms											
	Winter mushrooms/ truffles											
	Morels											
	Boletes											
P18	Huckleberries											
	Fall mushrooms											
	Coastal Matsutake											
	Winter mushrooms											
	Morels											
	Summer Boletes											
P19	Bark peeling											
	Landscaping											
	Construction/roofing											
	Mountain Matsutake											
	Fall mushrooms											
	Vacation											
	Truck garden											
	Morels											
P20	Boletes											
	Ornamental cones											
	Seed cones											
	Fall mushrooms											
	Bark peeling											
	Odd jobs											
	Morels											
	Boletes											
	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May

	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
P21	Mountain Matsutake											
	Coastal Matsutake											
	Winter mushrooms											
	Morels											
	Boletes											
	Ornamental cones											
P22	Seed cones											
	Furniture											
	Fishing/ clamming											
	Fall mushrooms											
	Brush											
	Morels											
	Boletes											
P23	Mountain Matsutake											
	Machine shop (occasional jobs)											
	Fall mushrooms											
	Winter mushrooms											
	Morels											
	Boletes											
P24	Summer home caretaker – restaurant cook											
	Morels											
	Boletes											
	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May

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