

**Land of the free-flowing rivers: administration of the 1968 Wild and Scenic Rivers Act
on designated rivers in Oregon and Washington State**

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Abstract

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On October 2, 1968, United States legislators passed the Wild and Scenic Rivers Act (WSRA), establishing a National Wild and Scenic Rivers System to protect free-flowing rivers with outstandingly remarkable values. Once designated, the river section is managed by one of four federal agencies, in cooperation with state and local government. This study examined administration of WSRA on 62 designated Wild and Scenic Rivers in Oregon and Washington State, under the administration of the US Bureau of Land Management (BLM) and the US Forest Service (USFS). Research examined characteristics of all designated rivers in the two states and assessed the content of a representative subset of 28 river management plans. Eleven federal employees who administer WSRA on four rivers were interviewed to gain an understanding of their experiences and perspectives on WSRA. Designated river segments cover a range of river lengths, designation years, and classifications. Most rivers have management plans, but a majority of the plans are over 20 years old. Plans address a high percentage of legally required elements, and over 80% of plans discuss goals and objectives, directives for cooperation, and monitoring. Fewer have implementation timelines, detailed boundaries, baseline river condition data, or estimations of budget. Only two have been updated since original publication. Plans developed jointly by the USFS and BLM consistently addressed the highest percentage of examined elements. All of the federal agency staff members were aware of the plan, but levels of plan utilization varied widely. Interviewees considered the sections on purpose of designation and standards and guidelines to be the most useful. Main challenges to implementing WSRA include funding for monitoring and outreach, staff turnover, and adapting to changing technologies and conditions. Even with these challenges to administering WSRA, federal employees felt positive about river designation overall.

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I have been lucky to have a lab group filled with delightful and inspiring people, and I want to thank them for the snacks, the feedback, and the friendship. Indeed, friends from all different spheres have encouraged me throughout the pursuit of this thesis. My family has been with me every step of the way, and I simply could not have done this without their tireless encouragement.

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I also want to express my appreciation for all of the work done by nonprofits such as American Rivers and American Whitewater on educating the public about Wild and Scenic Rivers. Their efforts paved the way for this thesis, and they continue to provide excellent information about the rivers.

Finally, I want to thank river enthusiasts the world over. Without their passion, the Wild and Scenic Rivers Act would not exist, and we would not be where we are at today in protecting these free-flowing, outstandingly remarkable rivers

1. Introduction

1.1 Overview of the Wild and Scenic Rivers Act

It is hereby declared to be the policy of the United States that certain selected rivers of the Nation which, with their immediate environments, possess outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values, shall be preserved in free-flowing condition, and that they and their immediate environments shall be protected for the benefit and enjoyment of present and future generations.

– Wild and Scenic Rivers Act of 1968, Section 1

On October 2, 1968, United States legislators passed the Wild and Scenic Rivers Act (“WSRA” or “the Act”), establishing a National Wild and Scenic Rivers System to protect free-flowing, outstandingly remarkable rivers (16 U.S.C. § 1271 et seq.). The Act prohibits federally licensed dams in the designated river section, and government agencies may not support any water resource projects that would significantly inhibit in-stream flow along the corridor. In addition, the managing federal agencies are tasked with protecting and enhancing the river’s Outstandingly Remarkable Values (ORVs), water quality, and free-flowing character (see Appendix A for a diagram of the WSRA program theory). Once designated, the river section is managed by one of four federal agencies: the Forest Service (USFS), the Bureau of Land Management (BLM), the National Park Service (NPS), or the US Fish and Wildlife Service (USFWS); in Oregon and Washington State, USFS and BLM manage all currently designated Wild and Scenic Rivers. Each region has different needs for management, and each agency has a unique culture that affects management.

1.2 Research objectives

This thesis examines administration of the Wild and Scenic Rivers Act on designated rivers in Oregon and Washington State, under the management of the US Forest Service and the Bureau of Land Management. In order to examine administration of Wild and Scenic Rivers in the Pacific Northwest, the research addresses three main objectives:

- 1) **River characteristics:** examine characteristics of designated rivers in OR and WA, with a focus on determining the presence of management plans on BLM managed rivers, USFS managed rivers, and jointly managed rivers.

- 2) **Management plan content:** assess the content of a subset of 28 river management plans in OR and WA, and compare plans developed by the USFS, plans developed by the BLM, and plans developed jointly by both agencies.
- 3) **Administration of WSRA:** explore the experiences of federal employees tasked with management of four Wild and Scenic Rivers in OR and WA, and examine their perceptions of the Act overall.

1.3 Document organization

This thesis contains six chapters. Chapter one is an overview of the Wild and Scenic Rivers Act and research objectives. Chapter two presents a more detailed background on the Act and its implementation in Oregon and Washington State, as well as an overview of research already conducted on the Act. Chapter three introduces several lenses that I use to examine WSRA implementation. Chapter four describes the research methods. Chapter five presents results and analysis. Chapter six discusses research conclusions, implications for Wild and Scenic River management, and suggestions for future research.

2. Background

2.1 The Wild and Scenic Rivers Act

The Wild and Scenic Rivers Act included eight rivers in the original legislation passed in 1968. As of 2012, the national Wild and Scenic Rivers System covers over 12,600 miles on 203 rivers (Interagency Wild and Scenic Rivers Coordinating Council, 2012). Eligible river segments are designated either through an act of Congress or through approval by the Department of the Interior to include a river protected by a state legislature in the national Wild and Scenic River system. Rivers are designated as wild, scenic, or recreational, depending on the level of development in the corridor.

Description of the classifications, from WSRA Section 2(b):

(1) Wild river areas -- Those rivers or sections of rivers that are free of impoundments and generally inaccessible except by trail, with watersheds or shorelines essentially primitive and waters unpolluted. These represent vestiges of primitive America.

(2) Scenic river areas -- Those rivers or sections of rivers that are free of impoundments, with shorelines or watersheds still largely primitive and shorelines largely undeveloped, but accessible in places by roads.

(3) Recreational river areas -- Those rivers or sections of rivers that are readily accessible by road or railroad, that may have some development along their shorelines, and that may have undergone some impoundment or diversion in the past.

The Act requires managing agencies to pursue non-degradation and enhancement of the Outstandingly Remarkable Values (ORVs) along the rivers. In order to ensure non-degradation on Wild and Scenic River land, managing agencies must conduct baseline studies, either as part of the process of studying a river for inclusion in the national system or as part of the river management plan drawn up for the river after WSRA designation. Section 7 of the Act confers the most stringent protection of the river under Wild and Scenic River designation, which is a direct ban on dams and other water projects licensed under the Federal Power Act, or any other federally assisted water project that would have a “direct and adverse” effect on the river’s free-flowing character, water quality, or Outstandingly Remarkable Values. In addition, all projects that have the potential to affect the flow of the river—including restoration projects—must undergo an analysis to determine whether the impact falls within acceptable levels.

In 1986, the Legislature passed an amendment requiring federal agencies to develop a comprehensive river management plan for each designated river (Public Law 99-590). The amendment added language to Section 3 of the Act, stipulating that the plan “shall address resource protection, development of lands and facilities, user capacities, and other management practices necessary or desirable to achieve the purposes of this Act.” In developing the plan, the agency must coordinate resource management in the corridor with adjacent federal land. The agency must also consult with state and local government, as well as the public, during planning. Managers of rivers designated prior to 1986 were given 10 years to come into compliance with this amendment.

In 1995, the Secretary of the Interior and the Secretary of Agriculture signed the Interagency Wild & Scenic Rivers Coordinating Council (Interagency Council) Charter. The charter set up provisions for the formation of a council to coordinate between the four federal agencies with WSRA management responsibilities, as well as any state or local government with an interest in the rivers (Interagency

Council, 1997). The Interagency Council maintains a database of information about designated rivers online at www.rivers.gov. They also publish guidance materials on the designation and management of Wild and Scenic Rivers.

2.2 Federal laws that interact with the Wild and Scenic Rivers Act

Section 10 of the Act outlines two important aspects of the Act. First, it directs agencies to pursue non-degradation and enhancement of a designated river’s Outstandingly Remarkable Values (Interagency Council, 1998). This language is the legal basis for the monitoring required of managing agencies. Second, Section 10 sets forth provisions for managing WSRA in conjunction with other applicable environmental resource management policies.

Specifically, it states that “in case of conflict between the provisions of these Acts, the more restrictive provisions shall apply.” Section 3(d) also directs managing federal agencies to coordinate with state and local government in planning for river management. This language in the Act points to the importance of integrating the various pieces of environmental resource protection legislation while managing Wild and Scenic Rivers. For reference, Table 1 provides an overview of federal and state legislation that affect Wild and Scenic River corridors. Several of the federal laws listed in Table 1 of particular importance to the WSRA are described in more detail below.

Table 1: Overview of federal legislation that interacts with WSRA

| |
|--|
| Organic Act of 1897 |
| National Parks Service Organic Act of 1916 |
| Multiple Use Sustained Yield Act of 1960 |
| Wilderness Act of 1964 |
| Land and Water Conservation Fund Act of 1964 |
| National Historic Preservation Act of 1966 |
| National Environmental Policy Act (NEPA) of 1970 |
| Federal Water Pollution Control Act Amendments of 1972 (Clean Water Act) |
| Endangered Species Act of 1973 |
| Forest and Rangeland Renewable Resources Planning Act (RPA) of 1974 |
| Federal Land Policy and Management Act of 1976 |
| National Forest Management Act of 1976 |
| Archeological Resources Protection Act of 1979 |
| Food Security Act of 1985 |
| Omnibus Water Act of 1992 |
| National Landscape Conservation System Act of 2009 |
| Omnibus Public Lands Management Act of 2009 |

The Wilderness Act of 1964 (16 U.S.C. § 1131-1136) established the official definition of US wilderness and led to the creation of the National Wilderness Preservation System. Similar to WSRA land, Wilderness areas are managed by the BLM, NPS, USFS, and USFWS. The goal is to manage designated wilderness land for the “enjoyment of the American people in such manner as will leave them unimpaired for future use and enjoyment as wilderness.” Many wilderness lands overlap with designated Wild and Scenic River corridors.

The National Historic Preservation Act of 1966 (16 U.S.C. § 470 et seq.) created a program to preserve historic properties throughout the US. Properties that meet the criteria for National Historic Landmarks are entered into the National Register of Historic Places. All federally funded or permitted projects on historic properties must undergo a Section 106 review, allowing parties with an interest in the area a chance to comment. Oftentimes a Wild and Scenic River will be designated in part because of its historic ORV, and the WSRA designation will dovetail with a requirement to inventory and protect historic properties in the corridor.

The National Environmental Policy Act (NEPA) of 1969 (42 U.S.C. § 4321-4347) requires federal agencies to consider the environmental impacts of their proposed actions and reasonable alternatives to those actions. Certain federal actions may qualify for a Categorical Exclusion (CE) if the Agency determines that the action will not have a significant individual or cumulative effect. If the event does not qualify for a CE, federal agencies are required to prepare either an Environmental Assessment (EA), combined with a Finding of No Significant Impact (FONSI), or an Environmental Impact Statement (EIS). Drafting an EIS is a more detailed process and includes input from the public and other government agencies. Wild and Scenic River management plans must go through the NEPA process, and the information contained in the EA or EIS often forms the baseline for the river management plan monitoring and management goals.

The Clean Water Act (33 U.S.C. § 1251 et seq.) protects the integrity of the nation's water by reducing point source and non-point source pollution, providing support for efforts to improve water quality and protect wetlands. The Clean Water Act (CWA) as a whole includes, but is not limited to, the Federal Water Pollution Control Act of 1948, the Federal Water Pollution Control Act Amendments of 1972, the Clean Water Act of 1977, and the Water Quality Act of 1987. The Federal Water Pollution Control Act and its subsequent amendments protect the quality of navigable waters of the United States. The main regulatory authority of the Clean Water Act is focused on point-source pollution, controlling the discharge of pollutants through the National Pollutant Discharge Elimination System (NPDES). The US Environmental Protection Agency (EPA) partners with state agencies to administer NPDES. Under the legislative authority of the act, environmental agencies also set total maximum daily loads (TMDLs) for allowable pollutant levels in water bodies. In addition, the Clean Water Act led to the creation of programs that provide grants for projects to reduce point and nonpoint source pollution. Monitoring is a key element of the Clean Water Act, and the federal legislation allocates responsibility for monitoring to

state agencies. The Department of Ecology oversees water quality monitoring in Washington State and the Department of Environmental Quality administers the water quality monitoring in Oregon. WSRA dovetails with the Clean Water Act in that protecting and enhancing water quality is a main goal of the WSRA. In particular, the monitoring goals of the Clean Water Act and WSRA overlap.

The Endangered Species Act (ESA) of 1973 (16 U.S.C. § 1531 et seq.) established a program to protect the ecosystems of plant and animal species determined to be threatened or endangered. The US Fish and Wildlife Service and the National Oceanic and Atmospheric Administration (NOAA) have responsibility for administering this program in coordination with state and local government. The ESA of 1973 built on legislation from the 1960s—including the Endangered Species Preservation Act of 1966, which provided some limited protections for endangered species, and its amendment in 1969, which prevented listed species from being imported and sold in the US. The 1973 legislation restructured the aims of earlier legislation by increasing protections for not just the listed species but its critical habitat as well. The ESA set up a broad definition of what constitutes a “taking” of a threatened or endangered species, thereby increasing the authority of USFWS and NOAA to regulate protections for the listed species. A key aspect of the ESA is that it applies to private lands as well as public. Many listed species appear within Wild and Scenic River corridors. This provides greater authority for the managing federal agency to work with USFWS and NOAA in setting standards such as in-stream flow levels, water quality levels, and requirements for managing land habitat. The regulatory authority of the ESA can also spur private landowners to work with government agencies to develop habitat management plans on private land. Thus the protection of critical ecosystems for threatened and endangered species has the potential to spur coordination between government agencies and the public, which can have an overlapping benefit of helping to protect certain other ORVs on the river.

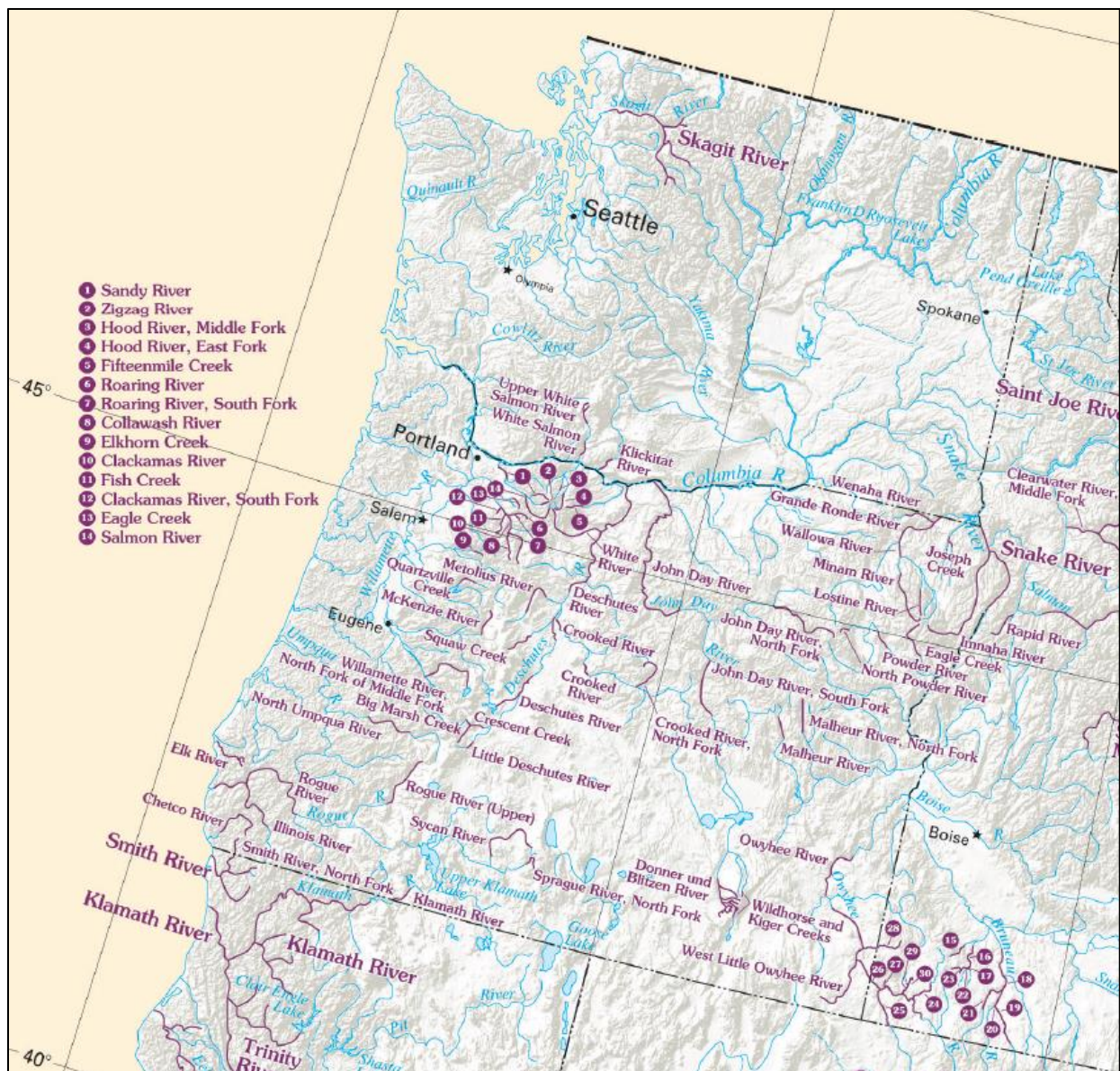
The National Forest Management Act of 1976 (16 U.S.C. § 1600 et seq.) sets up the primary governing directive for national forest lands. It builds on the Forest and Rangeland Renewable Resources Planning Act of 1974 by requiring the Secretary of Agriculture to develop a national renewable resources program promoting multiple-use and sustained-yield goals for forest land. In addition, the USFS must develop a resource management plan for each National Forest System unit (e.g. national forests, grasslands, etc.). WSRA mandates that river corridor planning be integrated with adjacent federal land planning, and Wild and Scenic Rivers often run through national forestland. Therefore the planning for the corridor must be coordinated with the planning for the forestland as a whole.

2.3 The Wild and Scenic Rivers Act in Oregon and Washington State

2.3.1 Designated rivers in the Pacific Northwest

Today in the Pacific Northwest, Oregon has designated approximately 1,918 miles along 58 river segments, while Washington has designated 197 miles found in three different rivers. As Figure 1 shows, the designated rivers are distributed across OR and WA, rather than being concentrated in one geographic area.

Figure 1: Map of designated rivers in OR and WA



The discrepancy between the number of rivers designated in OR and the number in WA is due in part to the Oregon Omnibus National Wild and Scenic Rivers Act of 1988 (Public Law 100-557). The largest river protection legislation in US history to date, the Omnibus bill designated segments on 40 Oregon rivers for inclusion in the National Wild and Scenic River System and named seven additional rivers to be studied for Wild and Scenic eligibility. In addition, the 2009 Omnibus Public Land Management Act of 2009 (Public Law 111-11) designated an additional 92.2 miles on 11 rivers in Oregon (located in the Mt. Hood Wilderness and the Copper Salmon Wilderness). The most recent designation in Washington occurred in 2005. The most recent in Oregon occurred in 2009.

2.3.2 Select OR and WA land use laws that interact closely with the WSRA

In addition to the federal laws discussed in Section 2.3.1, local land use laws administered by the counties affect regulations on private property. This is an important part of Wild and Scenic regulation because the federal managing agencies do not have regulatory authority on the private lands within the corridor. The Interagency Council suggests that federal agencies work closely with local government agencies to streamline management (Interagency Council, 2002). Language in the law also directs federal agencies to coordinate with local government in the application of land use and resource management on non-federal lands within the Wild and Scenic River corridor. The following section discusses several state land use laws of particular note.

The Washington State Shoreline Management Act (SMA) of 1971 (RCW 90.58) mandates coordinated planning efforts along the WA shoreline areas. The introduction of the SMA describes the need for “protecting against adverse effects to the public health, the land and its vegetation and wildlife, and the waters of the state and their aquatic life, while protecting generally public rights of navigation” (2nd paragraph). Shoreline is defined as all marine waters, lakes that are 20 acres or larger, and as streams and rivers with a mean annual flow greater than 20 cubic feet per second. The law also protects land that extends 200 feet from the edge of shoreline waters. Under the law, each city and county that contains qualifying shoreline must develop a Shoreline Master Program that coordinates administration of zoning laws and permitting in order to govern the environmental protection of, public access to, and overall use of shoreline areas. The purposes of the SMA and WSRA align well—they both seek to protect environmental quality as well as public use of the waterways and adjacent lands. For agencies managing WA Wild and Scenic Rivers that fall within a Shoreline Master Plan area, it benefits them to work closely

with the county or city to make sure the Shoreline Master Plan and the comprehensive river management plan are working in concert.

The Oregon Land Conservation and Development Act of 1973 mandates “properly prepared and coordinated comprehensive plans for cities and counties, regional areas and the state as a whole” (SB 100, Section 2). Originating out of SB 100, it created the Department of Land Conservation and Development (DLCD) as well as the Land Conservation and Development Commission (LCDC). According to the language of the act, the DLCD must coordinate local governments and solicits citizen input to develop a land use planning program that oversees orderly development to protect farms, forest lands, and natural resources. The LCDC, a board comprised of seven volunteer citizens, oversees the DLCD. According to the Oregon Land Conservation and Development Act, all cities and counties must develop comprehensive plans that adhere to the standards set by the state. As stated above, many Wild and Scenic River corridors encompass private land, but the federal managing agencies do not have regulatory authority on those privately-owned tracts. In Oregon, working with local government on administration of the city and county comprehensive plans is one way to help protect the river ORVs in private land area.

Washington State Growth Management Act (GMA) of 1990 (RCW 36.70) governs growth and development in Washington State by requiring state and local government to identify and protect critical areas and natural resource lands, as well as concentrate development in urban growth areas. To accomplish this, local governments must prepare comprehensive plans for development. The law encourages adjacent jurisdictions to coordinate in their planning, and it promotes the involvement of citizens in the planning process. Through these comprehensive plans, the cities and counties oversee permitting and development. Its goals of reducing sprawl and protecting critical resources of the state tie in with the WSRA goals to protect and enhance ORVs in the river corridor. Thus, in addition to the SMA, the GMA provides federal agencies managing WA Wild and Scenic Rivers with a legislative avenue for coordinating with local government in managing the land along the designated corridor.

2.4 Federal agencies responsible for managing Wild and Scenic Rivers in OR and WA

BLM and USFS are the two federal agencies that manage Wild and Scenic Rivers in the Pacific Northwest. The Forest Service is responsible for overseeing management of 1,095.6 miles on 35 Wild and Scenic Rivers in Oregon and Washington. The BLM is responsible for overseeing management of 635.8 miles on

13 rivers in Oregon. In addition, there are 11 Wild and Scenic Rivers in Oregon (covering 349.9 miles) where USFS and BLM manage alongside each other, each with its own area of jurisdiction along the river.

The Forest Service Handbook augments Interagency Coordinating Council guidance for Wild and Scenic River management by offering specific instructions for identification of rivers for Wild and Scenic River study, assessment of study rivers, the study process, the review and approval process, and Wild and Scenic River designation (US Forest Service, 2006). In addition, the Forest Service Manual specifies national USFS standards for management of study rivers, management of non-national forest lands on designated rivers, development of Wild and Scenic River Plans, and management on federal Wild and Scenic River land. Management directives address wildlife and fish, range, water, vegetation and forest cover, wilderness rivers, structures and improvements, transportation system, minerals, cultural resources, research, air quality, forest pest management, visual resources, fire, motorized use, and signing (US Forest Service, 2009).

The BLM Manual reviews national BLM policy for identification and evaluation of study rivers, the study process, review and approval process for a study report, and designation. The Manual also provides guidance for managing designated Wild and Scenic Rivers, including boundary establishment and classification, comprehensive river management plan development, state administered rivers given federal designation under WSRA Section 2(a)(ii), management of Wild and Scenic Rivers prior to completion of management plan, activities on designated rivers, federal reserved water rights, water quality, visitor use and capacity, and determinations of impacts under Section 7(a) (US Bureau of Land Management, 2012)

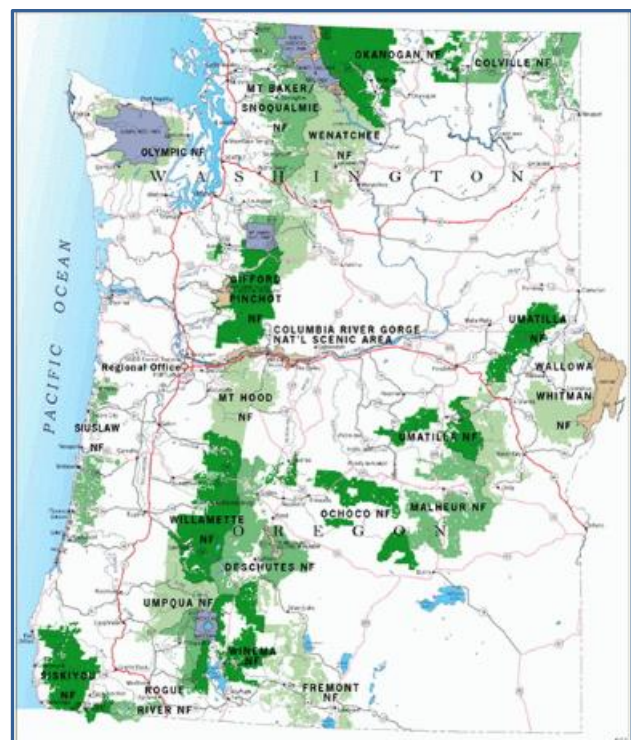
2.4.1 Background on the US Forest Service

Created in 1905, the Forest Service assumed responsibilities, set up under the 1897 Organic Act, to protect public forests, protect water flows, and manage the production of timber. In 1907, the reserves were re-designated as national forests. From the beginning of the century through the 1950s, the focus of the Forest Service was on using specialists and technical expertise to efficiently manage forests, with the main goal of producing lumber. In 1960, congress passed the Multiple Use Sustained Yield Act, which widened the focus from lumber production, to include protection of recreation, fish, wildlife, water, wilderness, and grazing (US Forest Service, 2005).

Congress continued to pass legislation throughout the 1960s and 1970s—including the Wilderness Act of 1964, the National Environmental Policy Act of 1969, the Surface Mining and Minerals Act of 1970, the Clean Water Act Amendments of 1970 and 1972, and the Endangered Species Act, among others—that broadened the scope of the Forest Service mission. Today, the Forest Service has shifted towards increasing its communication with the public and soliciting input from the public on planning for resource management (Tipple & Wellman, 1991).

Organizationally, the USFS falls under the administrative umbrella of the US Department of Agriculture. The Forest Service is divided into nine regions of administration within the US. The Pacific Northwest Region (Region 6) covers Oregon and Washington State. Region 6 contains 19 National Forests, two National Scenic Areas, one National Grassland, two National Recreation Areas, two National Scenic Areas, and two National Volcanic Monuments—see Figure 2 for a map of the Forest Service land in Region 6 (US Forest Service). A Regional Forester oversees administration in each region as a whole. Within each region, Forest Supervisors oversee

Figure 2: National forest land in Region 6



administration of the National Forests. Administration is further broken up into districts. District Rangers oversee the direct, on-the-ground work, with the help of staff that specializes in areas such as permitting, firefighting, and resource planning (US Forest Service, 2005).

2.4.2 Background on the US Bureau of Land Management

The BLM was formed in 1946, under the administration of the Department of the Interior. The BLM’s mission was informed by efforts in the 18th and 19th centuries—reinforced by the Homesteading Laws and the Mining Law of 1872—to oversee the survey and settling of acquired Western Territories. In the late 20th century, the government focus shifted from encouraging private settlements to recognizing

the public value of these reserves. Accordingly, Congress passed a number of laws in the early 20th century that governed management and resource extraction on public lands, including the Mineral Leasing Act of 1920 and the Taylor Grazing Act of 1934. The Bureau of Land Management formed from the merging of the Grazing Service and the General Land Office. Over 2000 laws on public land management existed at the time, some with conflicting mandates. For thirty years, BLM existed without a unified legislative mandate for how it should prioritize land management. This changed with the Federal Land of Policy and Management Act of 1976 (FLPMA), which introduced the concept of multiple use management. FLPMA directed the BLM to manage public lands “so that they are utilized in the combination that will best meet the present and future needs of the American people” (US Bureau of Land Management).

The main work of the BLM remains focused on the western U.S. The agency has state offices in Alaska, Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, and Wyoming. BLM work in the remaining 38 states is organized in one Eastern States region. Within each state, the BLM work is organized into districts. Figure 3 shows a map of the BLM districts in OR and WA (US Bureau of Land Management). The state office oversees strategic planning and collaborative coordination for all of the districts under its jurisdiction; there is one state office that administers to both OR and WA. The District Manager oversees direct administration of BLM duties in each district, through delegation to a wide range of specialists (US GAO, 1999).

Figure 3: BLM Districts in OR and WA



2.5 Research conducted on implementation of the Wild and Scenic Rivers Act

Study of the Wild and Scenic Rivers Act generally falls under three main categories: (1) study of the impact of designation (Keith, Jakus, & Larsen, 2008; US GAO, 1986); (2) studies of designated rivers’ physical qualities, such as in-stream flow (Garn, 1986); and (3) descriptions of the Act and its legal implications (Frost, 1992; Davidson, 2004). In addition, *The Wild and Scenic Rivers of America* takes a

broad look at the Act, including an overview of the theory of implementation, as well as some specific examples (Palmer, 1993). This is one of the few published works that examines process implementation of the Act.

3. Thesis research lenses

3.1 Adaptive management

Adaptive management is a type of resource management that employs an iterative system of monitoring and experimentation to update best management practices (Holling, 1978; Walters, 1986). The goal of adaptive resource management is to allow land managers to make informed choices in the face of uncertainty—an ongoing struggle for resource managers (Dietz, Ostrom, & Stern, 2003). Noss and Cooperrider offer a useful breakdown of the adaptive management cycle into five elements: (1) scoping, (2) inventory, (3) experimental design and indicator selection, (4) validation of models, and (5) data analysis/management adjustment (1994). Research has indicated that scientific monitoring has the potential to improve resource management and policy decision-making (Danielsen, Burgess, Jensen, & Pirhofer-Walzl, 2010; Lee, 1999), but its benefits have not been systematically proven. One area in which scientists have used the principles is to address morphing conditions due to climate change (Lindner, et al., 2014). It is also applied when there are multiple goals or even competing goals, such as environmental protection and economic development (Sims, et al., 2014).

While the concept of adaptive management has become increasingly popular, evidence suggests that the type being implemented on the ground does not tend to match the technical definition of the term. As Lee points out in his appraisal of the use of adaptive management on the ground, “adaptive management has been much more influential as an idea than as a way of doing conservation so far” (1999). It has become increasingly popular in natural resource management—in the year 2009 alone there were 295 articles published with the term “adaptive management” in the text, title, abstract or keywords (Rist, Campbell, & Frost, 2012). In their assessment of the current state of adaptive management, Rist, Campbell, and Frost demonstrate the range of ways the term is used, including as a buzzword with little meaning, and suggest that while the theory can be considered clear (albeit often misunderstood), the approaches used have not been explored (2012). They point out that few studies present a framework for a specific management problem or documented an application, and even fewer assess outcomes. One main challenge with implementing adaptive management is its costly and time-

intensive nature (Walters & Green, 1997). Thus it may not be the right management system for all situations.

3.2 Cooperation and collaboration

WSRA, as well as the guidance literature developed by the Interagency Wild and Scenic Rivers Council, directs agencies to collaborate on the CRMP design and cooperate on implementation (Interagency Council, 2002). Collaboration can be useful for watershed management because rivers naturally cross political boundaries, flowing between federal, state, county, and private lands (Dietz, Ostrom, and Stern, 2003). In this section I provide a brief introduction to collaboration and cooperation, and I relate these management approaches to Wild and Scenic Rivers Act administration.

3.2.1 Collaboration

An increase in citizen participation in government policy throughout the 20th century and the growing push in the 1990s for agencies to work together contributed to the development of collaboration as a governance tool. Collaboration can help address environmental issues that cross political boundaries and come from a variety of sources, such as non-point source pollution, for which top-down regulatory governance alone is an inadequate tool (Koontz et al., 2004). Collaboration is also one way that stakeholders with an interest in environmental management have sought to forestall costly litigation stemming from the various environmental Acts generated in the 1970s (Sabatier et al., 2005). Interest in collaboration has generated a wealth of research, including entire journal issues dedicated to the topic (for example *The Academy of Management Journal* Vol. 40, No. 2 and *Journal of Applied Behavioral Sciences* Vol. 27, Nos. 1 and 2).

In this thesis, I follow the lead set by Wood and Gray in taking a broad, inclusive view of collaboration. In their work developing a comprehensive theory of collaboration, Wood and Gray use the following definition: “collaboration occurs when a group of autonomous stakeholders of a problem domain engage in an interactive process, using shared rules, norms, and structures, to act or decide on issues related to that domain” (1991). I have kept this definition in mind as I examine Wild and Scenic Rivers Act implementation, post-designation.

Collaborative co-management is a form of collaboration that focuses on collaboration between different levels of government entities and local resource users. Berkes discusses a model of collaborative co-

management that is particularly relevant to the process of implementing the Wild and Scenic Rivers Act, which calls for collaboration between federal agencies, the Tribes, state government, and local government (2009). Collaboration between different levels of government is important for resource management (Wondolleck & Yaffee, 2000). However, getting agencies to work together can present its challenges. Collaboration through shared management plans and continual communication is one way to overcome those differences in organizational culture (Bardach, 1998).

Given the contextual nature of resource management and the unique nature of regional stakeholders, much of the research on collaboration, particularly in watershed management, focuses on drawing conclusions from case study examples (including MacKenzie, 1997; Kingsford, Boulton, and Puckridge, 1998; Mullen and Allison, 1999; Thomas, 1999; Hibbard and Lurie, 2006; Bentrup, 2008, to name a few). There have also been research efforts aimed at surveying case studies in order to discuss frameworks for collaboration (Wood & Gray, 1991; Selin and Chavez, 1995; Innes & Booher, 1999; Leach, Pelkey, and Sabatier, 2002; Emerson, Nabatchi, & Balogh, 2012) and suggesting broad conclusions about collaboration on watershed management (Imperial, 2005; Bidwell and Ryan, 2006; Hardy and Koontz, 2008). Table 2 on the following page showcases conclusions from two such survey-based research efforts, by Leach and Pelkey (2001) and Gerlak and Heikkila (2007).

Table 2: Conclusions from two studies on lessons to be learned from collaboration on water resource management

| | |
|---|---|
| <p>Adapted from Leach and Pelkey (2001): “Making Watershed Partnerships Work: A Review of the Empirical Literature,” Fig. 1</p> | <p>Adapted from Gerlak and Heikkila (2007): “Collaboration and Institutional Endurance in U.S. Water Policy”</p> |
| <p>Themes for watershed partnership collaboration success, ranked in order of frequency (↑ number of studies that affirm the theme, ↓ number of studies that contradict the theme)</p> <p>Funding (↑23) Effective coordinator or facilitator (↑22) Scope of activities: limited or focused (↑16, ↓6) Broad or inclusive membership (↑16, ↓8) Cooperative and committed participants (↑16) Trust (↑16) Low or medium levels of conflict (↑14, ↓2) Agency staff support and participation (↑13) Well-defined decision or process rules (↑12, ↓3) Adequate scientific and technical information (↑11) Consensus decision-making (↑12, ↓2) Adequate time (↑9) Effective communication, data sharing (↑9) Legislature aids agency participation (↑9) Appropriate geographic scope (↑9) Monitoring or adaptive management (↑8) Local, bottom-up leadership (↑8, ↓7) Training in collaborative processes (↑6) Agencies encourage staff participation (↑6) Community resources (↑6) Formal enforcement mechanisms (↑3, ↓3)</p> | <p>Factors that spur collaboration and contribute to longevity of collaborative institutions dealing with water issues</p> <p>Impetus for Collaboration Leadership (or policy entrepreneurs) Evidence and wide-spread concurrence about the salience of problems facing each region Experience working together External institutional triggers</p> <p>Sustaining Collaboration Leadership External institutional triggers, such as the Clean Water Act and Endangered Species Act Prior cooperation Organizational structures, such as advisory committees and boards Science and information Adaptive management, with scientific panels and independent scientific review Adaptive governance Financial resources</p> |

The specter of a legal or political challenge to environmental policy implementation can provide one incentive for government agencies to collaborate with stakeholders such as tribal groups, agricultural interests, and environmental groups (Sabatier et al., 2005). In addition, collaborative governance provides government agencies with the opportunity to manage river corridors and watershed holistically, instead of wasting resources by addressing river issues in a fragmented or redundant manner. As an added benefit, collaborative governance can attract a diverse array of financial and human resources that can then be dedicated to the issue (Koontz et al., 2004). The collaborative process can also foster interest and draw people together in further efforts to manage the issue. Collaborative governance on a particular issue has the potential to lead to creation of a long-lasting institution, such as a watershed partnership, which then helps the governing agencies productively manage a resource long past the formal collaboration process (Gerlak and Heikkila, 2007).

However, there are some potential downsides and risks with collaborative environmental management. Collaboration can be very time-consuming and resource-intensive, which may be barrier for funding-strapped government agencies and environmental organizations. The collaborative governance process has the potential to be hijacked or derailed by one stakeholder that holds undue financial power or political sway (Hardy and Phillips, 1998; Gray and Hay, 1986; Gray, 1989; Short and Winter, 1999). It is important for collaborators to feel that they have control over the final policy process. Otherwise, disenfranchised participants may withdraw and seek alternative, potentially conflicting venues for engaging on the issue (Koontz et al., 2004)

3.2.2 Cooperation

Much of inter-governmental resource management falls outside of the formal definition of collaboration because it does not involve formal collaborative processes. However, many of the benefits derived from collaboration may also come from interagency cooperation and ongoing cooperation with the public in resource management. Cooperation between agencies can be especially important for management of ecosystems that cross political boundaries (Thomas, 2003). As Section 2.5 above details, the USFS and the BLM formed out of very different social and political backgrounds. It can be difficult for agencies with different cultures to coordinate management efforts (Bardach, 1998). As Thomas elaborates in his book *Bureaucratic Landscapes: Interagency Cooperation and the Preservation of Biodiversity*, while examples of full cooperation are rare, it is important to critically assess the successes and failures in order to understand the conditions that foster success (2003).

3.2.3 Collaboration and cooperation in managing Wild and Scenic Rivers

Collaboration can help in the process of managing Wild and Scenic Rivers that extend into privately owned land. The process of developing comprehensive river management plans has the potential to bring in the voices of local citizens and non-governmental organizations with an interest in the river. In the case of WSRA, each river management plan goes through a NEPA process. The role of public participation through the NEPA process often occurs as public comment after the management plan has been drafted. However, the drafting of a river management plan opens up an avenue for collaboration if the managing agencies bring in a wider array of stakeholders during the management plan drafting process. Ongoing collaboration with the public on WSRA river management after the plan has been developed may also help agencies better manage the river corridor. An example of such collaboration

would be having federal employees play a formal role in a watershed partnership group. Cooperation with the public can also play a very important role in river management. Cooperation might take the form of communicating about monitoring data gathered, streamlining standards and guidelines across political boundaries, adhering to memorandums of understanding (MOUs) for joint land management, and helping landowners with resource management on privately owned land. Ongoing education and outreach is important for both collaboration and cooperation.

3.3 Management plan assessment

The term management plan evaluation (or alternatively management plan assessment, plan testing, or plan appraisal) covers a variety of ways of looking at management plans depending on whether the evaluator seeks to examine the process of developing the plan, the content of the plan, or the outcomes that result from plan implementation (Baer, 1997). There have been a number of attempts at critique that fit a variety of different types of plans, from urban forestry plans (Washington State Department of Commerce, 2009; Berke, Godschalk, & Kaiser, 2006) to comprehensive land use plans (Gruft & Gutstein, 1972; Brody, 2003), to name a few. One method of plan critique attempts to evaluate the completeness of plans by looking for specific elements, such as goals and objectives, needs or issues, the assumptions that went into the plan, specific plan steps, and implementation devices such as budget (Baer, 1997).

William Hubbard, a Southern Regional Extension Forester affiliated with the University of Georgia, provides a useful discussion of the process for developing plans that includes 11 elements: (1) scope, (2) vision, (3) goals and objectives, (4) guiding principles, (5) stakeholder involvement, (6) problem and issue identification, (7) information gathering and analysis, (8) timeline detailing actions, (9) monitoring and evaluation, (10) budget and finance, and (11) relationship to other plans (2008). Although this template was developed for urban forest restoration plans, these elements are also referred to in a variety of resource and strategic planning sources.

4. Methods

Overview

This research draws on formative evaluation theory to conduct a process evaluation of how the Wild and Scenic Rivers Act is administered in Oregon and Washington States. Process evaluation focuses on how a program or policy is being applied—it looks at outputs, such as management plans and

monitoring, rather than looking at outcomes (King, Morris, & Fitz-Gibbon, 1987; Rossi, Lipsey, & Freeman, 2004).

I used three approaches to investigate how WSRA is administered on designated rivers in OR and WA. First, I did a quantitative analysis of the river characteristics of all 62 designated rivers in the two states. Second, I conducted an assessment of the management plan content for a representative subset of 28 rivers—three in Washington and 25 in Oregon. Third, I used case study method with semi-structured interviews of federal employees to assess the administration of the Act from the perspective of those who are responsible for managing wild and Scenic Rivers in the northwest. For the case studies, I interviewed 11 USFS and BLM employees who administer WSRA on four different rivers.

- *Data sources for river characteristics*: online database maintained by the Interagency Council; river management plans; federal agency employees.
- *Data sources for management plan content*: comprehensive river management plans located either online or through public libraries.
- *Data sources for day-to-day administration*: interviews with BLM and USFS staff.

Each of these approaches will be described in detail in sections 4.1 – 4.3.

4.1 River characteristics

Research objective: examine characteristics of designated rivers in OR and WA, with a focus on determining the presence of management plans on BLM managed rivers, USFS managed rivers, and jointly managed rivers

Specifically, the following questions were addressed:

- 1) What are basic characteristics of the designated rivers (river length, classification type, year of designation, managing federal agency, and presence/absence of a river management plan)?
- 2) Are there differences between BLM management, USFS management, and joint management in terms of number of rivers with management plans?
- 3) Are there differences between BLM management, USFS management, and joint management in terms of length of time between river designation and plan publication?

- 4) How does the average length of time between river designation and plan development in the Pacific Northwest compare to the 3 year deadline for plan publication mandated by the Act?

This research involves scoping work that provides a broad overview of WSRA river designation in WA and OR. Since sections of a river can fall under different managing agencies, determining the patterns of ownership required significant preliminary investigation. To get a broader understanding of USFS versus BLM management, I began by gathering a range of quantitative data on each designated river segment in WA and OR.

I drew on information found at the National Wild and Scenic Rivers System website (<http://rivers.gov>), an online database updated by the Interagency Wild and Scenic Rivers Coordinating Council, which provides basic data on designated rivers. To assess for the presence of a river management plan, I was able to find a link to the uploaded river management plan on the Interagency Council site for a portion of the OR and WA Wild and Scenic Rivers. Other river management plans are available in hard copy through public libraries. Whenever a version of a plan was not available for a river, I contacted Agency employees tasked with river management in the region to determine whether one has been drawn up for that particular river segment.

Analysis consisted of comparison of the categories of data accumulated for the data matrix. I collected the following data for each river:

- Year of designation
- River description
- Length (in miles) of each designated segment
- Type of classification (Wild/Scenic/Recreational) for each designated segment
- The managing federal agency or agencies
- Presence/absence of a management plan
- Date of management plan publication
- Whether or not the plan has been updated since original publication, and year of update, if applicable
- Associated management areas (national forest land, BLM Districts, etc.)

I then summarized the characteristics of the rivers and used descriptive statistics to examine whether there are any differences between the Bureau of Land Management and the Forest Service in terms of publication of river management plans.

4.2 Management plan content

Research objective: to assess the content of a representative subset of 28 Wild and Scenic River management plans in OR and WA, and to compare plans developed by the USFS, plans developed by the BLM, and jointly developed plans.

Plan content was assessed along the following four parameters:

- 1) What legally required elements do the Wild and Scenic River management plans contain?
- 2) What elements do the plans contain that relate to adaptive management?
- 3) What elements do the plans contain that foster cooperation or collaboration?
- 4) What elements do the plans contain compared to recommendations from literature on what to include in a resource management plan?

A comparison was then made between the BLM plans, USFS plans, and jointly developed plans based on these four parameters. I assessed all three management plans available for the designated rivers in Washington State, and a stratified random sampling procedure was used to select a subset of 25 Oregon river management plans for assessment. Criteria for stratification include (1) BLM, USFS, or joint agency management and (2) geographic distribution.¹ I then conducted a focused examination of the contents of the 28 selected management plans. The assessment consisted of determining the presence or absence of specific elements of the plans mandated by the Federal Act and guidance developed by the Interagency Coordinating Council. In addition, I examined the plans for elements suggested as effective by adaptive management literature, collaboration and cooperation literature, and literature on resource

¹ Eastern versus Western Oregon, here defined by Type III Ecoregions. **Western Oregon:** Coast Range, Willamette Valley, Cascades, and Klamath Mountains; **Eastern Oregon:** Eastern Cascades Slopes and Foothills, Columbia Plateau, Blue Mountains, Snake River Plain, and Northern Basin and Range.

Source: http://www.epa.gov/wed/pages/ecoregions/or_eco.htm

management plan development. Through this process, I used NVivo software to translate each element into a coding node. Using an iterative process, I refined and standardized the definition of each code. I then used the software to note all occurrences of each coding element. The main code categories used for this process are: (1) legally required; (2) adaptive management literature; (3) collaboration and cooperation literature; (4) literature on resource management plan development (see Appendix B for my codebook, which lists and defines each code element). Results and analysis of the plan assessment appear in chapter 5, section 2.

4.2.1 Elements required by law

I examined the plans for the presence of elements that are required by law to be included. I also searched for the presence of items such as river corridor maps, which are required by law but are not necessarily required to be in the comprehensive river management plans. This was in order to compare BLM, USFS, and jointly developed plans in how they present all of the elements for management that the Act discusses. Table 3 outlines the codes that I used to assess the elements required by law.

Table 3: Coded elements as required by law

| Theme | WSRA Section or legal decision | Plan element code |
|--|--------------------------------|--|
| Boundaries | Section 3(b) | General discussion of boundaries |
| | | Detailed boundaries* |
| | Section 3(c) | Corridor map(s)* |
| Classification | Section 3(c) | Classification* |
| Management | Section 3(d)(1) | Development of lands and facilities |
| | | Standards and guidelines |
| | | User capacities |
| Monitoring | Section 10(a) | Documentation of baseline conditions |
| | | Monitoring goals (i.e. what to monitor) |
| | | Link between monitoring and ORVs |
| Outstandingly Remarkable Values (ORVs) | Section 1(b) | List of ORVs |
| | Section 10(a) | Strategies to protect and enhance ORVs |
| Private lands (when applicable) | Sections 6(a)(1)-6(g)(3) | Federal authority on private lands |
| | | State and local regulations on private lands |
| | | Principles for land acquisition |
| Water issues | Section 1(b); Section 10(a) | Water quality issues |
| | | In-stream flow requirements |

*Not required to be in plans, but are required to be defined and available to the public

4.2.2 Elements suggested by adaptive management literature

In my research I examine the river management plans for evidence that adaptive management has been employed and will continue to be employed. A challenge of looking for adaptive management in the river management plans is that the beginning stages of the process (scoping, inventory, experimental design) would have happened prior to publication of the plan. Instead, I looked for evidence that planners had researched baseline conditions, selected indicators to monitor, set acceptable thresholds for the indicators, and decided what adjustment in management to take if an indicator threshold was exceeded.

In my scoping work, I also looked for evidence that plans were in place to validate the monitoring and management model by periodically reassessing the selected indicators, threshold levels, and appropriate management actions. I did not find that the plans participated in this type of double-loop learning, therefore I limited my coding to the four elements that were present: (1) description of baseline conditions, (2) monitoring indicators, (3) monitoring indicator thresholds, and (4) actions triggered by indicators.

4.2.3 Elements suggested by cooperation and collaboration literature

In my research, I focused on how the comprehensive river management plans are used rather than the plan development process. I examined the comprehensive river management plans for elements that encourage the federal agencies to cooperate with other government agencies and collaborate with the public on ongoing management of the Wild and Scenic River corridor.

I used an iterative process for coding. I first took a broad look at the plans, and then I developed specific codes for elements that were present in order to compare between the plans. My initial scoping looked for examples of collaboration (e.g. specific plans for collaboration with non-governmental organizations, clearly delineated roles for the government staff in such collaboration, etc.). There was no evidence of these features in the comprehensive river management plans. Instead, what was revealed were examples of what can more technically be called cooperation. These included features such as MOUs and directives for outreach. Guidance developed by the Interagency Wild and Scenic River Council also advises plan developers to include provisions for cooperation with other government entities. Because this is not required by law but is strongly suggested by the guidance, I have included it with my analysis

of elements suggested by the management literature. Table 4 on the following page includes all of the cooperation elements identified in the documents. The codes cover directives for cooperation as well as descriptions of the roles and authorities of the stakeholders (both governmental and non-governmental) involved in cooperation. I also coded for elements of education and outreach to the public, identified as an important part of collaboration and cooperation in the literature.

Table 4: Coded elements as suggested by literature on collaboration and cooperation

| Theme | Plan element codes | Plan element sub-codes |
|---|---|--|
| Cooperation between government agencies (federal, state, local, tribal) | Inter-governmental cooperation | Regulatory authority and responsibilities of managing agency |
| | | Authority and responsibilities of other government entities |
| | | Directives for cooperation between government agencies |
| | | MOUs present within plan |
| | Governmental monitoring cooperation | Directives for governmental monitoring cooperation |
| Cooperation with non-governmental groups and individuals | Non-governmental management cooperation | Discussion of non-governmental stakeholders |
| | | Directives for non-governmental management cooperation |
| | Non-governmental monitoring cooperation | Directives for non-governmental monitoring cooperation |
| Education and outreach | Directives for education and outreach | Directives for signage |
| | | Directives for educational materials such as brochures |
| | | Directives for in-person outreach and education |
| | | Directives for pro-active educational programs |

4.2.4 Elements suggested by management plan development literature

In examining the 28 comprehensive river management plans, I noted the presence of elements considered important by management plan literature that are not fully addressed by the previously described legally required elements, adaptive management elements, or cooperation elements. In order to compare how USFS, BLM, and jointly developed address these plan development elements, I created a basic framework for plan assessment based off of discussion of plan development put forth by Hubbard (2008). This framework is by no means an exhaustive listing of elements suggested by plan development literature. Instead, it is intended to be a basic assessment adapted from criteria discussed by Hubbard regarding plan development. Hubbard discusses 11 main elements to the process of plan development: (1) scope, (2) vision, (3) goals and objectives, (4) guiding principles, (4) stakeholder

involvement, (5) identifying problems and issues, (6) information gathering and analysis, (7) developing a timeline and detailing actions, (8) monitoring and evaluation, (9) budgeting and finance, and (10) relationship to other plans. From this list, I created a simple framework to assess the plans, presented in Table 5. I decided to omit scope in my assessment, since the scope of Wild and Scenic River management plans is largely predetermined by the law. I also omitted stakeholder involvement and information gathering, since these elements are difficult to conclusively determine without interviewing the individuals involved in the development of the plan.

Table 5: Framework for assessing essential resource management plan elements

| Theme (from Hubbard, 2008) | Plan element codes |
|-----------------------------|---|
| Vision | Desired future conditions |
| | Description of ORVs |
| Goals and objectives | Management goals |
| | Purpose of monitoring (i.e. tie to management goals) |
| Guiding principles | Background on WSRA and its purpose |
| Problems and issues | Discussion of threats to ORVs |
| Budget and finance | General budget discussion |
| | Management budget |
| | Monitoring budget |
| Timeline | Management plan implementation schedule |
| | Instructions for updating management plan |
| | Start to monitoring (and baseline surveys, if needed) |
| | Frequency of monitoring |
| Monitoring and evaluation | Discussion of a monitoring |
| Relationship to other plans | Discussion of other management documents |

4.3 Administration of the Act

Research goal: explore the experiences of federal employees tasked with management of Wild and Scenic Rivers in OR and WA, and examine their perceptions of the Act overall.

I used semi-guided interviews of BLM and USFS staff to answer the following questions:

- 1) How are BLM and USFS employees using the river management plans, and what are their thoughts about the plans?

- 2) What kinds of monitoring are BLM and USFS employees overseeing in Wild and Scenic corridors, and what are their thoughts about monitoring?
- 3) What are federal agency employee thoughts about permitting under the Act?
- 4) What outreach and education efforts are going on in the corridors, and what do BLM and USFS employees think about outreach and education?
- 5) What do BLM and USFS employees think about the Wild and Scenic Rivers Act overall?

In this research, I define case study as an in-depth study of a delineated river segment, using multiple information sources (Creswell, 2007; Yin, 2003). I have chosen case studies as the most effective method based on conceptualizing the WRSA as a single case. The desired result is a clear and well-rounded understanding of how WSRAs are being administered on particular river segments, in the context of the wider environmental management landscape in the area. To gather data, I used formal qualitative interviews of federal agency staff. I chose the river segments for case study analysis based on a stratified purposeful sampling method (Miles & Huberman, 1994). Given my small sample size and limits in research time, I selected for variation that highlights potential differences between the USFS and BLM administrative approaches on private versus public land.

I identified four rivers whose designated segments cover a range of lengths, managing agencies, and geographic distribution. I selected rivers that covered a range of values within the following parameters:

- **Managing agencies:** two rivers are managed by the USFS, one is managed by the BLM, and one flows through land managed by both the BLM and the USFS.
- **Geographic distribution:** one river is in Washington, one river is in southwest Oregon, one is in northeast Oregon, and one river is in central Oregon.
- **Classification:** selected rivers cover all three classification types (recreational, scenic, and wild).
- **Management plan length:** three rivers have long plans (>100 pages) and one has a short plan (< 40 pages).
- **Designated segment length:** Three rivers have long segments, and one river is of medium length.
- **Public/private ownership:** All four rivers have a mixture of public and private land within the designated boundaries.

Because individuals with different roles and responsibilities in the same organization have differing attitudes and insights, my goal was to identify two levels of individuals to interview: (1) administrative and (2) on-the-ground. I interviewed a minimum of two employees associated with each river segment, at different administrative levels in the region (note that some agency employees were responsible for overseeing management of more than one river segment). In order to identify appropriate interviewees, I accessed the relevant government web site for the BLM District or USFS National Forest associated with each river and contacted the identified administrators and managers. In total, I interviewed 11 federal employees, responsible for managing four Wild and Scenic Rivers.

I used a semi-structured interview approach, basing my interviewing methods on standards set by qualitative research methods literature (Kvale, 1996; Weiss, 1995). I was as consistent as possible with my opening questions. However, the interviews generated unique material, necessitating the use of individualized follow-up questions. Each study participant was asked about their awareness of management materials such as the river management plan, their experiences with implementation, and their knowledge and attitudes about the WSRA regulations (see Appendix C for the interview guide). My interview method initiated with broad questions regarding the Agency employee's role in river management, and then narrowed the focus to questions that directly link to my research objectives. I then concluded by asking interviewees for their overall thoughts on WSRA. The broad nature of my introductory and concluding questions maximized my ability to capture all relevant information that I may not have anticipated with my more specific interview questions.

I conducted four of the interviews in person, and seven over the phone. One of the phone interviews included two employees from the same agency. I recorded each interview and then transcribed the audio. I used the transcribed data to look for broad themes in the interview responses. Interviews ranged from 30 to 90 minutes in length. I have maintained the anonymity of the interviewees, in order to facilitate their comfort in talking about all aspects of management.

4.4 Limitations of the research

This thesis is best described as a snapshot of the WSRA at a point in time, in a particular geographic context. There are some interesting contrasts noted between Oregon and Washington and differences between river administration by the BLM and the USFS. Data collection was limited to examining the Act in Oregon and Washington State, and therefore this research provides a picture of how federal agencies

manage Wild and Scenic Rivers in the Pacific Northwest. However, resource management depends on a variety of factors that are specific to geographic region, managing government agency, and local non-government actors. It is not intended to be a comprehensive evaluation of implementation, nor a comparison of the federal agencies' management of the Act across the United States. Those focuses for research would require a more extensive and systematic data collection method, beyond the scope of this thesis. Therefore, while the results for this research yield certain implications for national Wild and Scenic River management, the results are not generalizable across the country. This study can be seen as providing exploratory data on the Act and its administration in a selected context.

This thesis is a process evaluation of WSRA, which examines administration of the Act as opposed to its impact. There are certain challenges associated with studying impact. River segments have been designated over the course of the past 45 years, and the various designated areas have been managed under different political regimes. These qualities make statistically significant comparison between river segments difficult. In addition, a segment or segments of a river are generally designated, as opposed to its entire length. This makes it difficult to assess the impact of designation on whole ecosystem services such as flood control or water quality, since the presence and quality of such ecosystem services depend on conditions along the entire river. Given these challenges, a decision was made to focus on process of administration for this project.

In order to assess administration from the perspective of those who are directly charged with doing so by the law, I focused on interviewing federal agency employees. However, Wild and Scenic River management occurs through all levels of government—federal, state, and local. In addition, private citizens and non-governmental organizations have the potential to affect conditions in the river corridor. Future research might examine the additional layers of government (state, local, tribal), as well as citizen impact on Wild and Scenic River management.

5. Results and Analysis

The following chapter details results and analysis from assessing (1) river characteristics, (2) river management plans, and (3) administration under the Act for designated Wild and Scenic Rivers in OR and WA.

5.1 River characteristics

Sections 5.1.1 and 5.1.2 below summarize and discuss the results of examining OR and WA Wild and Scenic River characteristics. A full detailing of the researched river characteristics can be found in Appendix D.

5.1.1 Basic characteristics of the designated rivers

The Wild and Scenic Rivers in Oregon and Washington State cover a range of classification types, lengths, and years of designation. Table 6 summarizes characteristics of the rivers. These characteristics are also discussed in more detail in Appendix D.

Table 6: Designated river characteristics

| | OR | WA | Total |
|------------------------------------|---|--|---|
| Number of rivers | 59 | 3 | 62 |
| Range in year of designation | 1968 – 2009 | 1986 – 2005 | 1968 - 2009 |
| Individual river length (in miles) | Range: 2.6 – 147.5 Average: 29.5 | Range: 7.7 – 158.5 Average: 49.3 | Range: 2.6 – 158.5 Average: 30.7 |
| Total river length (in miles) | 1,918.1 | 197 | 2,115.1 |
| Classification (in miles) | Wild: 688.1 Scenic: 398.1 Recreational: 831.9 | Wild: 6.7 Scenic: 121 Recreational: 69.3 | Wild: 694.8 Scenic: 519.1 Recreational: 901.2 |

As the table shows, OR has 59 Wild and Scenic Rivers, while WA contains three designated rivers. While it is beyond the scope of this research to determine the cause of the difference in number of designations between the two states, differing economic and political conditions may factor into the discrepancy. There does not appear to be a focus on designating rivers with a particular level of classification. Rivers also range in year of designation, from the Rogue being included in the original 1968 Wild and Scenic Rivers Act legislation, to rivers in both states designated in the 2000s. Of note is the fact that Oregon’s Congress designated 40 of its Wild and Scenic Rivers through the Omnibus Oregon Wild and Scenic Rivers Act of 1988, and the Omnibus Public Land Management Act of 2009 designated 11 additional Wild and Scenic River segments in Oregon.

5.1.2 Federal management and plan development

The Forest Service is responsible for overseeing independent management of 1,095.6 miles on 35 Wild and Scenic Rivers, and the BLM is responsible for overseeing independent management of 635.8 miles on 13 rivers. In addition, there are 11 Wild and Scenic Rivers in Oregon where the USFS and BLM

manage alongside each other, each with its own area of jurisdiction. Table 7 summarizes overall characteristics of federal management, as well as management plan development. These characteristics are discussed in more detail below, as well as in Appendix D.

Table 7: Federal management of rivers and management plan development

| | BLM | USFS | BLM & USFS |
|---|------------------------------------|------------------------------------|-----------------------------------|
| Number of rivers | 13 | 35 | 11 |
| Rivers with management plans | 12 out of 13 rivers | 24 out of 35 rivers | All 11 rivers |
| Length of time between designation and plan publication | 4 – 12 years Average: 5.8 years | 0 – 22 years Average: 7.2 years | 0 – 6 years Average: 4.9 years |
| Management plan updates | 1 plan updated | 1 plan updated | 0 plans updated |

Of the 13 BLM managed rivers, 12 have river management plans. Of the 35 USFS managed rivers, 24 currently have plans. All 11 of the river corridors with a combination of USFS and BLM management areas have plans, and 10 out those 11 plans were jointly developed by both agencies (the one exception being the Sandy River, which has separate BLM and USFS plans for its different sections). Certain rivers have more than one management plan drawn up for different sections along their lengths. The majority of the Wild and Scenic River stretches without plans are managed by the Forest Service. While this result may be an anomaly, given that this sample is not statistically representative of all USFS Wild and Scenic Rivers in the US, it may also be due to the recent nature of the designations—the majority of USFS managed rivers without plans (9 out of 11) were designated through the Omnibus Public Lands Act of 2009. There may also be lack of pressure to generate river managing documents separate from the Land and Resource Management Plan for Mt. Hood National Forest, which contains discussion of many of the rivers in question.

There does not appear to be a striking difference between the federal agencies in terms of length of time for plan development, but there is wide variation from river to river. The average number of years between river designation and plan development is 5.8 for BLM managed rivers (range: 4-12 years), 7.2 for USFS managed rivers (range: 0-22 years), and 4.9 for jointly managed rivers (range: 0-6 years). Only four of the management plans were published within the three years mandated by the law, indicating that three years may not be a feasible timeframe for comprehensive river management plan

development. A majority of the plans are over 20 years old, and only 2 management plans have been updated since their original publication.

5.2 River management plans

I coded a total of 28 plans: 25 plans for Oregon Wild and Scenic Rivers and all three available plans for Washington Wild and Scenic Rivers. Of the 25 Oregon river management plans, six are managed by the BLM, 18 are managed by the Forest Service, and four are jointly managed. Table 8 describes the river plans selected for further analysis.

Table 8: River management plans selected for in-depth analysis

| River Name | Managing Agencies | Publication Year | Number of Pages ^a |
|--|-------------------|------------------|------------------------------|
| Oregon Rivers | | | |
| Big Marsh Creek (joint plan with the Little Deschutes River) | USFS | 2001 | 30 |
| Chetco Creek | USFS | 1993 | 131 |
| Clackamas River | USFS ^b | 1993 | 188 |
| Crooked River North Fork | BLM & USFS | 1993 | 130 |
| Eagle Creek | USFS | 1993 | 138 |
| Grande Ronde (joint plan with the Wallowa River) | BLM & USFS | 1993 | 282 |
| Imnaha River | USFS | 1993 | 87 |
| Joseph Creek | USFS | 1993 | 85 |
| Lostine River | USFS | 1993 | 86 |
| Lower Crooked River (Chimney Rock Segment) | BLM | 1992 | 72 |
| Lower Deschutes River | BLM | 1993 | 163 |
| Metolius River | USFS | 1996 | 266 |
| North Powder River | USFS | 1993 | 106 |
| North Umpqua River | BLM & USFS | 1992 | 146 |
| Owyhee River (Main, West Little, and North Fork) | BLM | 1993 | 218 |
| Powder River | BLM | 1994 | 96 |
| Quartzville Creek | BLM | 1992 | 100 |
| Salmon River | BLM & USFS | 1993 | 188 |
| Smith River North Fork | USFS | 2003 | 34 |
| Sycan River | USFS | 1992 | 26 |
| Upper McKenzie River | USFS | 1993 | 139 |
| Upper Rogue River | USFS | 1995 | 138 |
| Whychus Creek | USFS | 2010 | 71 |
| Wildhorse Creek (Combined plan with Little Wildhorse Creek, Kiger Creek, and Donnor und Blitzen River) | BLM | 2005 | 121 |
| Willamette River (North Fork of Middle Fork) | USFS | 1992 | 277 |

Table continued on following page

| River Name | Managing Agencies | Publication Year | Number of Pages ^a |
|--------------------------|-------------------|------------------|------------------------------|
| Washington Rivers | | | |
| Lower Klickitat River | USFS | 1990 | 178 |
| Lower White Salmon River | USFS | 1991 | 52 |
| Skagit River | USFS | 1983 | 88 |

a This is a rough comparison of plan page length, given that font size and amount of text on page varied widely between plans

b BLM has jurisdiction over 1 mile (143 acres) of the Clackamas River, within Salem District, but does not have a separate plan for Clackamas Wild and Scenic River management. My analysis examined the USFS management plan drawn up for the Clackamas.

Overall, the plans addressed a high percent of legally required elements, but there was wide variation in the presence of additional elements suggested by adaptive management, cooperation, and plan development literature. The most striking result was that jointly developed management plans consistently addressed a high percentage of elements from all four categories. Sections 5.2.1-5.2.4 present detailed results and analysis for each approach to plan assessment.

5.2.1 Legally required elements

The plans addressed a high percentage of the legally required elements in the plan. Figure 4 on the following page displays a graph of the percent of legally required elements contained in each management plan, arranged by managing agency and year of plan publication. As the graph shows, the jointly developed plans all address over 90% of the elements. There was greater variation in the BLM and USFS plans, with the plans developed by the Forest Service showing the greatest variation (ranging from 50% to 100% of legally required elements addressed). Following the graph, Table 9 shows the specific percentages of plans that address each legally required element. (Note that for the elements regarding private lands, percentages are derived only from plans for river segments that contain private land—five out of six BLM plans, 14 out of 18 USFS plans, and all four jointly developed plans.)

Figure 4: Percent of legally required elements present in each management plan

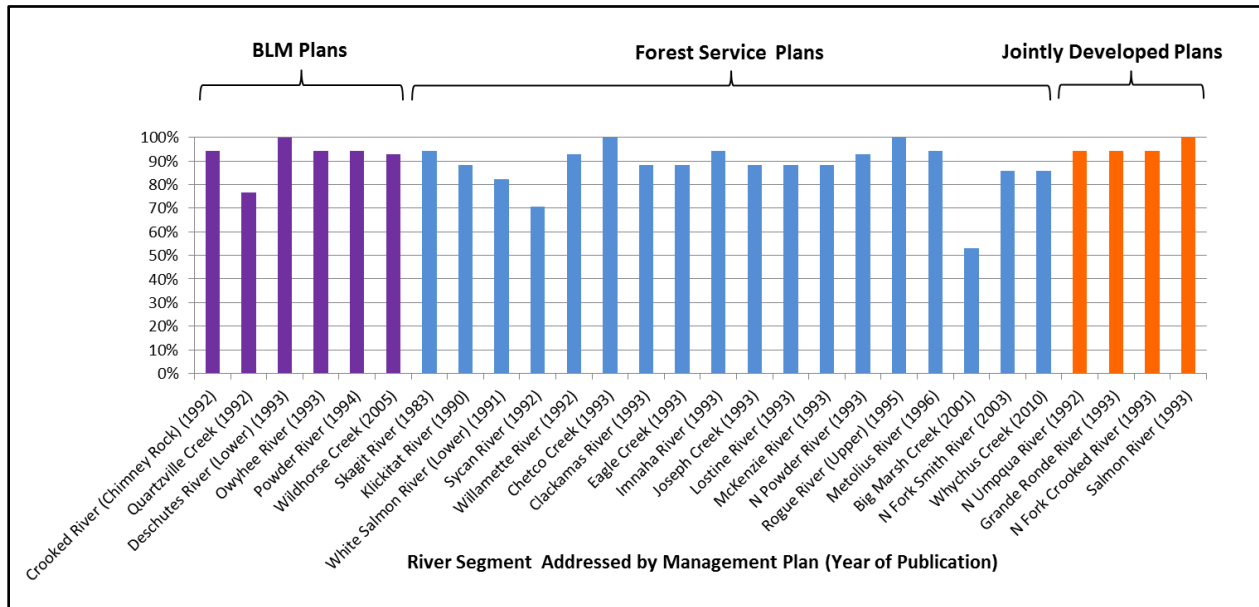


Table 9: Percent of plans addressing each legally required element

| Theme | Plan element | BLM (6 plans) | USFS (18 plans) | Joint (4 plans) | Total (28 plans) |
|--|--|------------------|--------------------|--------------------|---------------------|
| Boundaries | General discussion of boundaries | 100% | 89% | 100% | 93% |
| | Detailed boundaries* | 83% | 28% | 75% | 46% |
| | Corridor map(s)* | 100% | 89% | 100% | 93% |
| Classification | Classification* | 100% | 83% | 100% | 89% |
| Management | Development of lands and facilities | 100% | 100% | 100% | 100% |
| | Standards and guidelines | 100% | 100% | 100% | 100% |
| | User capacities | 100% | 94% | 100% | 96% |
| Monitoring | Documentation of baseline conditions | 50% | 67% | 100% | 68% |
| | Monitoring goals (i.e. what to monitor) | 100% | 100% | 100% | 100% |
| | Link between monitoring and ORVs | 100% | 89% | 100% | 93% |
| Outstandingly Remarkable Values (ORVs) | List of ORVs | 100% | 94% | 100% | 96% |
| | Strategies to protect and enhance ORVs | 100% | 94% | 100% | 96% |
| Private lands (when applicable)** | Federal authority on private lands | 80% | 100% | 100% | 96% |
| | State and local regulations on private lands | 80% | 100% | 100% | 96% |
| | Principles for land acquisition | 80% | 61% | 100% | 83% |
| Water issues | Water quality issues | 100% | 100% | 100% | 100% |
| | In-stream flow requirements | 100% | 100% | 100% | 100% |

*Not required to be in plans, but are required to be defined and available to the public

**5 out of 6 BLM plans, 14 out of 18 USFS plans, and 4 out of 4 joint plans cover segments with private land

In general, the plans do a good job of addressing legally required elements. However, two elements were addressed in less than 80% of the plans: discussion of baseline conditions and detailed boundary description. Below I present a closer look at these two elements.

- **Baseline resource conditions:** Baseline resource conditions include specific data on conditions of the river at the time of designation. This information is often included in the Resource Assessment section of the plan. The jointly managed plans all included a discussion of baseline resource conditions, while only 12 out of 18 USFS plans and 3 out of 6 BLM plans included this information. Most often, the baseline information took the form of qualitative Environmental Impact Statement or Environmental Assessment descriptions of river conditions.
- **Detailed boundary descriptions:** The detailed boundary description is the legal description of the river boundary. This is often included as an appendix to the management plan. Only 46% of plans included a legal description of the boundary in the plan. Forest Service plans showed the greatest deficiency in this area, as 13 out of the 18 Forest Service plans did not include a legal boundary description. This may be in part due to the fact that much of the USFS Wild and Scenic Rivers lie within National Forest boundaries, so there may not be the same pressure to establish exact boundaries.

One additional item of note is the fact that, while the importance of maintaining in-stream flow is discussed in all of the plans, only seven of the plans offer a quantified value for minimum in-stream flow. The law is vague on requirements for in-stream flow, stating “each component of the national wild and scenic rivers system shall be administered in such manner as to protect and enhance the values which caused it to be included in said system,” which includes the river’s “free-flowing condition.” Free-flowing is defined as “existing or flowing in natural condition without impoundment, diversion, straightening, rip-rapping, or other modification of the waterway.” Therefore, a specific in-stream flow minimum is not part of the legal requirements. However, setting a specific minimum as part of planning can be an important tool for maintaining the in-stream flow necessary for maintaining the river’s outstandingly remarkable values. This process can be difficult to navigate, though, in the face of competing demands such as agricultural irrigation needs.

5.2.2 Elements suggested by adaptive management literature

While all management plans discussed some form of monitoring, results for the presence of adaptive management elements showed much greater variation than the presence of legally required elements. Figure 5 provides an in-depth look at the percent of the examined adaptive management elements addressed in the plans.

Figure 5: Percent of adaptive management elements addressed in each river management plan

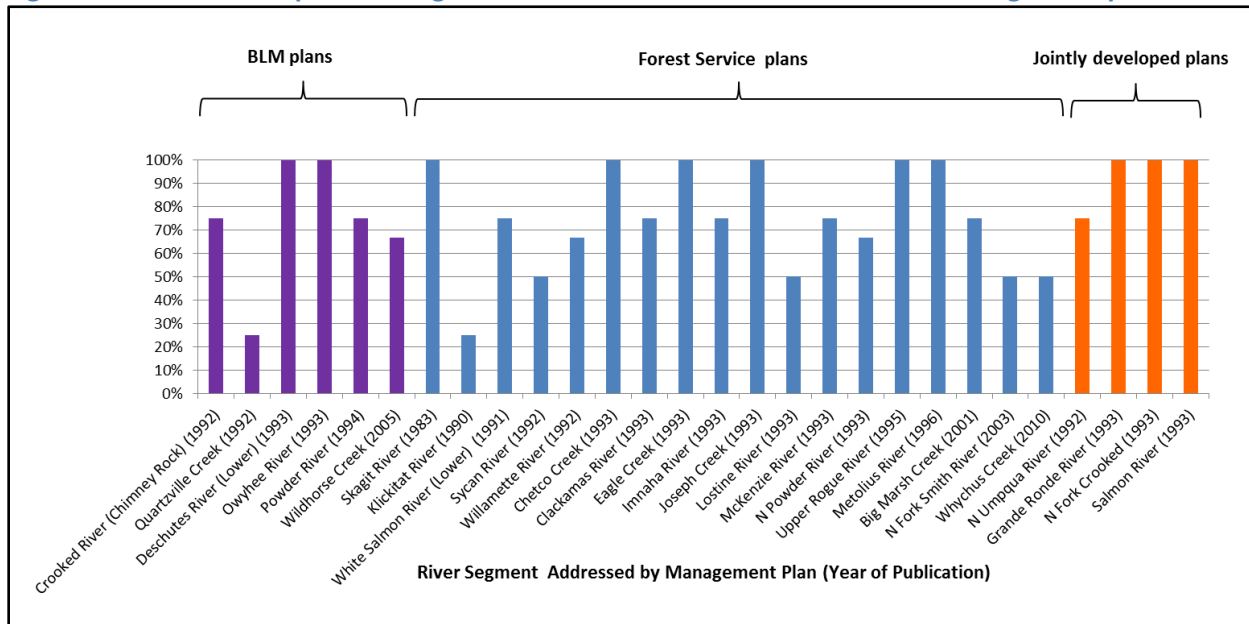


Table 10 takes a closer look at how many of the plans address each individual element.

Table 10: Percent of plans addressing each adaptive management element

| Theme | Plan element sub-codes | BLM (6 plans) | USFS (18 plans) | Joint (4 plans) | Total (28 plans) |
|---------------------|------------------------------------|---------------|-----------------|-----------------|------------------|
| Adaptive Management | Description of baseline conditions | 50% | 67% | 100% | 68% |
| | Monitoring indicators | 100% | 94% | 100% | 96% |
| | Monitoring indicator thresholds | 83% | 89% | 100% | 89% |
| | Actions triggered by indicators | 83% | 72% | 75% | 75% |

Below I discuss adaptive management elements that are addressed in less than 80% of the plans.

- Baseline resource conditions:** As discussed in the section on legally required elements, baseline conditions are discussed in only 68% of plans. Of particular note is the fact that none of the plans include the baseline data as specific, quantified values incorporated into the monitoring

plans. The presence of indicator thresholds reflects the fact that such baseline data were considered in the development of the plan. However, by not incorporating the baseline values for indicators such as water temperature or user levels within the monitoring plan itself, plan developers make it difficult to assess ongoing change in river conditions.

- **Actions triggered by indicator thresholds:** a total of 75% of the plans (5 out of 6 BLM-, 13 out of 18 USFS-, and 3 out of 4 jointly-developed) set forth specific management actions to take should corridor conditions exceed indicator threshold level. This step is important for meaningful use of monitoring data.

As mentioned in the methods section, one element notably absent from the plans is specific direction for how and when to update indicators and indicator threshold levels in the face of changing conditions. Given that a majority of the plans are over 20 years old, this lack of protocol for revision presents a challenge for implementing true adaptive management. The process of experiment-based assessment and double-loop learning requires time and commitment of resources, however, and both BLM and USFS staff must make value judgements about where such resources are best utilized. In addition, the lack of overall processes for true adaptive management in the comprehensive plans should not be taken to mean that no such management technique is happening along the corridor. Individual restoration projects along the river may be utilizing such techniques.

5.2.3 Elements suggested by cooperation and collaboration literature

There are a number of elements suggested by the literature to foster collaboration and cooperation. As discussed in the methods section, I did broad scoping of the plans, looking elements directing formal collaboration and found them to be largely absent. What I did find were directives for what is more appropriately termed cooperation, both with the public and other agencies. These elements are examined in more detail in Figure 6 and Table 11 on the following page.

Figure 6: Percent of cooperation elements found in each river management plan

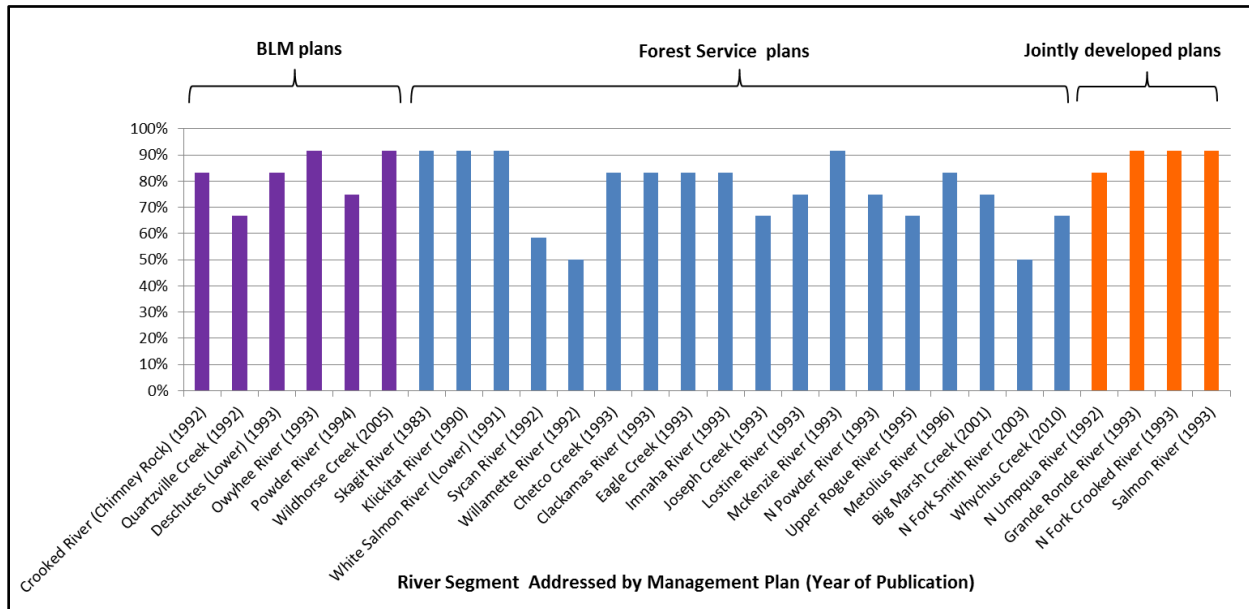


Table 11: Percent of plans addressing each cooperation or collaboration element

| Theme | Plan element codes | BLM (6 plans) | USFS (18 plans) | Joint (4 plans) | Total (28 plans) |
|---|--|------------------|--------------------|--------------------|---------------------|
| Inter-governmental management cooperation | Regulatory authority and responsibilities of managing agency | 100% | 89% | 100% | 93% |
| | Authority and responsibilities of other government entities | 83% | 83% | 100% | 86% |
| | Directives for cooperation between government agencies | 100% | 94% | 100% | 96% |
| | MOUs present within plan | 17% | 17% | 75% | 25% |
| Governmental monitoring cooperation | Directives for governmental monitoring cooperation | 100% | 72% | 100% | 82% |
| Non-governmental management cooperation | Discussion of non-governmental stakeholders | 100% | 89% | 100% | 93% |
| | Directives for non-governmental management cooperation | 100% | 89% | 100% | 93% |
| Non-governmental monitoring cooperation | Directives for non-governmental monitoring cooperation | 17% | 61% | 50% | 50% |
| Education and outreach | Directives for signage | 100% | 100% | 100% | 100% |
| | Directives for educational materials such as brochures | 100% | 78% | 100% | 86% |
| | Directives for in-person outreach and education | 100% | 89% | 100% | 93% |
| | Directives for pro-active educational programs | 67% | 50% | 50% | 54% |

Below I provide some additional discussion of the cooperation elements addressed in less than 80% of the plans.

- **Memorandums of Understanding (MOUs):** while a number of plans discussed eventually developing MOUs with federal, state, and local government, only seven contained MOUs within the management plans. As may be expected, three out of the four jointly developed plans contained MOUs, while only one of the six BLM and three of the 18 USFS plans did. MOUs are not a guarantee of cooperation, but they can help clarify the roles of the different government agencies involved in management. This can be helpful particularly in providing guidance on when and how to share information.
- **Directives for non-governmental monitoring cooperation:** while 82% of the plans discussed some form of governmental monitoring cooperation, only 50% discussed involving non-governmental groups in monitoring. This is one of the few elements where jointly developed plans fared as poorly as the independently developed plans. Cooperation with non-governmental stakeholders on monitoring can present certain challenges, including the need for in-depth training and periodic corroboration of findings. However, it has the potential to yield dividends in terms of increasing monitoring capacity and educating the public in order to foster local ownership of river management.
- **Proactive educational programs:** 54% of the management plans (four out of six BLM plans, nine out of 18 USFS plans, and two out of four jointly developed plans) discuss some form of proactive educational program, including classes, newsletters, nature walks, or outreach to landowners. Education and outreach is a complex issue with Wild and Scenic Rivers. For certain rivers, especially those classified as wild, one goal of management is to maintain a low visitor level in order to protect certain Outstandingly Remarkable Values. However, education of the public can help increase coordination between government entities and local citizens in managing the river. This in turn can help promote good stewardship on the river in areas where agencies may not have the resources to conduct regular compliance patrols. One important area of outreach involves informing local landowners of what designation means, what restrictions may exist according to local land use law, and what incentives are available for setting up easements or making their land available for sale to the federal agency.

5.2.4 Elements suggested by literature on resource plan development

While the management plans showed consistency in discussing vision as well as goals and objectives, fewer of the plans focused on specific accountability measures such as budget estimates and timelines for implementation. Again, jointly developed consistently contained a high percentage of the elements suggested by resource plan development literature. Figure 7 presents the percent of such elements found in each plan.

Figure 7: Percent of resource plan development elements found in each river management plan

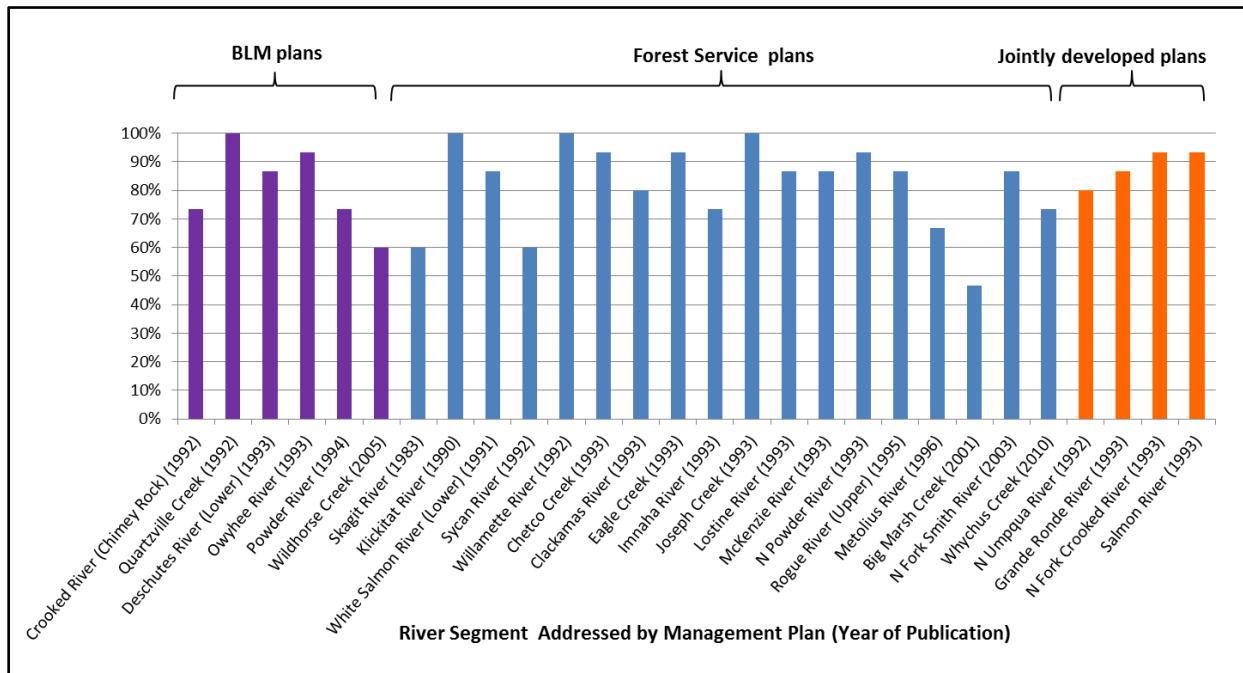


Table 12 on the following page takes a closer look at how often each individual element is represented in the 28 plans.

Table 12: Percent of plans addressing each element suggested by literature on plan development

| Theme | Plan element codes | BLM (6 plans) | USFS (18 plans) | Joint (4 plans) | Total (28 plans) |
|-----------------------------|--|------------------|--------------------|--------------------|---------------------|
| Vision | Desired future conditions | 83% | 89% | 100% | 89% |
| | In-depth description of ORVs | 100% | 83% | 100% | 89% |
| Goals and objectives | Management goals | 100% | 100% | 100% | 100% |
| | Purpose of monitoring | 100% | 100% | 100% | 100% |
| Guiding principles | Background on WSRA and its purpose | 100% | 89% | 100% | 93% |
| Problems and issues | Discussion of threats to ORVs | 83% | 83% | 75% | 82% |
| Budget and finance | General budget discussion | 83% | 78% | 100% | 82% |
| | Management budget | 83% | 61% | 75% | 68% |
| | Monitoring budget | 50% | 61% | 100% | 64% |
| Timeline | Management plan implementation schedule | 50% | 72% | 100% | 71% |
| | Directives for updating plan | 33% | 61% | 50% | 54% |
| | Start to monitoring/baseline surveys | 50% | 56% | 25% | 50% |
| | Frequency of monitoring | 100% | 94% | 100% | 96% |
| Monitoring and evaluation | Discussion of monitoring | 100% | 100% | 100% | 100% |
| Relationship to other plans | Discussion of other management documents | 100% | 100% | 100% | 100% |

Below I provide additional discussion of elements from Table 12 that are addressed in fewer than 80% of the plans.

- Budget for management actions and monitoring:** budgeting deficiencies are common across the plans. Lacking in this area in the plan could be particularly problematic for resource management implementation. If there is no estimate of budget requirements in the plan, it can be a challenge to advocate for the required resources to implement the program.
- Management plan implementation schedule:** while a high percentage of the plans provided instructions for frequency of monitoring, they did not address implementation of management actions with as much consistency. In addition, many of the plans discussed the need for additional baseline surveys but did not specify a timeline for conducting such assessments. Lack of a timeline for these activities creates difficulty in ensuring implementation.

5.3 Administration of the Act

In order to explore how the act is administered, I conducted a series of qualitative interviews. For interviewing recruitment, I focused on four Wild and Scenic Rivers: one USFS administered river in WA, one BLM administered river in OR, one USFS administered river in OR, and one jointly administered river in OR. I selected rivers that have management plans, given that my research aim is to determine how the management plans are used. I chose rivers based on diversity not only in managing agency, but also in geographic location, river length, and management plan length.

I recruited employees at the BLM and USFS that could provide a good overall picture of how WSRA duties fit into overall management of the various districts, national forests, and resource areas. I recruited a minimum of two interviewees for each case study river. Some individuals have jurisdiction over areas covering more than one river. In total, I interviewed 11 individuals: 8 staff members from the USFS and 3 from the BLM. At the highest administrative level of recruited interviewees, the BLM District Manager oversees a district containing two of the Wild and Scenic Rivers. The USFS Forest Supervisors oversee two national forests, each containing all or part of the selected Wild and Scenic Rivers. At a more direct managerial level, I interviewed a number of USFS District Rangers, whose districts covered sections of the rivers in questions, as well as a BLM Field Manager responsible for one of the rivers. I also conducted interviews with several specialists at each federal agency, including a USFS Recreation Staff Officer, a USFS Wild and Scenic River Manager, and a BLM Outdoor Recreation Planner.

Table 13: Job titles of interview participants

| |
|---|
| BLM |
| District Manager (1 individuals) Field Manager (1) Outdoor Recreation Planner (1) |
| Forest Service |
| Forest Supervisor (3 individuals) District Ranger (3) Recreation Staff Officer (1) Wild and Scenic River Manager (1) |

My questions fell into five main categories: (1) relationship of overall job duties to Wild and Scenic River management; (2) management plans and other guidance; (3) monitoring and permitting; (4) education and outreach; and (5) about overall thoughts on the Act. I used a semi-guided interview method based on my interview guide, available for reference as Appendix C. I asked each interviewee the main questions from the interview guide, about job duties, management plan use, and overall thoughts on the Act. I tailored my questions on monitoring, permitting, and outreach to the specific job duties of each interviewee (for example, I did not ask the District Manager or Forest Supervisors about permitting on the river). I let the flow of the conversation determine the order of questions asked.

Results are organized by type of question. I first discuss how participants described their job duties in relation to Wild and Scenic River management. I then summarize responses to the questions about management plans, monitoring, outreach, and overall thoughts on the Act. Each summary is accompanied by an example quote or quotes. Some questions did not yield significant results and have therefore been omitted.

5.3.1 Relationship of overall job duties to Wild and Scenic River management

Percentage of duties related to Wild and Scenic River management

I asked each participant the rough percentage of time that he or she spent on administration specific to the Wild and Scenic designation. There were no significant differences in answers to this question at the higher administrative level: both Forest Service Forest Supervisors and the BLM District Manager estimated around five percent, with not more than ten percent. For all three, their involvement depended on whether there was a specific issue brought to their attention or if there was a management plan in the process of being developed. For employees at the more direct implementation level, the estimates of time spent on WSRA varied widely depending on issues unique to each river. For the USFS Recreation Staff Officer and District Rangers, estimates ranged from one percent to 15 percent. The BLM Outdoor Recreation Planner estimated around 40 or 50 percent, and WSRA duties occupied the bulk of the USFS Wild and Scenic River Manager's time.

Other staff that aid in management river under the Act

In describing how their job duties relate to Wild and Scenic administration, participants talked about other staff in the organizations that help out with WSRA work. Forest Service interviewees mentioned staff officers specializing in fisheries, recreation, invasive weeds, botany, hydrology, and wild and scenic work. The BLM employees similarly described calling on the work of an array of on-the-ground staff, including recreation and fire management specialists.

5.3.2 River management plans and other guidance

How and when federal employees consult the plan

All of the interviewees were aware of the existence of the river management plan. When asked about how they used it, the majority responded that they use the plan as needed, in an ad-hoc manner, to make sure that they were in compliance.

“Whether it be livestock or timber harvest or prescribed fire or wildlife improvement or fisheries improvement projects, or a rec project—any kind of project that lines up, that might fall within that corridor—we will utilize the plan to make sure that we’re within the scope of the decisions for the management of those Wild and Scenic Rivers.”

However, the plan for one of the rivers was published several decades ago, and all of the interviewees for this river responded that they never referred to the plan.

“Not really. It’s really outdated.”

On the other end of the spectrum, two interviewees—one from BLM and one from USFS—responded that they consulted their plan very often.

“Are you kidding? That’s the bible. [...] Almost daily.”

Examples of river management plan use

When asked for specific instances of using the plan, interviewees provided examples that fell into four main categories: (1) ensuring that their management work is in compliance with the plan, (2) integrating Wild and Scenic regulations with other federal, state, and local legislation, (3) communicating with the public, and (4) communicating with other government agencies. The majority of interviewees mentioned consulting the management plan to ensure that management actions fit the specific standards and guidelines set out in the plan.

“[...] specifics would be, for instance, clear down to the issuing of specialty recreation permits for commercial boaters and tying to the plan on the number of instances where you see another boater.”

A number of interviewees talked about the need to consult with the plan in conjunction with other federal and state regulations, such as water rights and threatened or endangered species listings.

“there’s quite a bit of private land along the [designated river], and then there’s the proposed listing for the Oregon Spotted Frog, that US Fish and Wildlife is bringing forward right now, and so when we were looking at the potential critical habitat for the frog, and looking where it was

at—private land or federal land—we were looking at it through the lens of the Wild and Scenic River designation.”

For the communicating with the public, a few of the interviewees have used the plans as tools to educate citizens about restrictions on land use in the designated corridor. For communicating with other government agencies, several of the interviewees mentioned using the plans to communicate with government partners about restrictions on designated lands.

“We can show them the plans and have those conversations [...] most times we can convince them that—and this is especially true of federal partners—if they’re going to need federal money in the mix, then it’s clear that they have to follow the rules as well.”

Particularly useful aspects of the plan

Two main plan elements emerged as sections of the management plans that federal employees found particularly useful: (1) the main goals and purpose of designation, and (2) standards and guidelines. The District Manager and Forest Supervisors, in particular, found the purpose of designation and main goals to be useful. This includes description of the Outstandingly Remarkable Values and desired future conditions for the river.

“[...] well, of course, the introduction, or the general purpose of the designation of that river, is pretty important. So you get the overall flavor of okay ‘why, or how is it that we really gotta manage this thing? What are the characteristics we’re trying to protect?’”

One interviewee specifically mentioned standards and guidelines as an area of particular usefulness.

“The standards and guidelines, you can look at those and see what might apply in a certain situation, and what doesn’t apply. So you can pick and choose what you need to consider, and deal with those directly.”

In addition, when asked for specific instances in which they consulted the plan, the majority of interviewees mentioned looking at management directives that are contained in the standards and guidelines. Interviewees mentioned examples that include recreation permitting based on set user capacities, restoration work, firefighting techniques, and in-stream flow requirements.

One person mentioned finding the map helpful, and two individuals mentioned finding the monitoring plan helpful (with indicator thresholds, or trigger mechanisms, being emphasized as particularly useful).

“The absolute most useful component of that plan is, in our river management plan we wrote in a series of trigger mechanisms. [...] The management of the river is based on the ability of

the resource to handle the amount of use that it's given. And the trigger mechanisms identified in the plan tell you what that next step of enforcement needs to be to mitigate those kinds of impacts that the river can't sustain."

Less useful aspects of the plan

The majority of respondents (9 out of 11) felt that there was not one particular area that was less useful.

"I think Wild and Scenic River plans are written with a broad scope, a long term management interest in mind, and so they're really meant to protect the ORVs in the long run. [...] given the life of these designations, eventually it will all be useful."

However, two interviewees offered a contrasting viewpoint. One respondent felt that the preexisting conditions were not as directly useful as other parts of the plan.

"[...] in all NEPA documents and all planning documents, there's always the bits and pieces that float out there, of preexisting conditions and things like that [...] that aren't really tied to exactly what the law requires, exactly what the resource requires, without adding things that are unenforceable or adding things that are too fluffy to be good."

The other interviewee felt that planners should spend less time describing desired future conditions and more time developing the standards and guidelines.

"[...] there's a lot of motherhood and apple pie kind of statements about desired future conditions for Outstandingly Remarkable Values, and those paint a picture of what we want the river settings and recreation opportunities to look like. But, like any desired future condition statement, there's a lot of ways to get to that, or a lot of different pictures in people's heads about what that condition looks like in their head. And so I wouldn't worry too much about how to describe those conditions. I think you can really get wrapped around the axle about that. It's more about setting up management standards and guides that give you the management flexibility to achieve the objective."

Ideal timeframe for updating the management plan

Answers to this question ranged from roughly every five years to every 30 years, depending on the characteristics of the river in question. On rivers with less private land and less recreational use, participants felt that management plans could last 20-30 years. For rivers that see more use, participants on average felt that managing agencies should review river management plans every 10 years. Two participants mentioned that even more frequent updating would allow for greater flexibility.

One interviewee brought up the potential risk of opening up the plans for analysis too frequently: “[...] when you do revise it, well then you’re cracking it open for another set of appeals, lawsuits [...] and you’ve got to deal with that, and the potential public outcry you get into any time you go into those kinds of issues.”

Awareness and use of the Interagency Wild and Scenic Rivers Council guidance reports

Four of the interviewees were familiar with the Interagency Council website and guidance reports. However, only one interviewee talked about actually using those resources. Instead, interviewees relied on specialists for in-depth knowledge on the Act.

“I look at the local management plans we have, but as far as dealing with the national one, I ask questions of the specialist, who can usually answer what it says in the national stuff.”

From the interviews, it seems as though the Interagency Council guidance is more useful during the management plan development, as opposed to day-to-day administration, or in the resolution of ongoing issues on the river.

“Those guidelines could have been utilized, maybe, years ago, in the development of the protocols, but we’ve been following the protocols from our rivers since”

Use of other resources for guidance

When asked about other resources that they use for guidance on Wild and Scenic River management, interviewees mentioned consulting the National Forest Plan, as well as a variety of localized documentation, such as volunteer organization regulations and permitting regulations.

5.3.3 Monitoring and permitting

Monitoring in the Wild and Scenic River corridor

All four rivers have some type of monitoring occurring. While interviewees discussed several different types of monitoring programs, participants mentioned recreational use monitoring most frequently.

“[...] we hire a crew, annually, so that we have on-the-ground presence to not only monitor the users, but make contacts with the private use parties as well as the commercial use parties, so that they’re aware of regulations and stipulations. [...] that also gives us an overall condition of

the river environmental, as far as how the people are affecting that resource. It ties right into the trigger mechanisms.”

Interviewees also mentioned water quality monitoring but usually in conjunction with other partners who take the lead.

“The State of Oregon does water quality monitoring on [the river], but we don’t do continuous ourselves.”

Much of the monitoring occurs on an ad-hoc basis for specific projects on the river.

“We’ve acquired some property, off the proclaimed national forest, downriver. [...] And so there is some monitoring in those parcels.”

The effect of designation on monitoring

Participants felt that designation of the Wild and Scenic River segments did generally encourage staff to focus monitoring efforts on the river corridor. However, the monitoring is not always directed by the Outstandingly Remarkable Values that drove designation. As might be expected, lack of budget and high demands on staff time impedes monitoring efforts.

“[...] monitoring is one of the things we say we want to do, and we try to do, but it’s the first thing that fall off the plate when push comes to shove, when budgets are tight, or other work gets in the way.”

The use of volunteers in monitoring

As a follow-up question, I asked interviewees about their thoughts on having volunteers contribute to the monitoring efforts. Respondents were not against the idea but articulated some of the challenges of involving citizens or non-governmental organizations in monitoring efforts. In general, interviewees felt that it takes time and staff energy to train volunteers on how to do consistent, accurate monitoring on the rivers.

“[...] having some of those really critical monitoring things done in-house, or at least having, for my instance, a [staff member] presence along with the group that might be willing to do something like that would be an absolute.”

One interviewee pointed out that accurate monitoring data is crucial when there are legal requirements involved:

“[...] although you can get a lot of really good data from volunteer organization to help you, because there’s so many things nowadays with the federal government, that end up in litigation,

a lot of time if you haven't properly vetted the volunteer group, or if you haven't specifically lined out how things are supposed to be looked at from a monitoring standpoint, sometimes we can create chinks in our own armor, by doing that."

In terms of ad-hoc monitoring, however, the agencies do rely on input from the public, especially if there are commercial guide organizations on the river.

"[...] we have a number of outfitters that go on the river, and we collect that information, and people calling into our office. And our rangers that go down the river collect information just by the meet-and-greets going up and down. The public is a wonderful source of information. Amazing."

Value of continuous monitoring

Although respondents did not explicitly refer to adaptive management as providing a helpful structure in their work, several described the utility of continuous monitoring.

"those monitoring efforts would dictate whether a particular campsite, for instance, was being really heavily impacted, and we might need to close that campsite every other year so that it has time to heal itself before we allow use back in there. [...] that analysis—to go back and look at trends, and levels of use, and environment, you know, how our campsites are doing, and whatnot, that's where it was really gratifying to see that we can really show a campsite improving over time, with the management schemes we're under. And that we can accommodate the traditional levels of use that we've had. So it's pretty cool to see."

There was recognition that continuous monitoring can save the agency a significant amount of money in the long term.

"Those are those little baby step trigger mechanisms that keep you from letting things get too far, to where you have to do something large scale to mitigate it. But it also helps the agencies—it limits the amount of monies or things you have to throw into it, if you stay ahead of the little bites instead of waiting for the big bites."

Permitting in the Wild and Scenic River corridor

Permitting for recreation is one tool used to enforce user capacities set by Wild and Scenic River management plans. However, permitting can have a secondary benefit as a tool for monitoring information gathering.

“The only thing on [the river] that has really affected permitting is associated more with a non-theme mandatory boater’s permit that we created. It is a mandatory permit, but it doesn’t stop you, it’s more a tool to gather information for us, so that we can keep our finger on the pulse of the amount of use.

5.3.4 Education and outreach

The need for education and the types of education occurring varies from river to river. Education and outreach of the public generally takes the form of websites, brochures, and signs in the river corridor.

“[...] of course we have the river, a discussion of the river, and its designation, and why it’s special, on our website, and then publications and brochures.”

However, some rivers are better signed than others.

“[...] there is some signage out there. It’s very basic. It’s just the Wild and Scenic Rivers act emblem.”

Interviewees for two of the rivers mentioned educational programs that have been developed based on the listing of an endangered or threatened species within the river corridor. In addition, several of the interviewees specifically mentioned the process of developing the management plans as a good opportunity for education.

Most interviewees considered education of the public to be helpful in managing the river, although one person expressed the opinion that successful management of the corridor does not require active outreach. One area where education is considered particularly important is in communicating with private landowners about the designation. Unfortunately, the federal agencies are limited in the education and outreach that they can accomplish with the resources at their disposal. Partnerships are one way for the agencies to extend their capacity for outreach.

“I’ve always been a proponent for public education, and for us as an agency to have more of a role there. But it’s not one of those things we’re funded to do. Not on a large basis. Sometimes we can do things incidentally, or with partners. That’s usually where we’re more successful: we partner with somebody to do some educational opportunity”

One area of nuance with education hinges on the fact that, depending on local attitudes, it may not be the most effective coming from federal agency employees.

“It’s probably best, in some cases, for the federal government not to be doing that public education and outreach to educate private landowners. [...] the county, and their planning department, has been very helpful in helping educate private landowners about wild and scenic rivers, and watershed values.”

A majority of the interviewees emphasized the importance of having well trained staff conduct in-person education as needed in the corridor.

“[...] the general public doesn’t have time, inclination, or sometimes even access to get to [the river management plan]. Which is where the burden falls on staff, to have well-trained staff that are on the ground, that can relay information, or at least relay a contact for them to talk to. And then to make sure that that information is given to the people in the format that they need.”

5.3.5 Overall thoughts about the Act

All of the participants felt positively about the Wild and Scenic Rivers Act.

“I’m glad Oregon is very active over the decades. I think Oregon probably has more designated rivers than any other state in the union, and I think it’s an important act. I’d like to see more rivers designated.”

Interviewees felt that the Act has very broad appeal.

“I really find it to be one of the more levelheaded or very focused and determined Acts that are out there, and one that meets the needs of a lot of people.”

Several interviewees felt that the Act, with its attendant Outstandingly Remarkable Values, helps agencies prioritize the needs within management areas.

“[...] there’s limited resources and a lot of priorities. And when you have things that are identified as very special, it helps you with the prioritization process, and it also makes you think about what you’re doing in those landscapes, and around those landscapes.”

Of course there are challenges to be faced in managing Wild and Scenic Rivers. Three different interviewees discussed their uncertainty in the face of climate change.

“[...] we’re at fast forward, and things can really change. So I am really curious to how all of these designations will play with climate change. Is it—and I don’t know the answer, that’s something that rattles in my head as well—whether it’s wilderness, whether it’s Wild and Scenic River, are these going to be places where we focus even more on that? Or not? And I don’t have

the answer to that. It's sitting in my head a little bit, going 'hmm. How do we look at this massive array of wilderness across the cascade crest as one big management type of area, and how does that play in. And then, what about the rivers that come out of it?' So, I don't know, how that will be. Are they refugia that we protect? Keep as much resource diversity as possible if things radically change elsewhere? Or not? So, that's something else that sits in my head."

Other challenges are more of a day to day nature, such as keeping up with new technologies and new emerging knowledge and data.

"the technological advancement of things over time. You know, even floating water craft—there's times of the year, where there's technology that can create a float boat that can go places at times of the year where you wouldn't expect people to be out there. So, management gets to be a real big push. But as long as you have people on the ground, or you're keeping a watchful eye on things, it's definitely something that you can work around."

Throughout the interviews, a number of the federal employees discussed the challenge of keeping management plans up-to-date with changing management technology.

"There should be an ability to update with new information, new technology."

Not surprisingly, many interviewees expressed worry about staff turnover.

"I think over time the knowledge base about Wild and Scenic Rivers—because of things like attrition in the agency, and losing some of that, the keepers of the knowledge, through retirement—is that the knowledge gap is getting wider about Wild and Scenic Rivers and what our responsibilities are. I do think that gap is growing and growing. So that's a concern of mine. I do think something similar to something like the ten year wilderness stewardship challenge might be a really helpful thing to get folks more knowledgeable and more re-engaged in Wild and Scenic Rivers, in the agency."

In addition, there are many grey areas in resource management that have to be worked out by individuals who are sensitive to specific contexts.

"With any of these there's just a lot of meat to interpreting the policy. What does it mean that we have regulatory responsibility and not authority? What does that mean in terms of interacting with the public, and what our role is?"

Resources and allocation of funds and competing jurisdictions is a perennial issue in conservation management. Implementation of the Wild and Scenic Rivers Act is no exception. In some cases, interviewees mentioned leveraging partnerships for additional resources to protect the river.

“We’re struggling with funding in our recreation program. And the wild and scenic program is funded with those same dollars. So we’re trying to figure out how, when the dollars in that program goes down, how we share the money that is there. And how we segregate all these responsibilities, and how, what needs to be done, and who needs to do it, and how often, kind of things. Those are hard conversations. I think that’s, the educational piece—you know I’ve always been a proponent for public education, and for us as an agency to have more of a role there. But it’s [pause] not one of those things we’re funded to do. Not on a large basis. Sometimes we can do things incidentally, or with partners. That’s usually where we’re more successful: we partner with somebody to do some educational opportunity.”

Many interviewees mentioned the importance of building relationships with citizens in the area and local government.

“I think maybe the overall message I’d leave you with, is even though it’s a federal designation, I think that the best long-term way to manage Wild and Scenic Rivers is for all levels of government—federal, state, county—to enter into kind of a collaborative dialog, and a collaborative management plan with the community. I think you’ll just make a lot more progress over the years.”

In terms of monitoring, six respondents discussed partnerships with other government agencies to monitor the river. In particular, four federal employees on two of the rivers mentioned water quality data that is collected by other federal agencies, the state, or other organizations. For the jointly managed river, the USFS oversees administrative duties, while the BLM conducts the river controls and monitoring. All interviewees for this river felt that the partnership was very effective and fruitful.

6. Discussion of results, implications, and areas for future research

6.1 Discussion of results

The goal of this study was to examine administration of the Wild and Scenic Rivers Act on designated river in OR and WA. I conducted this study by addressing objectives in three areas:

- 1) **River characteristics:** examine characteristics of designated rivers in OR and WA, with a focus on determining the presence of management plans on BLM managed rivers, USFS managed rivers, and jointly managed rivers

- 2) **Management plan content:** assess the content of a subset of 28 river management plans in OR and WA, and compare plans developed by the USFS, plans developed by the BLM, and plans developed jointly by both agencies
- 3) **Administration of WSRA:** explore the experiences of federal employees tasked with management of four Wild and Scenic Rivers in OR and WA, and examine their perceptions of the Act overall.

I briefly summarize my results below, and I present additional discussion of the three research areas.

River characteristics

To examine Wild and Scenic River Characteristics, I accessed data available through an online database managed by the Interagency Wild and Scenic River Coordinating Council (available at rivers.gov) and I corroborated the data through examination of available comprehensive river management plans. Three rivers are designated in WA and 59 rivers are designated in OR. Designated rivers range from 2.6 miles to 158.5 miles in length, and all three classification types (wild vs. scenic vs. recreational) are well represented. All of the designated rivers in WA and 35 rivers in OR are managed by the USFS. BLM has responsibility for 13 rivers in Oregon, and the two agencies share responsibility for 11 Oregon designated rivers. The majority of rivers (47 out of 62) have management plans. However, many of the plans are decades old, and only two plans appear to have been updated since original publication.

This thesis did not explore the process for designation but rather focused on administration after designation. Therefore there is not sufficient information to fully explain the difference in number of Wild and Scenic Rivers between the states, but some of the differences may be due to political or economic factors. There does not appear to be a focus on designating rivers of a particular classification type. A majority of the Wild and Scenic River stretches without plans are managed by the Forest Service. While this result may be an anomaly, given that this sample is not statistically representative of all USFS Wild and Scenic Rivers in the US, it may also be due to the fact that the majority of USFS managed rivers without plans were designated recently, through the Omnibus Public Lands Act of 2009.

Management plans

Management plans are important to consider because not only are they legally required, they outline the mission and purpose, and provide standards and guidelines. They are a touchstone for the public

and incoming agency employees. The management plans of 28 rivers were assessed by looking for the presence of legal requirements for the plans. I also examined the plans for elements suggested by adaptive management literature, collaboration and cooperation literature, and literature on plan development.

All 28 plans addressed a high percentage of legally required elements. Over 80% of the plans contained indicators for monitoring, and indicator thresholds, and 75% of the plans also contained specific actions to take when indicator thresholds were exceeded. Of the 28 plans, 19 contained some discussion of baseline conditions, but none of the plans tied quantified baseline conditions to the monitoring indicators. Entirely absent from the plans were directions for how and when to re-assess the set indicators and threshold levels. This type of double-loop learning is integral to the experimental nature of adaptive management. However, it can be costly and time-consuming.

There is great interest in the concept of collaboration for resource management, particularly in watersheds. However, I did not find specific directives in the plans for engaging in formal collaboration. On the other hand I did find directives for cooperating with other agencies and engaging the public on land management in most of the plans. Cooperation between government agencies at different levels (federal, state, and local) is crucial for Wild and Scenic Rivers because the corridors run through public and private land, and federal agencies lack regulatory authority on private lands within the corridor.

One notable result from plan assessment was that only 19 of the 28 plans contain specific estimations of budget for management and only 18 of the plans contain estimations of monitoring costs. In addition, less than 75% of the plans contain a specific timeline for implementation. Many of the plans discuss the need for future baseline surveys without providing specific timelines for conducting them. Budget and an implementation timeline are two elements can be crucial for ensuring that resource management plan objectives are successfully implemented, particularly in the face of competing management priorities.

There were several elements of note that emerged from the plans themselves. I was interested to find that only two of the plans mentioned climate change, although neither went into specifics about what might be done in response to its effects. In addition, while all of the plans contained a discussion about general in-stream flow requirements, only seven plans contained quantified targets for minimum in-

stream flow. Setting specific in-stream flow targets is not critical for all rivers, but a minimum in-stream flow level can be a strong tool for regulatory authority in rivers that are facing water resource withdrawal projects such as dams upstream or agricultural demands. The fact that the in-stream flow minimums are not quantified in many of the plans indicates that Wild and Scenic Rivers Act does not appear to be as strong a regulatory driver of water rights as other considerations, such as the Endangered Species Act or prior water appropriation rights for irrigation.

There were a number of emergent elements that pointed to the use of the plan as an educational tool for a wide variety of readers, such as inclusion of background on the Act, a bibliography, general description of the river, a glossary, and description of the history of river. These indicate that the management plans in question are intended to be approachable for non-specialist readers.

One finding with interesting potential implications is that the plans jointly developed by BLM and USFS consistently contained a high percentage of elements suggested by all four approaches (legal requirements, adaptive management, cooperation, and overall management plan assessment). It may be that including multiple agencies in plan development promotes a robust plan development process and results in shared accountability.

Administering the act

I conducted interviews of 11 federal employees, responsible for management of four rivers, in order to gain an understanding of how the Act is administered at the federal level. To get a range of perspectives, I interviewed individuals responsible for administration at varying levels within the agencies.

All respondents were aware of the existence of the plan, though are a range of ways that they use the plan. In one river, the plan decades old and is rarely consulted. On the other end of the spectrum, managers of a river with a more recent plan thought of it as “the bible.” The two main areas that interviewees identified as being the most useful are (1) the purpose of designation (including description of the ORVs), and (2) the standards and guidelines. In addition, two of the main reasons that interviewees gave for consulting the plans have to do with communicating to the public and other agencies. This confirms the important role that communication and coordination play in the administration of the Act and the utility of the management plans in that process.

Although monitoring is considered important, it is a struggle to consistently monitor for ORVs in the face of budget constraints. Permitting for recreation on the river is a main source of data on river use levels. Interviewees also mentioned monitoring happening at state agencies, as well ad-hoc information provided by river rafting outfits and private citizens. While adaptive management is a much-touted model for resource managing, especially in the face of climate change, it may not be realistic to expect agencies to adhere to a model of robust experimentation and adaptation for their actively managed areas. While partnering with citizen groups could be one way to improve the capacity for data gathering in the corridor, challenges were identified with the process of volunteer monitoring given the amount of training and oversight required.

Cooperation with local citizens and non-governmental organizations is considered an important part of WSRA implementation, particularly because federal agencies do not have regulatory authority on private lands in the corridor. Interviewees described the positive aspects of one-on-one contact with citizens, and relationship building with key organizations and government entities such as state agencies and the Tribes. In particular, the Wild and Scenic River Manager is glad to be able to devote a significant amount of time to building relationships in the region. Because of the importance of one-on-one relationships in Wild and Scenic River management, many of the interviewees considered staff turnover to be a challenge in management.

Because it could be considered an administrative burden, it was perhaps surprising that all interviewees felt very positively about the Act as a whole. One Oregon interviewee expressed particular pride in being the state with the highest number of designated rivers in the US. An additional result of note is that interviewees from both agencies on the jointly managed river felt that the partnership was very fruitful, with efficient allocation of resources and division of responsibilities under the Act.

6.2 Implications

Successfully passing the Wild and Scenic Rivers Act in 1968 was just the first step in protecting these unique aspects of our environment. Developing a plan and implementing the resource management and monitoring are critical steps, and these activities fall into the hands of the federal agencies (the Forest Service, the Bureau of Land Management, the US Fish and Wildlife Service, and the National Parks Service) and their partners. Within each agency, employees at all levels interact with the Act, doing long-term planning, permitting, compliance enforcement, monitoring, and education of the public. While

there is a great deal of literature on the need for river protections and frameworks for how to do it, there is a scarcity of research on how the process plays out on the ground for the Wild and Scenic Rivers Act. A goal of this study was to explore the efforts of two states in the Pacific Northwest as they manage rivers designated under the Act. The results are encouraging, in that managers appear to be trying their best given limited resources and competing demands. This snapshot of the Wild and Scenic Rivers Act as administered in two states yielded some predictable findings, but it also highlighted some areas to consider when moving forward. Below I discuss some specific implications of the research. I include some recommendations, with the understanding that federal agencies may not have the capacity to fully implement them, based on limited resources and staff time.

Management plans

While it is heartening that a majority of Wild and Scenic Rivers in the Pacific Northwest have comprehensive river management plans, many are over decades old and are considered outdated by the federal employees that I interviewed. However, interviewees did feel that the plans were useful and necessary. The general consensus from the federal staff that I talked with was that plans should be re-examined at least every 10 years. Some interviewees feel that every five years might even be more appropriate. My recommendation is to work on reexamine the plans at least every 10 years, only focusing on the relevant sections. Managers for rivers that see a higher level of use should potentially reexamine the plans more often. This can also help managers keep up with changing tools and technologies, one oft-cited challenge for management. Agencies will need to establish a means for developing plans flexible enough to account for uncertainty, such as that presented by climate change. This recommendation dovetails with one of the conclusions of a comprehensive critique of land management planning conducted by the USFS (Larsen, et al., 1990). Based on the literature and my research, I suggest focusing plan updates on reassessment of monitoring indicators and management actions based on the monitoring triggers, to ensure that best management practices are being used. I also recommend engaging the public in the process of plan updates, due to the critical nature of having local citizens participating in land management.

In general, holistic resource management planning for an ecosystem or watershed is considered optimal. Therefore there is an argument to be made that Wild and Scenic River plans should be absorbed into the USFS Forest Land and Resource Management Plans (LRMPs) and BLM Resource Management Plans (RMPs), as opposed to merely being appended to the larger document. However, I

would make an argument for conducting a separate planning process when a new river segment is designated. One feature of Wild and Scenic Rivers is that they flow through private land. For at least one of the four rivers, the interviewees felt that the priorities set in the Wild and Scenic River management plan aided in the acquisition of land outside the Forestland boundary. Another interviewee felt strongly that careful definition of the outstandingly remarkable values is a critical part of setting up successful management of the rivers. If the Wild and Scenic River management plans do start to be incorporated more organically into the LRMPs, I would urge planners to give equal weight to planning for those areas that fall outside of the forest boundary. The BLM RMPs tend to cover a larger geographic scope, and there is a danger that each individual designated river in the resource area may not get appropriate attention in terms of resource assessment and development of tailored standards and guidelines. Interviewees felt that one use of designation is in setting priorities for management, and I would urge managers to continue to utilize the designation in this way.

I recommend that agencies engage in a joint development process with other federal agencies or state agencies with jurisdiction in the river corridor. The jointly developed plans assessed in this thesis consistently contained a high percentage of examined elements. It appears that having multiple agencies directly involved in plan development may particularly aid in the inclusion of elements that promote accountability, such as budget estimates, baseline condition assessment, and implementation schedules.

Monitoring

One recommendation for monitoring is take advantage of monitoring data collected by other governmental and nongovernmental organizations. Interviewees mentioned efforts by state organizations to collect data on the rivers, with a focus on water quality data. However, it was unclear the extent to which these different government agencies were participating in information sharing. It is important that the efforts that go into collecting such data are not wasted, and that the collected data contribute to appropriate resource management decision-making. I also recommend that the agencies consider incorporating citizen science and volunteer monitoring into efforts when possible, particularly of monitoring parameters that do not have a rigid legal requirement for consistency. Volunteer monitoring is a rich way to educate as well as expand the agency monitoring capacity, and there is literature supporting the fact that it can be done effectively and to good use (Latimore & Steen, 2013).

In terms of adaptive management, the results of this thesis were mixed. There are certain elements of adaptive management represented in the plans, including the setting of indicators, threshold levels, and management actions to take when threshold levels are exceeded. Many of the plans followed the Limits of Acceptable Change (LAC) model, which focuses on setting optimal desired indicator threshold levels, as opposed to thresholds that are based on the level of stress that a resource area can tolerate (Stankey, Cole, Lucas, Petersen, & Frissell, 1985). However, none of the plans specifically addressed how and when to go through the process of reassessing whether threshold levels are set appropriately. This ties in to the overall challenge lack of resources limiting robust monitoring and adaptation of management actions along the rivers. Such adaptation is a crucial element in enhancing Outstandingly Remarkable Values on the river. However, true adaptive management may not be feasible along many of the Wild and Scenic River corridors. My recommendation would be to urge managers to consider adaptive management principles in areas of active management (particularly in restoration project areas), and focus on consistency in monitoring and data sharing for the whole river length. Examining whether appropriate management actions are tied to monitoring trigger mechanisms should be an integral part to any management plan update.

Education and outreach

Based on the literature and my research, I recommend fostering education efforts, particularly of local citizens that live along the river. As one way of facilitating awareness of river designation, I suggest integrating education efforts with those already occurring around threatened or endangered species in the corridor. I also recommend ensuring that all agency employees that come into daily contact with citizens (e.g. in issuing special permits, running the river, etc.) take some time to integrate information about the Wild and Scenic Rivers Act into their interactions with the public. It is optimal if agencies are able to staff a Wild and Scenic River specialist for the region, since they can dedicate a sufficient amount of time to building partnerships and overseeing education efforts. It should be noted that robust outreach efforts are not appropriate for every Wild and Scenic River. I recommend that outreach efforts be focused on rivers that see a high level of recreational use or have a high percentage of privately owned land along the corridor.

I also recommend that agencies use management plan development as an opportunity to involve local stakeholders with cooperatively caring for the river. Oftentimes with management planning the public is only brought in to comment at the end of a plan drafting process. However, given the long-lasting

nature of these plans, it might help the federal agencies to create more pro-active and inclusive committees to craft the plans. Management plan drafters might also work on adding elements to the plan that help it become an educational tool for non-specialists, such as including a glossary, bibliography, and description of the river's history.

One main recommendation is to set up a 10 year challenge, similar to the one implemented for Wilderness (US Forest Service). This was suggested by one of the interviewees, and it supports a number of the recommendations discussed above. The goal of the 10 Year Wilderness Challenge is to establish a minimum stewardship level for the over 400 US Wilderness areas, based on a set criteria of 10 elements. Adapting such a challenge to Wild and Scenic Rivers could help achieve certain basic goals for implementation of the Act, including (but not limited to): completion of Wild and Scenic management plans, establishment of formal boundaries, installation of signage on the ground, establishment of minimum in-stream flows where appropriate, and generation of tools for sharing monitoring data. Such an effort could also help raise awareness in local communities of what it means to have a river designated as Wild and Scenic. In the absence of top-down funding for monitoring and patrols, a campaign akin to the Wilderness Ten Year Challenge could help educate local communities and shift norms around caring for the river.

6.3 Suggestions for future research

This research is intended to provide a descriptive picture of Wild and Scenic River administration in a selected context. While it has yielded certain implications for national Wild and Scenic River management, its results are not generalizable across the country. One area of future research would be to extend analysis to examine implementation of the Act across the country. This could potentially be accomplished by surveying river managers in the different US regions about management and assessing a representative sample of plans using a unified framework for plan completeness. Another focus for future research might center on an in-depth case study approach that includes interviews in state agencies, local government, and Tribes, as well as local non-governmental stakeholders. A third focus would be to conduct research on people's thoughts and attitudes about the comprehensive river management plan development process. In addition, while this thesis focuses on administration of Wild and Scenic Rivers after designation, future research on the designation process would also be useful for fully understanding the process of Wild and Scenic River administration.

7. References

- Ackerman, B. (1974). *The Uncertain Search for Environmental Quality*. New York: Free Press.
- Ansell, C., & Gash, A. (2008). Collaborative governance in theory and practice. *Journal of Public Administration Research & Theory*, 18(4), 543-571.
- Baer, W. C. (1997). General Plan Evaluation Criteria: An Approach to Making Better Plans. *Journal of the American Planning Association*, 63(3), 329-344.
- Bardach, E. (1998). *Getting Agencies to Work Together: The Practice and Theory of Managerial Craftsmanship*. Washington, District of Columbia: Brookings Institution.
- Berke, P., & French, S. (1994). The Influence of State Planning Mandates on Local Plan Quality. *Journal of Planning Education and Research*, 13(4), 237-250.
- Berke, P., Godschalk, D. R., & Kaiser, E. J. (2006). *Urban Land Use Planning* (5th ed.). Urbana: University of Illinois Press.
- Berkes, F. (2009). Evolution of co-management: Role of knowledge generation, bridging organizations and social learning. *Journal of Environmental Management*, 1692-1702.
- Biddle, J. C., & Koontz, T. M. (2014). Goal specificity: A proxy measure for improvements in environmental outcomes in collaborative governance. *Journal of Environmental Management*, 268-276.
- Brody, S. D. (2003). Implementing the Principles of Ecosystem Management Through Local Land Use Planning. *Population and Environment*, 24(6).
- Creswell, J. W. (2007). *Qualitative Inquiry & Research Design: Choosing Among Five Approaches* (2nd ed.). Thousand Oaks, California: Sage Publications.
- Danielsen, F., Burgess, N. D., Jensen, P. M., & Pirhofer-Walzl, K. (2010). Environmental monitoring: the scale and speed of implementation varies according to the degree of people's involvement. *Journal of Applied Ecology*, 47(6), 1166-1168.
- Davidson, J. H. (2004). Multiple-Use Water Resources Development Versus Natural River Functions: Can the WSRA and WRDA Coexist on the Missouri River? *Nebraska Law Review*, 83, 362.
- Dietz, T., Ostrom, E., & Stern, P. C. (2003). The Struggle to Govern the Commons. *Science*, 302, 1907-1912.
- Frost, P. M. (1992). Protecting and Enhancing Wild and Scenic Rivers in the West. *Idaho Law Review*.
- Garn, H. S. (1986). Quantification of Instream Flow Needs of a Wild And Scenic River for Water Rights Litigation. *Journal of the American Water Resources Association*, 22(5), 745-751.

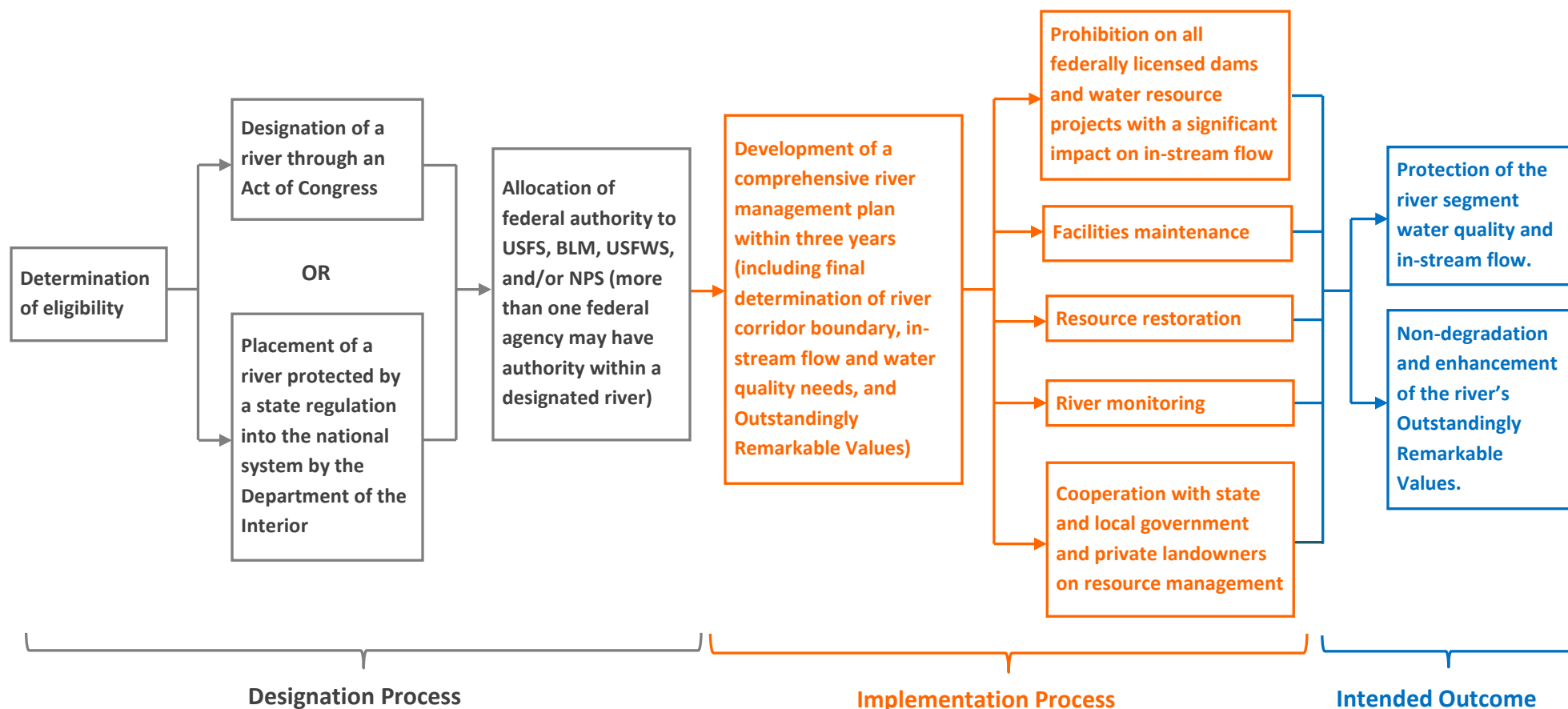
- Gerlak, A. K., & Heikkila, T. (2007). Collaboration and institutional endurance in U.S. water policy. *Political Science and Politics*, 40(01), 55-60.
- Government Accountability Office. (2011). *Availability and Potential Reliability of Selected Data Elements at Five Agencies*. Report to Congressional Requesters.
- Gruft, A., & Gutstein, D. (1972). An analysis of comprehensive planning reports. In W. Mitchell (Ed.), *Environmental design: Research and practice, Proceedings of the EDRA 3/ar 8 Conference*. New York: American Institute of Architects.
- Gruft, A., & Gutstein, D. (n.d.). An Analysis of Comprehensive Planning Reports. In W. J. Mitchell (Ed.), *Environmental Designs: Research and Practice*. Los Angeles.
- Hatry, H. P. (1999). *Performance Measurement: Getting Results*. Washington, D.c.: The Urban Institute Press.
- Hill, M., & Hupe, P. (2002). *Implementing Public Policy*. Thousand Oaks: Sage Publications Ltd.
- Holling, C. S. (Ed.). (1978). *Adaptive Environmental Assessment and Management*. New York: John Wiley & Sons.
- Hubbard, W. G. (2008). Chapter 5: Developing a Restoration Plan that Works. University of Florida.
- Interagency Wild and Scenic River Coordinating Council. (2002). *Wild & Scenic River Management Responsibilities*. Technical Paper.
- Interagency Wild and Scenic Rivers Coordinating Council. (1997). *Questions & Answers on the Interagency Council*.
- Interagency Wild and Scenic Rivers Coordinating Council. (1998). *An Introduction to Wild and Scenic Rivers*. Washington, D.C.: Interagency Wild and Scenic Rivers Coordinating Council.
- Interagency Wild and Scenic Rivers Coordinating Council. (2012). *River Mileage Classifications for components of the National Wild and Scenic Rivers System*.
- Jones, C. (1975). *Clean Air*. Pittsburgh: Pittsburgh University Press.
- Keith, J., Jakus, P., & Larsen, J. (2008). *Impacts of Wild and Scenic River Designation - A Report for the Utah Governor's Public Lands Policy Coordination Office*. Utah State University, Department of Applied Economics.
- King, J. A., Morris, L. L., & Fitz-Gibbon, C. T. (1987). *How to Assess Program Implementation*. Thousand Oaks, California: Sage Publications.
- Koontz, T. M., Steelman, T. A., Carmin, J., Korfmacher, K. S., Moseley, C., & Thomas, C. W. (2004). *Collaborative Environmental Management: What Roles for Government?* Washington, D.C.: Resources for the Future.

- Kotter, J. P. (1996). *Leading Change*. Boston: Harvard Business School Press.
- Kvale, S. (1996). *InterViews: An Introduction to Qualitative Research Interviewing*. Thousand Oaks, California: Sage Publications.
- Larsen, G., Holden, A., Kapaldo, D., Leasure, J., Mason, J., Salwasser, H., et al. (1990). *Synthesis of the Critique of Land Management Planning, Volume 1*. Washington, D.C.: USDA Forest Service.
- Latimore, J. A., & Steen, P. J. (2013). Integrating freshwater science and local management through volunteer monitoring partnerships: the Michigan Clean Water Corps. *Freshwater Science*, 33(2), 686-692.
- Lee, K. N. (1999). Appraising Adaptive Management. *Conservation Ecology*, 3(2).
- Lindner, M., Fitzgerald, J. B., Zimmermann, N. E., Reyer, C., Delzon, S., van der Maaten, E., et al. (2014). Climate change and European forests: What do we know, what are the uncertainties, and what are the implications for forest management? *Journal of Environmental Management*, 146, 69-83.
- Lirioff, R. A. (1976). *A National Policy for the Environment: NEPA and Its Aftermath*. Bloomington: Indiana University Press.
- Miles, M. B., & Huberman, A. M. (1994). *Qualitative Data Analysis: A Sourcebook of New Methods* (2nd ed.). Thousand Oaks, California: Sage Publications.
- Mintrom, M. (2012). *Contemporary Policy Analysis*. Oxford, London: Oxford University Press.
- Mishra, D. M. (2009). Effective communication, collaboration, and coordination in eXtreme programming: human-centric perspectives in a small organization.
- Noss, R. F., & Cooperrider, A. Y. (1994). Monitoring. In *Saving Nature's Legacy: Protecting and Restoring Biodiversity* (pp. 298-324). Washington, District of Columbia: Island Press.
- Ostrom, E. (2005). *Understanding Institutional Diversity*. Princeton: Princeton University Press.
- Palmer, T. (1993). *The Wild and Scenic Rivers of America*. Washington, D.C.: Island Press.
- Rist, L., Campbell, B. M., & Frost, P. (2012). Adaptive management: where are we now? *Environmental Conservation*, 40(1), 5-18.
- Rossi, P. H., Lipsey, M. W., & Freeman, H. E. (2004). *Evaluation: A Systematic Approach* (7th ed.). Thousand Oaks, California: Sage Publications.
- Sabatier, P. A., Focht, W., Lubell, M., Trachtenberg, Z., Vedlitz, A., & Matlock, M. (Eds.). (2005). *Swimming Upstream: Collaborative Approaches to Watershed Management*. Cambridge, MA: MIT Press.

- Seva, M., & Jagers, S. (2013). Inspecting environmental management from within: The role of street-level bureaucrats in environmental policy implementation. *Journal of Environmental Management*, 1060-1070.
- Sims, K. R., Alix-Garcia, J. M., Shapiro-Garza, E., Fine, L. R., Radeloff, V. C., Aronson, G., et al. (2014). Improving Environmental and Social Targeting through Adaptive Management in Mexico's Payments for Hydrological Services Program. *Conservation Biology*, 28(5), 1151-1159.
- Smith, J. W., & More, R. L. (2011). Perceptions of Community Benefits from Two Wild and Scenic Rivers. *Environmental Management*, 47, 814-827.
- Stankey, G. H., Cole, D. N., Lucas, R. C., Petersen, M. E., & Frissell, S. S. (1985). *The Limits of Acceptable Change (LAC) System for Wilderness Planning*. USDA Forest Service.
- Stern, M. J., Predmore, S. A., Mortimer, M. J., & Seesholtz, D. N. (2010). From the office to the field: Areas of tension and consensus in the implementation. *Journal of Environmental Management*, 1350-1356.
- Thomas, C. W. (2003). *Bureaucratic Landscapes: Interagency Cooperation and the Preservation of Biodiversity*. Cambridge: The MIT Press.
- Tipple, T. J., & Wellman, J. D. (1991). Herbert Kaufman's Forest Ranger Thirty Years Later: From Simplicity and Homogeneity to Complexity and Diversity. *Public Administration Review*, 51(5), 421-428.
- U.S. Department of the Interior Bureau of Land Management. (n.d.). *BLM and Its Predecessors: A Long and Varied History*. Retrieved from http://www.blm.gov/wo/st/en/info/About_BLM/History.html
- US Bureau of Land Management. (2012). Subject 6400 - Wild and Scenic Rivers - Policy and Program Direction for Identification, Evaluation, Planning, and Management. In *Bureau of Land Management Manual*. District of Columbia.
- US Bureau of Land Management. (n.d.). *U.S. Department of the Interior - Bureau of Land Management*. Retrieved November 2014, from Bureau of Land Management: Oregon/Washington: <http://www.blm.gov/or/st/en.html>
- US Forest Service. (2005). Appendix A: USDA Forest Service Organizational Chart. In *Forest Service Performance and Accountability Report - Fiscal Year 2005*.
- US Forest Service. (2006). Chapter 80 - Wild and Scenic River Evaluation. In *FSH 1909.12 - Land Management Planning Handbook*. Washington, D.C.
- US Forest Service. (2006). Wild and Scenic River Evaluation. In *Land Management Planning Handbook (FSH 1909.12)*.

- US Forest Service. (2009). FSM 2300 - Recreation, Wilderness, and Related Resource Management. In U. F. Service, *Forest Service Manual*. Washington, D.C.
- US Forest Service. (n.d.). *Pacific Northwest Forest Areas*. Retrieved November 2014, from Forest Service Pacific Northwest Region :
http://www.fs.usda.gov/detail/r6/home/?cid=fsbdev2_026675#oregon
- US GAO. (1986). *Wild and Scenic Rivers: Certain Rivers Not in National System Generally Retain Original Values*. Report to the Chairman of the House Committee on Interior and Insular Affairs Subcommittee on National Parks and Recreation.
- US GAO. (1986). *Wild and Scenic Rivers: Certain Rivers Not in National System Generally Retain Original Values*. Report to the Chairman of the House Committee on Interior and Insular Affairs Subcommittee on National Parks and Recreation.
- US GAO. (1999). *Land Management: The Forest Service's and BLM's Organizational Structures and Responsibilities*. US GAO Resources, Community, and Economic Development Division.
- USDA Forest Service. (n.d.). *10-Year Wilderness Stewardship Challenge*. Retrieved December 2014, from <http://www.wilderness.net/NWPS/documents/FS/10YWSC%20Brochure.pdf>
- USDA Forest Service. (n.d.). *Pacific Northwest Region*. Retrieved from http://www.fs.fed.us/wildflowers/regions/Pacific_Northwest/index.php
- Walters, C. (1986). *Adaptive Management of Renewable Resources*. New York: Macmillan.
- Walters, C. J., & Green, R. (1997). Valuation of Experimental Management Options for Ecological Systems. *Journal of Wildlife Management*, 987-1006.
- Washington State Department of Commerce. (2009). *A Guide to Community and Urban Forestry Programming*.
- Weiss, R. S. (1995). *Learning From Strangers: The Art and Method of Qualitative Interview Studies*. New York, New York: The Free Press.
- Wondolleck, J. M., & Yaffee, S. L. (2000). *Making Collaboration Work: Lessons from Innovation in Natural Resource Management*. Washington, District of Columbia: Island Press.
- Yin, R. K. (2003). *Case Study Research: Design and Methods*. Thousand Oaks, California: Sage Publications.

Appendix A: Wild and Scenic Rivers Act program theory



| Human Resources | Financial Resources | Physical Resources |
|--|---|---|
| <ul style="list-style-type: none"> The time of agency staff. Human resources are the main input required for the WSRA program | <ul style="list-style-type: none"> Costs associated with developing a management plan Budget for management (including compliance patrols, permitting, development and maintenance of facilities, restoration projects, etc.) Budget for monitoring. | <ul style="list-style-type: none"> Monitoring equipment Equipment used to patrol river Equipment required for maintenance and restoration work |

Appendix B: Codebook

Organization of codebook:

- Legally required elements
- Elements suggested by adaptive management literature
- Elements suggested by cooperation and collaboration literature
- Elements suggested by literature on plan development
- Emergent elements (codes for additional elements noted in plans)

LEGAL

Note: asterisk (*) indicates that an element is not required to be in plans, but is required to be defined and available to the public

BOUNDARIES

General discussion of boundaries: general discussion of designated segment boundary, as set by the overall Act. *Example:* description of the river boundary as an average of $\frac{1}{4}$ mile on each side of the river; discussion of the corridor boundary as no more than 320 acres per river mile.

***Detailed boundaries:** legal description of the river boundary. Often included as an appendix to the management plan.

***Corridor map:** graphic visual representation of the river corridor. May or may not include river classification, topography.

CLASSIFICATION

***Classification:** list of classification or classifications (wild, scenic, recreational) for the river segment in question.

MANAGEMENT

Development of land and facilities: direction on how to maintain or develop facilities. *Example:* direction for installation of restrooms at trailheads.

Standards and guidelines: specific requirements and suggested actions for management. Intended to comprehensively address all management actions in the corridor.

User capacities: limits set on amount of people allowed in the corridor in order to preserve the Outstandingly Remarkable Values. *Examples:* requirements for boater levels; limits on number of campsites.

MONITORING

Documentation of baseline conditions: specific description of conditions of the river at the time of designation. This information is often included in the Resource Assessment section of the plan.

Monitoring goals: broad categories of what to monitor. *Examples:* water quality; recreation.

Link between monitoring and ORVs: reference to the river's Outstandingly Remarkable Values in the monitoring goals.

OUTSTANDINGLY REMARKABLE VALUES

List of ORVs: listing of the river's Outstandingly Remarkable Values.

Strategies to protect and enhance ORVs: specific actions to take that will help protect the quality of the Outstandingly Remarkable Values. These are often included in the standards and guidelines. Must include a reference to a specific ORV for the river.

PRIVATE LANDS (when applicable)

Federal authority on private lands: discussion of limits of federal regulatory authority on private lands.

State and local regulations on private lands: discussion of regulations administered by state and local government that affect privately held lands. *Example:* direction to work with local county to update zoning regulations in response to threats to ORVs.

Principles for land acquisition or easement principles: discussion of decision criteria and process for pursuing easements and/or acquiring property.

WATER ISSUES

Water quality: discussion of water quality. *Examples:* discussion of water quality conditions such as temperature and sedimentation; discussion of management tools for maintaining water quality.

In-stream flow: general discussion of requirements for protecting the free-flowing nature of designated river segments. *Examples:* description of the legal mandate to protect the free-flowing nature of the river; discussion of Section 7 process to analyze water resource project for their impact on in-stream flow; discussion of areas of concern for in-stream flow.

ADAPTIVE MANAGEMENT

Documentation of baseline conditions: specific description of conditions of the river at the time of designation. This information is often included in the Resource Assessment section of the plan.

Monitoring indicators: description of specific elements to monitor that provide information about a broad monitoring category. *Example:* water temperature as a monitoring indicator for water quality.

Monitoring indicator thresholds: specific target values for the monitoring indicators. Often these levels act as triggers for management action to be taken, if monitoring indicator values fall outside the acceptable range.

Actions triggered by indicators: details on the specific actions that managing agency staff should take if monitoring indicator values fall outside the acceptable range.

COOPERATION AND COLLABORATION

COOPERATION BETWEEN GOVERNMENT AGENCIES

Regulatory authority of managing agency: description of the legal authority for federal agency and the role it plays in managing along the river corridor.

Regulatory authorities of other government agencies: description of regulatory authorities of other government agencies at federal, state and local level involved in river management.

Directives for cooperation between government agencies: discussion of specific areas of management to coordinate with other government entities.

MOUs present within plan: inclusion of text of Memorandums of Understanding drawn up between federal agency and other government bodies (including the Tribes).

Governmental monitoring cooperation: discussion of plans to coordinate with other government agencies or to use monitoring data collected by other government agencies.

COOPERATION WITH NON-GOVERNMENTAL STAKEHOLDERS

Discussion of non-governmental stakeholders: discussion of individuals, groups, or organizations with an interest in the river. *Examples:* discussion of individuals or groups that provided input on the plan development; discussion of the economic profile of the region; discussion of different types of recreationists on the river.

Non-governmental management collaboration: discussion of plans for collaboration with non-governmental individuals, groups, or organizations.

Non-governmental monitoring collaboration: discussion of plans to collaborate with non-governmental groups or individuals to do monitoring on the river. *Examples:* identifying volunteer groups that could contribute to monitoring; discussion of academic institutions with an interest in monitoring on the river.

EDUCATION AND OUTREACH

Directives for signage: directions to install signs along the river corridor

Directives for educational material: directives to develop educational materials such as brochures concerning the designation and allowed activities along the corridor.

Directives for in-person outreach and education: discussion of the education of individuals through point-of-contact opportunities (such as through issuing special permits and patrolling the river).

Directive for proactive educational programs: discussion of potential opportunities for proactive outreach about the river, such as newsletter articles and visits to local schools.

PLAN DEVELOPMENT

VISION

Desired future conditions: description of river conditions that managing agency is aiming to create in the future through management actions.

In-depth description of ORVs: detailed description of the river's unique Outstandingly Remarkable Values.

GOALS AND OBJECTIVES

Management goals: description of general management goals for the river corridor. *Example:* direction to maintain the Outstandingly Remarkable Values and free-flowing nature of the river.

Purpose of monitoring: connection between what to monitor and specific management goals. Often this includes monitoring to protect certain Outstandingly Remarkable Values.

GUIDING PRINCIPLES

Background on WSRA: explanation of the Wild and Scenic Rivers Act and its purpose.

PROBLEMS AND ISSUES

Discussion of threats to ORVs: discussion of threats to the condition of the river's Outstandingly Remarkable Values. This discussion is often included in the environmental or resource assessment.

BUDGET

General budget discussion: all general discussion of funding and budget that do not fit within other codes contained in this section. *Examples:* discussion of funding sources; discussion of how to prioritize management actions if funding is limited.

Management budget: specific estimations of funding required for management.

Monitoring budget: specific estimations of funding required for monitoring.

IMPLEMENTATION SCHEDULE

Management plan implementation schedule: specific dates for implementing management steps outlined in the plan. This includes the start to implementing the plan as a whole, as well as a timeline for specific projects.

Directives for updating plan: discussion in the plan for how and when to update the plan.

Frequency of monitoring: directions for how often to conduct each monitoring process.

Start to monitoring or baseline surveys: specific directions for when to start monitoring. If baseline conditions have not yet been established, this includes directions for when to conduct baseline surveys.

PROCESS FOR EVALUATION

Monitoring plan: the presence of a section of the management plan (either a chapter, a section of a chapter, or an appendix) dedicated to describing the monitoring that should occur in the corridor.

REALTIONSHIP TO OTHER PLANS

Other management documents: discussion of other management documents or description of how the Wild and Scenic River management plan integrates with other management documents.

Examples: reference to the northwest forest plan, individual forest plans, county plans, or BLM resource area plans.

EMERGENT

BOUNDARY

Reference to ORVs in boundary description: reference to the river's Outstandingly Remarkable Values when discussing the boundary.

River characterization as part of boundary description: river description as part of the boundary description. *Example:* text indicating that a boundary has been altered to include a specific natural feature.

CLASSIFICATION

River characterization as part of classification description: characterization of the river included in the description of the river as wild, scenic, and/or recreational. *Example:* 'wild section,' followed by a description of natural or developed features within the indicated corridor segment.

EDUCATIONAL COMPONENTS TO PLAN

Bibliography: list of references, often included as an appendix.

Definition of "ORV": description of what the term "Outstandingly Remarkable Values" means.

Explanation of classification: description of the requirements for classification as wild, scenic, or recreational. *Example:* explanation that a wild section cannot contain conspicuous development or well-travelled roads.

Glossary: listed definition of technical terms, often included as an appendix.

History of river: description of the archaeological or cultural history of the river.

River description: general description of the river's characteristics.

INTEGRATION WITH OTHER MANAGEMENT

Other management areas: description of other types of management areas adjacent to or overlapping the Wild and Scenic corridor. *Examples:* wilderness areas; state scenic waterway corridors; national forests, BLM resource areas.

Other management regulations: description of other legislation and how it interacts with the Wild and Scenic designation. *Examples:* description of the Endangered Species Act, the State Scenic Waterways Act, or the National Environmental Protection Act (NEPA) Environmental Impact Statement (EIS) process.

GENERAL MANAGEMENT ISSUES

Access to river: description of roads and trails that provide access to the river corridor. May also include description of plans to maintain, open, or close roads and trails.

Climate change: reference to climate change in management plan.

In-stream flow targets: Specific quantitative target for in-stream flow—either specific target numbers, or quantified baseline flow numbers coupled with a mandate to maintain stream flow.

Management plan development: description of the process of creating the plan.

Resource extraction: discussion of allowed and prohibited land use and resource extraction in the river corridor. *Examples:* discussion of timber harvesting, mining, agricultural herd grazing, or hunting.

Section 7 guidance: guidance on how to assess water resource projects for their impact on the river flow and ORVs. Often included as an appendix.

MONITORING

Monitoring tools and techniques: directions for how to conduct monitoring. *Examples:* number of monitoring stations; types of scientific equipment to use.

PRIVATE PROPERTY (when applicable)

Managing acquired property: plans for how to manage specific easement areas or private properties targeted for acquisition.

Description of private property: description of private property within or adjacent to the corridor. May also include a discussion of specific private property owners, such as timber companies.

Land acquisition: discussion of specific lands identified for potential acquisition or conservation easement, when applicable.

Restrictions on private lands: description of specific restrictions that apply on privately owned land.
Example: requirement of an easement for boat ramps that cross the ordinary high water mark; requirement for a royalty lease when removing more than 50 cubic yards of sand/gravel.

Appendix C: Interview Guide

Total estimated time: 40-60 minutes

Opening/Icebreaker Questions (5-10 minutes)

- What are the main duties in your job?
- How does management of the _____ Wild and Scenic river fit in with your work?
 - *Probe:* Roughly what percentage would you say of your overall duties relates to the management of the river under its Wild and Scenic Rivers Act designation?

Key Questions (30-40 minutes)

Questions about the comprehensive river management plan:

- Do you use the environmental management plan in your regular management duties?
 - *Probe:* How and when do you consult the plan?
 - *Probe:* Can you give an example of when you consulted the plan?
- Could you describe aspects of the plan that you find particularly useful?
 - *Probe:* Which do you find to be less useful?
- Are there ways that you think the plan could be improved?
- If resources weren't a constraint, what would be the ideal timeframe for updating the management plan?
- Any other thoughts on the management plan?

Questions on other Wild and Scenic Rivers Act guidance resources:

- Do you go to other resources for guidance?
 - *Probe:* Are you aware of the Interagency Wild and Scenic Rivers Council guidance reports available (online at rivers.gov)?
 - *Probe:* Do you reference these resources in your work?
 - *Probe:* Have you referenced them in the past?

If the agency employee is involved in permitting on the river (construction or recreational/commercial use):

- How does the Wild and Scenic designation affect the process of permitting on this river segment?
 - *Probe:* Are there any examples of instances where the designation has affected permitting?
 - *Probe:* What are your thoughts on this process?

If the agency employee is involved in monitoring or other direct management of the designated riparian corridor:

- What monitoring happens in the river corridor?
- Has designation affected how you monitor the river segment riparian corridor?
 - *Probe:* What are your thoughts on the use of designation in everyday monitoring and habitat management?
 - *Probe:* What do you think about having volunteers help with monitoring?

If the river section flows through private land:

- How does designation affect the privately owned land along the corridor?
 - *Probe:* What are the challenges to managing each type of land? Advantages?

General questions about managing WSRA land:

- Does your agency do education or outreach efforts in the area about the Act?
 - *Probe:* Are local individuals or groups aware of what WSRA means?
 - *Probe:* What do you think is the most effective type of education effort?
- Are there other ways not yet covered that the WSRA designation affects how you manage the river?
 - *Probe:* Would you tell me a little bit more about that?

Final Questions (5-10 minutes)

- What do you think overall about the Wild and Scenic Rivers Act?
- Is there anything I missed that might be helpful on this topic?

Concluding Remarks

Thank you for taking the time out to talk with me. If you think of anything else that could help with this research, please feel free to contact me.

Appendix D: Characteristics of designated rivers in Oregon and Washington State

Oregon Rivers

1. Big Marsh Creek

Length: 17.5 miles (recreational) Federal management: USFS

| | |
|---|--|
| Year of designation: 1988 | Managing federal agency/agencies: USFS |
| Classification: <input type="checkbox"/> Wild <input type="checkbox"/> Scenic <input checked="" type="checkbox"/> Recreational (17.5 miles) | |
| Comprehensive river management plan: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Year of plan publication: 2001 |
| <i>Note:</i> joint Big Marsh and Little Deschutes Wild and Scenic River management plan | |
| Associated management locations: Deschutes National Forest; Klamath County (OR); Oregon Cascades National Recreational Area | |

2. Chetco River

Length: 44.5 miles (wild, scenic, and recreational) Federal management: USFS

| | |
|---|--|
| Year of designation: 1988 | Managing federal agency/agencies: USFS |
| Classification: <input checked="" type="checkbox"/> Wild (27.5miles) <input checked="" type="checkbox"/> Scenic (7.5miles) <input checked="" type="checkbox"/> Recreational (9.5 miles) | |
| Comprehensive river management plan: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Year of plan publication: 1993 |
| Associated management locations: Rogue River-Siskiyou National Forest; Curry County (OR) | |

3. Clackamas River

Length: 47 miles (scenic and recreational) Federal management: BLM, USFS

| | |
|---|--|
| Year of designation: 1988 | Managing federal agency/agencies: BLM & USFS |
| Classification: <input type="checkbox"/> Wild <input checked="" type="checkbox"/> Scenic (20 miles) <input checked="" type="checkbox"/> Recreational (27 miles) | |
| Comprehensive river management plan: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Year of plan publication: 1993 |
| <i>Note:</i> Wild and Scenic River management plan developed for Forest Service managed section only; BLM has jurisdiction over 1 mile (143 acres) of river | |
| Associated management locations: Mt. Hood National Forest (USFS); Salem District (BLM) | |

4. Collawash River

Length: 17.8 miles (scenic and recreational) Federal management: USFS

| | |
|--|--|
| Year of designation: 2009 | Managing federal agency/agencies: USFS |
| Classification: <input type="checkbox"/> Wild <input checked="" type="checkbox"/> Scenic (11 miles) <input checked="" type="checkbox"/> Recreational (6.8 miles) | |
| Comprehensive river management plan: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Year of plan publication: N/A |
| <i>Note:</i> management direction for Collawash River included in the <i>Mt. Hood National Forest Land and Resource Management Plan</i> Standards and Guidelines | |
| Associated management location: Mt. Hood National Forest | |

5. Crescent Creek

Length: 10 miles (recreational)

Federal management: USFS

| | | |
|--------------------------------------|---|---|
| Year of designation: 1998 | Managing federal agency/agencies: USFS | |
| Classification: | <input type="checkbox"/> Wild | <input type="checkbox"/> Scenic <input checked="" type="checkbox"/> Recreational (10 miles) |
| Comprehensive river management plan: | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Year of plan publication: N/A |
| Associated management location: | Mt. Hood National Forest | |

6. Crooked River

Length: 17.3 miles (recreational)

Federal management: BLM, USFS

| Crooked River Chimney Rock Segment | | |
|--------------------------------------|---|--|
| Year of designation: 1998 | Managing federal agency/agencies: BLM | |
| Classification: | <input type="checkbox"/> Wild | <input type="checkbox"/> Scenic <input checked="" type="checkbox"/> Recreational (8 miles) |
| Comprehensive river management plan: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Year of plan publication: 1992 |
| Associated management location: | Prineville District | |

| Lower Crooked River | | |
|---|---|--|
| Year of designation: 1998 | Managing federal agency/agencies: BLM & USFS | |
| Classification: | <input type="checkbox"/> Wild | <input type="checkbox"/> Scenic <input checked="" type="checkbox"/> Recreational (9.3 miles) |
| Comprehensive river management plan: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Year of plan publication: 1992 |
| <i>Note: joint Middle Deschutes and Lower Crooked Wild and Scenic River management plan</i> | | |
| Associated management locations: | Prineville District (BLM); Crooked River National Grasslands (USFS) | |

7. Deschutes River

Length: 174.4 miles (scenic and recreational)

Federal management: BLM, USFS

| Lower Deschutes River | | |
|--------------------------------------|---|--|
| Year of designation: 1998 | Managing federal agency/agencies: BLM | |
| Classification: | <input type="checkbox"/> Wild | <input type="checkbox"/> Scenic <input checked="" type="checkbox"/> Recreational (100 miles) |
| Comprehensive river management plan: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Year of plan publication: 1992 |
| Associated management location: | Prineville District | |

| Middle Deschutes River | | |
|---|---|---|
| Year of designation: 1998 | Managing federal agency/agencies: BLM & USFS | |
| Classification: | <input type="checkbox"/> Wild | <input checked="" type="checkbox"/> Scenic (20 miles) <input type="checkbox"/> Recreational |
| Comprehensive river management plan: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Year of plan publication: 1992 |
| <i>Note: joint Middle Deschutes and Lower Crooked Wild and Scenic River management plan</i> | | |
| Associated management locations: | Prineville District (BLM); Ochoco National Forest (USFS) | |

Deschutes River, continued

| Upper Deschutes River | |
|--|---|
| Year of designation: 1998 | Managing federal agency/agencies: USFS |
| Classification: <input type="checkbox"/> Wild | <input checked="" type="checkbox"/> Scenic (11 miles) <input checked="" type="checkbox"/> Recreational (43.4 miles) |
| Comprehensive river management plan: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Year of plan publication: 1996 |
| Associated management location: Deschutes National Forest | |

8. Donner und Blitzen River

Length: 87.5 miles (wild) Federal management: BLM

| | |
|---|---------------------------------------|
| Year of designation: 1998 | Managing federal agency/agencies: BLM |
| Classification: <input checked="" type="checkbox"/> Wild (72.7 miles) <input type="checkbox"/> Scenic | <input type="checkbox"/> Recreational |
| Comprehensive river management plan: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Year of plan publication: 1993 |
| <i>Note: plan updated in 2005, river now managed jointly with Kiger Creek and Wildhorse Creek (Steens Mountain Cooperative Management and Protection Area Resource Management Plan, Appendix P)</i> | |
| Associated management location: Burns District | |

| | |
|---|---------------------------------------|
| Year of designation: 2000 | Managing federal agency/agencies: BLM |
| Classification: <input checked="" type="checkbox"/> Wild (14.8 miles) <input type="checkbox"/> Scenic | <input type="checkbox"/> Recreational |
| Comprehensive river management plan: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Year of plan publication: 2005 |
| <i>Note: joint plan with Kiger Creek and Wildhorse Creek management plan; incorporated into Steens Mountain Cooperative Management and Protection Area Resource Management Plan as Appendix P</i> | |
| Associated management location: Burns District | |

9. Eagle Creek (Mt. Hood National Forest)

Length: 8.3 miles (wild) Federal management: USFS

| | |
|---|--|
| Year of designation: 2009 | Managing federal agency/agencies: USFS |
| Classification: <input checked="" type="checkbox"/> Wild (8.3 miles) <input type="checkbox"/> Scenic | <input type="checkbox"/> Recreational |
| Comprehensive river management plan: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Year of plan publication: N/A |
| <i>Note: management direction for Eagle Creek River included in the Mt. Hood National Forest Land and Resource Management Plan Standards and Guidelines</i> | |
| Associated management location: Mt. Hood National Forest | |

10. Eagle Creek (Wallowa-Whitman National Forest)

Length: 28.9 miles (wild, scenic, and recreational) Federal management: USFS

| | |
|---|---|
| Year of designation: 1988 | Managing federal agency/agencies: USFS |
| Classification: <input checked="" type="checkbox"/> Wild (4.5 miles) <input checked="" type="checkbox"/> Scenic (6 miles) | <input checked="" type="checkbox"/> Recreational (18.4 miles) |
| Comprehensive river management plan: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Year of plan publication: 1993 |
| Associated management locations: Wallowa-Whitman National Forest; Baker County, Union County (OR) | |

11. East Fork Hood River

Length: 13.5 miles (recreational) Federal management: USFS

| | | |
|--|--|---|
| Year of designation: 2009 | Managing federal agency/agencies: USFS | |
| Classification: <input type="checkbox"/> Wild | <input type="checkbox"/> Scenic | <input checked="" type="checkbox"/> Recreational (13.5 miles) |
| Comprehensive river management plan: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | Year of plan publication: N/A |
| Associated management location: Mt. Hood National Forest | | |

12. Elk River

Length: 28.2 miles (wild and recreational) Federal management: USFS

| Elk River mainstem | | |
|--|--|---|
| Year of designation: 1988 | Managing federal agency/agencies: USFS | |
| Classification: <input checked="" type="checkbox"/> Wild (2 miles) | <input type="checkbox"/> Scenic | <input checked="" type="checkbox"/> Recreational (17 miles) |
| Comprehensive river management plan: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Year of plan publication: 1994 |
| Associated management location: Rogue River-Siskiyou National Forest | | |

| South Fork Elk | | |
|--|--|---------------------------------------|
| Year of designation: 2009 | Managing federal agency/agencies: USFS | |
| Classification: <input checked="" type="checkbox"/> Wild (7.7 miles) | <input checked="" type="checkbox"/> Scenic (1.5 miles) | <input type="checkbox"/> Recreational |
| Comprehensive river management plan: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | Year of plan publication: N/A |
| <i>Note: no update to 1994 management plan for the Elk River Wild and Scenic designated corridor</i> | | |
| Associated management location: Rogue River-Siskiyou National Forest | | |

13. Elkhorn Creek

Length: 6.4 miles (wild and scenic) Federal management: BLM, USFS

| | | |
|--|--|---------------------------------------|
| Year of designation: 1996 | Managing federal agency/agencies: BLM & USFS | |
| Classification: <input checked="" type="checkbox"/> Wild (5.8 miles) | <input checked="" type="checkbox"/> Scenic (0.6 miles) | <input type="checkbox"/> Recreational |
| Comprehensive river management plan: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | Year of plan publication: N/A |
| Associated management location: Salem District | | |

14. Fifteenmile Creek

Length: 11.1 miles (wild and scenic) Federal management: USFS

| | | |
|--|--|---------------------------------------|
| Year of designation: 2009 | Managing federal agency/agencies: USFS | |
| Classification: <input checked="" type="checkbox"/> Wild (10.5 miles) | <input checked="" type="checkbox"/> Scenic (0.6 miles) | <input type="checkbox"/> Recreational |
| Comprehensive river management plan: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | Year of plan publication: N/A |
| Associated management location: Mt. Hood National Forest | | |

15. Fish Creek

Length: 13.5 miles (recreational) Federal management: USFS

| | | |
|--|---|---|
| Year of designation: 2009 | Managing federal agency/agencies: USFS | |
| Classification: | <input type="checkbox"/> Wild | <input type="checkbox"/> Scenic <input checked="" type="checkbox"/> Recreational (13.5 miles) |
| Comprehensive river management plan: | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Year of plan publication: N/A |
| <i>Note: management direction Fish Creek included in the Mt. Hood National Forest Land and Resource Management Plan Standards and Guidelines</i> | | |
| Associated management location: Mt. Hood National Forest | | |

16. Grande Ronde River

Length: 43.8 miles (wild and recreational) Federal management: BLM, USFS

| | | |
|---|---|---|
| Year of designation: 1988 | Managing federal agency/agencies: BLM | |
| Classification: | <input checked="" type="checkbox"/> Wild (26.4 miles) <input type="checkbox"/> Scenic | <input checked="" type="checkbox"/> Recreational (17.4 miles) |
| Comprehensive river management plan: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Year of plan publication: 1993 |
| <i>Note: joint Grande Ronde and Wallowa Wild and Scenic River management plan</i> | | |
| Associated management locations: Vale District, Baker Resource Area (BLM); Wallowa-Whitman National Forest, Umatilla National Forest (USFS) | | |

17. Illinois River

Length: 50.4 miles (wild, scenic, and recreational) Federal management: USFS

| | | |
|--|--|--|
| Year of designation: 1984 | Managing federal agency/agencies: BLM | |
| Classification: | <input checked="" type="checkbox"/> Wild (28.7 miles) <input type="checkbox"/> Scenic (17.9 miles) | <input checked="" type="checkbox"/> Recreational (3.8 miles) |
| Comprehensive river management plan: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Year of plan publication: 1986 |
| Associated management location: Rogue River-Siskiyou National Forest | | |

18. Imnaha River

Length: 77 miles (wild, scenic, and recreational) Federal management: USFS

| | | |
|--|--|---|
| Year of designation: 1986 | Managing federal agency/agencies: USFS | |
| Classification: | <input checked="" type="checkbox"/> Wild (15 miles) <input checked="" type="checkbox"/> Scenic (4 miles) | <input checked="" type="checkbox"/> Recreational (58 miles) |
| Comprehensive river management plan: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Year of plan publication: 1993 |
| Associated management location: Rogue River-Siskiyou National Forest | | |

19. John Day River

Length: 147.5 miles (recreational) Federal management: BLM

| | |
|--|---------------------------------------|
| Year of designation: 1988 | Managing federal agency/agencies: BLM |
| Classification: <input type="checkbox"/> Wild <input type="checkbox"/> Scenic <input checked="" type="checkbox"/> Recreational (147.5 miles) | |
| Comprehensive river management plan: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Year of plan publication: 2000 | |
| <i>Note: joint John Day River (mainstem) and South Fork John Day river management plan</i> | |
| Associated management location: Prineville District | |

20. Joseph Creek

Length: 8.6 miles (wild) Federal management: USFS

| | |
|--|--|
| Year of designation: 1988 | Managing federal agency/agencies: USFS |
| Classification: <input checked="" type="checkbox"/> Wild (8.6 miles) <input type="checkbox"/> Scenic <input type="checkbox"/> Recreational | |
| Comprehensive river management plan: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Year of plan publication: 1993 | |
| Associated management location: Wallowa-Whitman National Forest; Wallowa County (OR) | |

21. Kiger Creek

Length: 4.3 miles (wild) Federal management: BLM

| | |
|---|---------------------------------------|
| Year of designation: 2000 | Managing federal agency/agencies: BLM |
| Classification: <input checked="" type="checkbox"/> Wild (4.3 miles) <input type="checkbox"/> Scenic <input type="checkbox"/> Recreational | |
| Comprehensive river management plan: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Year of plan publication: 2005 | |
| <i>Note: joint Donner und Blitzen River, Kiger Creek, and Wildhorse Creek management plan; incorporated into Steens Mountain Cooperative Management and Protection Area Resource Management Plan, as Appendix P</i> | |
| Associated management location: Burns District | |

22. Klamath River

Length: 11 miles (scenic) Federal management: BLM

| | |
|---|---------------------------------------|
| Year of designation: 1994 | Managing federal agency/agencies: BLM |
| Classification: <input type="checkbox"/> Wild <input checked="" type="checkbox"/> Scenic (11 miles) <input type="checkbox"/> Recreational | |
| Comprehensive river management plan: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Year of plan publication: N/A | |
| Associated management locations: Lakeview District; Klamath Falls Resource Area | |

23. Little Deschutes River

Length: 12 miles (recreational) Federal management: USFS

| | | |
|--|--|---|
| Year of designation: 1988 | Managing federal agency/agencies: USFS | |
| Classification: <input type="checkbox"/> Wild | <input type="checkbox"/> Scenic | <input checked="" type="checkbox"/> Recreational (12 miles) |
| Comprehensive river management plan: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Year of plan publication: 2001 |
| <i>Note: joint Big Marsh and Little Deschutes Wild and Scenic River management plan</i> | | |
| Associated management locations: Deschutes National Forest; Klamath County (OR) | | |

24. Lostine River

Length: 16 miles (wild and recreational) Federal management: USFS

| | | |
|--|--|---|
| Year of designation: 1988 | Managing federal agency/agencies: USFS | |
| Classification: <input checked="" type="checkbox"/> Wild (5 miles) | <input type="checkbox"/> Scenic | <input checked="" type="checkbox"/> Recreational (11 miles) |
| Comprehensive river management plan: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Year of plan publication: 1993 |
| <i>Note: joint Big Marsh and Little Deschutes Wild and Scenic River management plan</i> | | |
| Associated management location: Wallowa-Whitman National Forest | | |

25. Malheur River

Length: 13.7 miles (wild and scenic) Federal management: USFS

| | | |
|--|--|---|
| Year of designation: 1988 | Managing federal agency/agencies: USFS | |
| Classification: <input checked="" type="checkbox"/> Wild (5 miles) | <input type="checkbox"/> Scenic | <input checked="" type="checkbox"/> Recreational (11 miles) |
| Comprehensive river management plan: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Year of plan publication: 1990 |
| <i>Note: found in Malheur National Forest Plan, as management area 22</i> | | |
| Associated management location: Wallowa-Whitman National Forest | | |

26. McKenzie River

Length: 12.7 miles (recreational) Federal management: USFS

| | | |
|--|--|---|
| Year of designation: 1988 | Managing federal agency/agencies: USFS | |
| Classification: <input type="checkbox"/> Wild | <input type="checkbox"/> Scenic | <input checked="" type="checkbox"/> Recreational (12.7 miles) |
| Comprehensive river management plan: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Year of plan publication: 1993 |
| Associated management location: Willamette National Forest | | |

27. Metolius River

Length: 28.6 miles (scenic and recreational) Federal management: USFS

| | | |
|--|---|---|
| Year of designation: 1988 | Managing federal agency/agencies: USFS | |
| Classification: <input type="checkbox"/> Wild | <input checked="" type="checkbox"/> Scenic (17.1 miles) | <input checked="" type="checkbox"/> Recreational (11.5 miles) |
| Comprehensive river management plan: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Year of plan publication: 1996 |
| Associated management location: Deschutes National Forest | | |

28. Middle Fork Hood River

Length: 3.7 miles (scenic) Federal management: USFS

| | | |
|--|--|---------------------------------------|
| Year of designation: 2009 | Managing federal agency/agencies: USFS | |
| Classification: <input type="checkbox"/> Wild | <input checked="" type="checkbox"/> Scenic (3.7 miles) | <input type="checkbox"/> Recreational |
| Comprehensive river management plan: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | Year of plan publication: N/A |
| <i>Note: management direction for Middle Fork Hood River included in the Mt. Hood National Forest Land and Resource Management Plan Standards and Guidelines</i> | | |
| Associated management location: Mt. Hood National Forest | | |

29. Minam River

Length: 41.9 miles (wild) Federal management: USFS

| | | |
|--|--|---------------------------------------|
| Year of designation: 1988 | Managing federal agency/agencies: USFS | |
| Classification: <input checked="" type="checkbox"/> Wild (41.9 miles) | <input type="checkbox"/> Scenic | <input type="checkbox"/> Recreational |
| Comprehensive river management plan: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Year of plan publication: 1996 |
| Associated management locations: Wallowa-Whitman National Forest; Eagle Cap Wilderness | | |

30. North Fork Crooked River

Length: 33.7 miles (wild, scenic, and recreational) Federal management: BLM, USFS

| | | |
|--|--|---|
| Year of designation: 1988 | Managing federal agency/agencies: BLM & USFS | |
| Classification: <input checked="" type="checkbox"/> Wild (12.2 miles) | <input checked="" type="checkbox"/> Scenic (8.2 miles) | <input checked="" type="checkbox"/> Recreational (13.3 miles) |
| Comprehensive river management plan: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Year of plan publication: 1993 |
| Associated management locations: Prineville District (BLM); Ochoco National Forest (USFS) | | |

31. North Fork John Day River

Length: 54.1 miles (wild, scenic, and recreational) Federal management: USFS

| | | |
|--|---|---|
| Year of designation: 1988 | Managing federal agency/agencies: USFS | |
| Classification: <input checked="" type="checkbox"/> Wild (27.8 miles) | <input checked="" type="checkbox"/> Scenic (10.5 miles) | <input checked="" type="checkbox"/> Recreational (15.8 miles) |
| Comprehensive river management plan: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Year of plan publication: 1993 |
| Associated management locations: Umatilla National Forest, Wallowa-Whitman National Forest | | |

32. North Fork Malheur River

Length: 25.5 miles (scenic) Federal management: USFS

| | |
|--|---|
| Year of designation: 1988 | Managing federal agency/agencies: USFS |
| Classification: <input type="checkbox"/> Wild | <input checked="" type="checkbox"/> Scenic (25.5 miles) <input type="checkbox"/> Recreational |
| Comprehensive river management plan: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Year of plan publication: 1990 |
| Note: found in Malheur National Forest Plan, as management area 22 | |
| Associated management location: Wallowa-Whitman National Forest | |

33. North Fork of the Middle Fork Willamette River

Length: 42.3 miles (wild, scenic, and recreational) Federal management: USFS

| | |
|--|--|
| Year of designation: 1988 | Managing federal agency/agencies: USFS |
| Classification: <input checked="" type="checkbox"/> Wild (8.8 miles) | <input checked="" type="checkbox"/> Scenic (6.5 miles) <input checked="" type="checkbox"/> Recreational (27 miles) |
| Comprehensive river management plan: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Year of plan publication: 1992 |
| Associated management location: Willamette National Forest | |

34. North Fork Owyhee River

Length: 9.6 miles (wild) Federal management: BLM

| | |
|--|---|
| Year of designation: 1988 | Managing federal agency/agencies: BLM |
| Classification: <input checked="" type="checkbox"/> Wild (9.6 miles) | <input type="checkbox"/> Scenic <input type="checkbox"/> Recreational |
| Comprehensive river management plan: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Year of plan publication: 1993 |
| Note: joint Main, West Little, and North Fork Owyhee River management plan | |
| Associated management location: Vale District | |

35. North Fork Smith River

Length: 13 miles (wild and scenic) Federal management: USFS

| | |
|--|--|
| Year of designation: 1988 | Managing federal agency/agencies: USFS |
| Classification: <input checked="" type="checkbox"/> Wild (8.5 miles) | <input checked="" type="checkbox"/> Scenic (4.5 miles) <input type="checkbox"/> Recreational |
| Comprehensive river management plan: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Year of plan publication: 2003 |
| Associated management location: Rogue River-Siskiyou National Forest | |

36. North Powder River

Length: 6.4 miles (scenic) Federal management: USFS

| | |
|--|--|
| Year of designation: 1988 | Managing federal agency/agencies: USFS |
| Classification: <input type="checkbox"/> Wild | <input checked="" type="checkbox"/> Scenic (6.4 miles) <input type="checkbox"/> Recreational |
| Comprehensive river management plan: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Year of plan publication: 1993 |
| Associated management location: Wallowa-Whitman National Forest | |

37. North Umpqua River

Length: 33.8 miles (recreational) Federal management: BLM, USFS

| | | |
|--|--|---|
| Year of designation: 1988 | Managing federal agency/agencies: BLM & USFS | |
| Classification: <input type="checkbox"/> Wild | <input type="checkbox"/> Scenic | <input checked="" type="checkbox"/> Recreational (33.8 miles) |
| Comprehensive river management plan: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Year of plan publication: 1992 |
| Associated management locations: Roseburg District (BLM); Umpqua National Forest (USFS) | | |

38. Owyhee River

Length: 120 miles (wild) Federal management: BLM

| | | |
|--|---------------------------------------|---------------------------------------|
| Year of designation: 1984 | Managing federal agency/agencies: BLM | |
| Classification: <input checked="" type="checkbox"/> Wild (120 miles) | <input type="checkbox"/> Scenic | <input type="checkbox"/> Recreational |
| Comprehensive river management plan: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Year of plan publication: 1986 |
| <i>Note: updated plan in 1993; joint plan with West Little and North Fork Owyhee Rivers</i> | | |
| Associated management location: Vale District | | |

39. Powder River

Length: 11.7 miles (scenic) Federal management: BLM

| | | |
|--|---|---------------------------------------|
| Year of designation: 1988 | Managing federal agency/agencies: BLM | |
| Classification: <input type="checkbox"/> Wild | <input checked="" type="checkbox"/> Scenic (11.7 miles) | <input type="checkbox"/> Recreational |
| Comprehensive river management plan: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Year of plan publication: 1994 |
| Associated management location: Vale District | | |

40. Quartzville Creek

Length: 12 miles (recreational) Federal management: BLM

| | | |
|--|---------------------------------------|---|
| Year of designation: 1988 | Managing federal agency/agencies: BLM | |
| Classification: <input type="checkbox"/> Wild | <input type="checkbox"/> Scenic | <input checked="" type="checkbox"/> Recreational (12 miles) |
| Comprehensive river management plan: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Year of plan publication: 1992 |
| Associated management location: Salem District | | |

41. Roaring River

Length: 13.7 miles (wild and recreational) Federal management: USFS

| | | |
|--|--|--|
| Year of designation: 1988 | Managing federal agency/agencies: USFS | |
| Classification: <input checked="" type="checkbox"/> Wild (13.5 miles) | <input type="checkbox"/> Scenic | <input checked="" type="checkbox"/> Recreational (0.2 miles) |
| Comprehensive river management plan: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | Year of plan publication: 1993 |
| Associated management location: Mt. Hood National Forest | | |

42. Rogue River

Length: 84.5 miles (wild, scenic, and recreational)

Federal management: BLM, USFS

| | |
|--|--|
| Year of designation: 1968 | Managing federal agency/agencies: USFS |
| Classification: <input checked="" type="checkbox"/> Wild (33.6 miles) | <input checked="" type="checkbox"/> Scenic (7.5 miles) <input checked="" type="checkbox"/> Recreational (43.4 miles) |
| Comprehensive river management plan: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Year of plan publication: 1972 |
| <i>Note: 1972 version is a joint BLM/USFS plan; BLM independently published an updated plan for the 27 miles of BLM-managed land (Rogue River: Hellgate Recreation Area) in 2004</i> | |
| Associated management locations: Medford District (BLM); Rogue River-Siskiyou National Forest (USFS); Josephine County (OR) | |

43. Salmon River

Length: 33.5 miles (wild, scenic, and recreational)

Federal management: BLM, USFS

| | |
|---|--|
| Year of designation: 1988 | Managing federal agency/agencies: BLM & USFS |
| Classification: <input checked="" type="checkbox"/> Wild (15 miles) | <input checked="" type="checkbox"/> Scenic (4.8 miles) <input checked="" type="checkbox"/> Recreational (13.7 miles) |
| Comprehensive river management plan: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Year of plan publication: 1993 |
| Associated management locations: Mt. Hood National Forest (USFS); Salem District, Clackamas Resource Area (BLM) | |

44. Sandy River

Length: 24.9 miles (wild, scenic, and recreational)

Federal management: BLM, USFS

| Lower Sandy River | |
|--|---|
| Year of designation: 1988 | Managing federal agency/agencies: BLM |
| Classification: <input type="checkbox"/> Wild | <input checked="" type="checkbox"/> Scenic (3.8 miles) <input checked="" type="checkbox"/> Recreational (8.7 miles) |
| Comprehensive river management plan: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Year of plan publication: 1993 |
| Associated management locations: Salem District; Clackamas County, Multnomah County (OR) | |

| Upper Sandy River | |
|--|--|
| Year of designation: 1988 | Managing federal agency/agencies: USFS |
| Classification: <input checked="" type="checkbox"/> Wild (12.4 miles) | <input type="checkbox"/> Scenic <input checked="" type="checkbox"/> Recreational (7.9 miles) |
| Comprehensive river management plan: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Year of plan publication: 1994 |
| Associated management location: Mt. Hood National Forest | |

45. Snake River

Length: 66.9 miles (wild and scenic) Federal management: USFS

| | | |
|--------------------------------------|---|--|
| Year of designation: 1975 | Managing federal agency/agencies: USFS | |
| Classification: | <input checked="" type="checkbox"/> Wild (32.5 miles) | <input checked="" type="checkbox"/> Scenic (34.4 <input type="checkbox"/> Recreational |
| Comprehensive river management plan: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Year of plan publication: 1994 |
| Associated management location: | Wallowa-Whitman National Forest | |

46. South Fork Clackamas River

Length: 4.2 miles (wild) Federal management: USFS

| | | |
|--------------------------------------|---|---|
| Year of designation: 2009 | Managing federal agency/agencies: USFS | |
| Classification: | <input checked="" type="checkbox"/> Wild (4.2 miles) | <input type="checkbox"/> Scenic <input type="checkbox"/> Recreational |
| Comprehensive river management plan: | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Year of plan publication: N/A |
| Associated management location: | Mt. Hood National Forest | |

47. South Fork John Day River

Length: 47 miles (recreational) Federal management: BLM

| | | |
|--|---|---|
| Year of designation: 1988 | Managing federal agency/agencies: BLM | |
| Classification: | <input type="checkbox"/> Wild <input type="checkbox"/> Scenic | <input checked="" type="checkbox"/> Recreational (47 miles) |
| Comprehensive river management plan: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Year of plan publication: 2000 |
| <i>Note: joint John Day River (mainstem) and South Fork John Day river management plan</i> | | |
| Associated management location: | Mt. Hood National Forest | |

48. South Fork Roaring River

Length: 4.6 miles (wild) Federal management: USFS

| | | |
|--|---|---|
| Year of designation: 2009 | Managing federal agency/agencies: USFS | |
| Classification: | <input checked="" type="checkbox"/> Wild (4.6 miles) | <input type="checkbox"/> Scenic <input type="checkbox"/> Recreational |
| Comprehensive river management plan: | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Year of plan publication: N/A |
| <i>Note: management direction for South Fork Roaring River included in the Mt. Hood National Forest Land and Resource Management Plan Standards and Guidelines</i> | | |
| Associated management location: | Mt. Hood National Forest | |

49. Sprague River

Length: 15 miles (scenic) Federal management: USFS

| | |
|---|---|
| Year of designation: 1988 | Managing federal agency/agencies: USFS |
| Classification: <input type="checkbox"/> Wild | <input checked="" type="checkbox"/> Scenic (15 miles) <input type="checkbox"/> Recreational |
| Comprehensive river management plan: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Year of plan publication: 1992 |
| <i>Note:</i> Sprague Wild and Scenic River management plan is Appendix 9 of Fremont National Forest Management Plan | |
| Associated management location: Fremont National Forest | |

50. Sycan River

Length: 59 miles (scenic and recreational) Federal management: USFS

| | |
|--|--|
| Year of designation: 1988 | Managing federal agency/agencies: USFS |
| Classification: <input type="checkbox"/> Wild | <input checked="" type="checkbox"/> Scenic (50.4 miles) <input checked="" type="checkbox"/> Recreational (8.6 miles) |
| Comprehensive river management plan: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Year of plan publication: 1992 |
| Associated management locations: Fremont National Forest, Winema National Forest; Klamath County, Lake County (OR) | |

51. Upper Rogue River

Length: 40.3 miles (wild and scenic) Federal management: USFS

| | |
|--|---|
| Year of designation: 1988 | Managing federal agency/agencies: USFS |
| Classification: <input checked="" type="checkbox"/> Wild (6.1 miles) | <input checked="" type="checkbox"/> Scenic (34.2 miles) <input type="checkbox"/> Recreational |
| Comprehensive river management plan: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Year of plan publication: 1995 |
| Associated management location: Rogue River National Forest | |

52. Upper Sandy River

Length: 12.4 miles (wild and recreational) Federal management: USFS

| | |
|--|--|
| Year of designation: 1988 | Managing federal agency/agencies: USFS |
| Classification: <input checked="" type="checkbox"/> Wild (12.4 miles) | <input type="checkbox"/> Scenic <input checked="" type="checkbox"/> Recreational (7.9 miles) |
| Comprehensive river management plan: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Year of plan publication: 1994 |
| Associated management location: Mt. Hood National Forest | |

53. Wallowa River

Length: 10 miles (recreational) Federal management: BLM

| | | |
|---|--|---------------------------------|
| Year of designation: 1996 | Managing federal agency/agencies: BLM | |
| Classification: | <input type="checkbox"/> Wild | <input type="checkbox"/> Scenic |
| | <input type="checkbox"/> Recreational (10 miles) | |
| Comprehensive river management plan: | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| | Year of plan publication: 1993 | |
| <i>Note: management direction for the Wallowa River included in the joint Grande Ronde / Wallowa Wild and Scenic River management plan (published 1993), as the Wallowa River was being studied for inclusion in the National Wild and Scenic River System at that time</i> | | |
| Associated management locations: Vale District, Baker Resource Area | | |

54. Wenaha River

Length: 21.6 miles (wild, scenic, and recreational) Federal management: USFS

| | | |
|--|--|--|
| Year of designation: 1988 | Managing federal agency/agencies: USFS | |
| Classification: | <input checked="" type="checkbox"/> Wild (18.7 miles) | <input checked="" type="checkbox"/> Scenic (2.7 miles) |
| | <input checked="" type="checkbox"/> Recreational (0.2 miles) | |
| Comprehensive river management plan: | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| | Year of plan publication: N/A | |
| Associated management location: Umatilla National Forest | | |

55. West Little Owyhee River

Length: 57.6 miles (wild) Federal management: BLM

| | | |
|--|---|---------------------------------|
| Year of designation: 1988 | Managing federal agency/agencies: USFS | |
| Classification: | <input checked="" type="checkbox"/> Wild (57.6 miles) | <input type="checkbox"/> Scenic |
| | <input type="checkbox"/> Recreational | |
| Comprehensive river management plan: | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| | Year of plan publication: 1993 | |
| <i>Note: joint plan with Main and North Fork Owyhee Rivers</i> | | |
| Associated management location: Vale District | | |

56. White River

Length: 46.8 miles (scenic and recreational) Federal management: BLM, USFS

| | | |
|--|---|---|
| Year of designation: 1988 | Managing federal agency/agencies: BLM & USFS | |
| Classification: | <input type="checkbox"/> Wild | <input checked="" type="checkbox"/> Scenic (24.3 miles) |
| | <input checked="" type="checkbox"/> Recreational (22.5 miles) | |
| Comprehensive river management plan: | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| | Year of plan publication: 1994 | |
| Associated management locations: Prineville District (BLM); Mt Hood National Forest (USFS) | | |

57. Whychus Creek (formerly Squaw Creek)

Length: 15.4 miles (wild and scenic) Federal management: USFS

| | | | |
|--------------------------------------|--|--|---------------------------------------|
| Year of designation: 1988 | Managing federal agency/agencies: USFS | | |
| Classification: | <input checked="" type="checkbox"/> Wild (6.6 miles) | <input checked="" type="checkbox"/> Scenic (8.8 miles) | <input type="checkbox"/> Recreational |
| Comprehensive river management plan: | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | Year of plan publication: 2010 |
| Associated management location: | Deschutes National Forest | | |

58. Wildhorse Creek

Length: 9.6 miles (wild) Federal management: BLM

| Wildhorse Creek | | | |
|--|--|---------------------------------|---------------------------------------|
| Year of designation: 2000 | Managing federal agency/agencies: BLM | | |
| Classification: | <input checked="" type="checkbox"/> Wild (2.6 miles) | <input type="checkbox"/> Scenic | <input type="checkbox"/> Recreational |
| Comprehensive river management plan: | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | Year of plan publication: 2005 |
| <i>Note: joint plan with Donner und Blitzen River and Kiger Creek, incorporated into Steens Mountain Cooperative Management and Protection Area Resource Management Plan as Appendix P</i> | | | |
| Associated management location: | Burns District | | |

| Little Wildhorse Creek | | | |
|--|--|---------------------------------|---------------------------------------|
| Year of designation: 2000 | Managing federal agency/agencies: BLM | | |
| Classification: | <input checked="" type="checkbox"/> Wild (2.6 miles) | <input type="checkbox"/> Scenic | <input type="checkbox"/> Recreational |
| Comprehensive river management plan: | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | Year of plan publication: 2005 |
| <i>Note: joint plan with Donner und Blitzen River and Kiger Creek, incorporated into Steens Mountain Cooperative Management and Protection Area Resource Management Plan as Appendix P</i> | | | |
| Associated management location: | Burns District | | |

59. Zigzag River

Length: 4.3 miles (wild) Federal management: USFS

| | | | |
|--|--|--|---------------------------------------|
| Year of designation: 2009 | Managing federal agency/agencies: USFS | | |
| Classification: | <input checked="" type="checkbox"/> Wild (4.3 miles) | <input type="checkbox"/> Scenic | <input type="checkbox"/> Recreational |
| Comprehensive river management plan: | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Year of plan publication: N/A |
| <i>Note: direction for Zigzag River management included in the Mt. Hood National Forest Land and Resource Management Plan Standards and Guidelines</i> | | | |
| Associated management location: | Mt. Hood National Forest | | |

Washington Rivers

1. Klickitat River

Length: 10.8 miles (recreational)

Federal management: USFS

| | | |
|--|--|---|
| Year of designation: 1986 | Managing federal agency/agencies: USFS | |
| Classification: <input type="checkbox"/> Wild | <input type="checkbox"/> Scenic | <input checked="" type="checkbox"/> Recreational (10.8 miles) |
| Comprehensive river management plan: <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | Year of plan publication: 1990 |
| Associated management location: | Columbia Gorge National Scenic Area | |

2. Skagit River

Length: 158.5 miles (scenic and recreational)

Federal management: USFS

| | | |
|--|--|---|
| Year of designation: 1978 | Managing federal agency/agencies: USFS | |
| Classification: <input type="checkbox"/> Wild | <input checked="" type="checkbox"/> Scenic (100 miles) | <input checked="" type="checkbox"/> Recreational (58.5 miles) |
| Comprehensive river management plan: <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | Year of plan publication: 1983 |
| Associated management location: | Mt. Baker-Snoqualmie National Forest | |

3. White Salmon River

Length: 27.7 miles (wild and scenic)

Federal management: USFS

| Lower White Salmon River | | |
|--|--|---------------------------------------|
| Year of designation: 1986 | Managing federal agency/agencies: USFS | |
| Classification: <input type="checkbox"/> Wild | <input checked="" type="checkbox"/> Scenic (7.7 miles) | <input type="checkbox"/> Recreational |
| Comprehensive river management plan: <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | Year of plan publication: 1991 |
| Associated management location: | Mt. Baker-Snoqualmie National Forest | |

| Upper White Salmon River | | |
|---|---|---------------------------------------|
| Year of designation: 2005 | Managing federal agency/agencies: USFS | |
| Classification: <input checked="" type="checkbox"/> Wild (6.7) | <input checked="" type="checkbox"/> Scenic (13.3 miles) | <input type="checkbox"/> Recreational |
| Comprehensive river management plan: <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Year of plan publication: N/A |
| Associated management location: | Mt. Baker-Snoqualmie National Forest | |

Appendix E: Coding Results Matrices

| | | Total number of rivers: 28 In Oregon: 25 In Washington: 3 Managed by BLM: 6 Managed by USFS: 18 Jointly managed: 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|--------------|-----------------|------------------------------|-------------------------|-------------|--------------------|--------------|--------------|---------------|----------------|----------------|--------------------------|------------------------|--------------------|--------------------|--------------|--------------|-------------------|---------------------|--------------|-------------|---------------|-----------------|------------------|-----------------|--------------|----------------------------|
| | | Oregon Rivers | | | | | | | | | | | | | | Washington Rivers | | | | | | | | | | | | | |
| | | Big Marsh Creek | Chetco Creek | Clackamas River | Crooked River (Chimney Rock) | Deschutes River (Lower) | Eagle Creek | Grande Ronde River | Imnaha River | Joseph Creek | Lostine River | McKenzie River | Metolius River | North Fork Crooked River | North Fork Smith River | North Powder River | North Umpqua River | Owyhee River | Powder River | Quartzville Creek | Rogue River (Upper) | Salmon River | Sycan River | Whyhous Creek | Wildhorse Creek | Willamette River | Klickitat River | Skagit River | White Salmon River (Lower) |
| LEGALLY REQUIRED ELEMENTS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Boundaries | General discussion of boundaries | Y | Y | Y | Y | Y | Y | Y | Y | Y | N | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | N | Y | Y | Y | Y | Y | Y |
| | Detailed boundaries* | N | Y | N | Y | Y | N | Y | N | N | Y | N | N | Y | N | N | N | Y | Y | Y | Y | Y | N | N | N | N | Y | Y | N |
| | Corridor map* | N | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | N | Y | Y | Y | Y | Y |
| Classification | Classification* | N | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | N | Y | Y | Y | Y | Y |
| Management | Development of land and facilities | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| | Standards and guidelines | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| | User capacities | N | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| Monitoring | Baseline resource conditions | N | Y | Y | N | Y | Y | Y | Y | Y | Y | N | Y | Y | N | Y | Y | Y | N | N | Y | Y | N | N | Y | Y | Y | Y | N |
| | Monitoring goals (i.e. what to monitor) | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| | Link between monitoring and ORVs | Y | Y | N | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | N | Y |
| Private lands (when applicable) | Federal authority on private land | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | N/A | N/A | Y | Y | Y | N | Y | Y | Y | N/A | N/A | N/A | Y | Y | Y |
| | State and local regulations on private land | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | N/A | N/A | Y | Y | Y | N | Y | Y | Y | N/A | N/A | N/A | Y | Y | Y |
| | Principles for easment or land acquisition | N | Y | N | N | Y | Y | Y | Y | Y | Y | Y | N | Y | N/A | N/A | Y | Y | Y | Y | Y | Y | Y | N/A | N/A | N/A | Y | Y | Y |
| Outstandinbly Remarkable Values (ORVs) | List of ORVs | N | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| Water issues | Strategies to protect and enhance ORVs | N | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| | Water quality issues | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| | In-stream flow requirements | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| *elements are not required to be in plans but are required to be available to the public | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ELEMENTS SUGGESTED BY ADAPTIVE MANAGEMENT LITERATURE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Description of baseline resource conditions | N | Y | Y | N | Y | Y | Y | Y | Y | Y | N | Y | Y | N | Y | Y | Y | N | N | Y | Y | N | N | Y | Y | Y | Y | Y |
| | Monitoring indicators | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| | Monitoring indicator thresholds | Y | Y | Y | Y | Y | Y | Y | Y | N | Y | Y | Y | Y | Y | Y | Y | Y | Y | N | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| | Actions triggered by indicators | Y | Y | N | Y | Y | Y | N | Y | N | Y | Y | Y | Y | Y | Y | N | Y | Y | N | Y | Y | N | Y | Y | Y | Y | Y | Y |

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| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|--|----------------------|-----------------|--------------|-----------------|------------------------------|-------------------------|-------------|--------------------|--------------|--------------|---------------|----------------|----------------|--------------------------|------------------------|--------------------|--------------------|--------------|--------------|-------------------|---------------------|--------------|-------------|---------------|-----------------|------------------|--------------------------|-----------------|--------------|----------------------------|
| <p>Total number of management plans: 28</p> <p>In Oregon: 25 In Washington: 3</p> <p>Managed by BLM: 6 Managed by USFS: 18 Jointly managed: 4</p> | | Oregon Rivers | Big Marsh Creek | Chetco Creek | Clackamas River | Crooked River (Chimney Rock) | Deschutes River (Lower) | Eagle Creek | Grande Ronde River | Imnaha River | Joseph Creek | Lostine River | McKenzie River | Metolius River | North Fork Crooked River | North Fork Smith River | North Powder River | North Umpqua River | Owyhee River | Powder River | Quartzville Creek | Rogue River (Upper) | Salmon River | Sycan River | Whychus Creek | Wildhorse Creek | Willamette River | Washington Rivers | Klickitat River | Skagit River | White Salmon River (Lower) |
| ELEMENTS SUGGESTED BY COOPERATION AND COLLABORATION LITERATURE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Cooperation between government agencies (federal, state, local, tribal) | Regulatory authority/responsibilities of managing agency | N | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | N | Y | Y | Y | Y | Y | Y |
| | Authority/responsibilities of other government entities | N | Y | Y | Y | Y | Y | Y | Y | N | N | Y | Y | Y | Y | Y | Y | Y | Y | Y | N | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| | Directives for cooperation between government agencies | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | N | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| | MOUs present within plan | N | N | N | N | N | Y | N | N | N | Y | N | Y | N | Y | N | N | Y | Y | Y | N | Y | Y | Y | N | N | N | N | Y | Y | Y |
| Cooperation with non-governmental groups and individuals | Directives for governmental monitoring cooperation | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | N | Y | N | N | Y | N | Y | Y | |
| | Discussion of non-governmental stakeholders | Y | Y | N | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | |
| | Directives for non-governmental management cooperation | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | N | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | |
| Education and outreach | Directives for non-governmental monitoring cooperation | Y | N | Y | N | N | Y | Y | Y | Y | Y | Y | N | N | N | N | N | N | N | N | N | N | N | Y | Y | Y | Y | N | Y | Y | Y |
| | Directives for signage | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| | Directives for educational materials such as brochures | Y | Y | Y | Y | Y | Y | Y | Y | N | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | N | Y | N | Y | Y | Y | Y | Y | Y | Y |
| | Directives for in-person outreach and education | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | N | N | Y | Y | Y | Y |
| Directives for proactive educational programs | Directives for proactive educational programs | Y | Y | Y | Y | Y | N | N | N | N | N | Y | Y | Y | Y | N | N | N | Y | N | N | N | Y | N | Y | Y | Y | Y | Y | Y | |
| | Directives for proactive educational programs | Y | Y | Y | Y | Y | N | N | N | N | N | Y | Y | Y | Y | N | N | N | Y | N | N | N | Y | N | Y | Y | Y | Y | Y | Y | |
| ELEMENTS SUGGESTED BY MANAGEMENT PLAN DEVELOPMENT LITERATURE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Vision | Desired future conditions | Y | Y | Y | Y | N | Y | Y | Y | Y | Y | Y | N | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | |
| | In-depth description of ORVs | N | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | |
| Goals and objectives | Management goals | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | |
| | Purpose of monitoring | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | |
| Guiding principles | Background on WSRA and its purpose | N | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | |
| Problems and issues | Discussion of threats to ORVs | N | Y | Y | N | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | N | Y | Y | Y | N | Y | N | Y | Y | Y | Y | Y | Y | |
| Budget | General budget discussion | N | Y | Y | Y | Y | Y | Y | N | Y | Y | Y | N | Y | Y | Y | Y | Y | Y | Y | Y | N | Y | Y | Y | N | Y | Y | Y | Y | |
| | Management budget | N | Y | N | Y | Y | Y | Y | N | Y | Y | Y | N | Y | Y | Y | N | Y | Y | Y | Y | Y | Y | N | N | N | N | Y | Y | Y | |
| | Monitoring budget | N | Y | N | Y | N | Y | Y | N | Y | Y | Y | N | Y | Y | Y | Y | Y | Y | N | Y | Y | Y | N | N | N | N | Y | Y | Y | |
| Timeline | Management plan implementation schedule | N | Y | Y | N | Y | Y | Y | Y | N | N | Y | Y | Y | Y | Y | Y | Y | Y | N | Y | Y | Y | N | N | N | N | Y | Y | Y | |
| | Directives for updating plan | N | Y | N | N | Y | N | N | Y | Y | Y | Y | N | Y | N | Y | N | Y | Y | N | Y | N | Y | N | N | N | N | Y | Y | Y | |
| | Start to monitoring/baseline surveys | Y | N | Y | N | Y | Y | N | Y | Y | N | N | Y | N | N | N | N | N | Y | N | Y | Y | Y | Y | N | Y | N | Y | Y | Y | |
| Monitoring and evaluation | Frequency of monitoring | Y | Y | Y | Y | Y | Y | N | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | |
| | Discussion of a monitoring | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | |
| Relationship to other plans | Discussion of other management documents | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | |

Continued on following page

The following elements are not part of the frameworks used to assess the management plans, but rather emerged from the documents themselves. Included here for their potential interest to individuals seeking to gain a full picture of the river management plan contents.

| | | Total number of management plans: 28 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|--|---|--------------|-----------------|------------------------------|-------------------------|-------------|--------------------|--------------|--------------|---------------|----------------|----------------|--------------------------|------------------------|--------------------|--------------------|--------------|--------------|-------------------|---------------------|--------------|-------------|---------------|-----------------|------------------|-----------------|--------------|----------------------------|---|
| | | In Oregon: 25 In Washington: 3 Managed by BLM: 6 Managed by USFS: 18 Jointly managed: 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Oregon Rivers | | | | | | | | | | | | | | Washington Rivers | | | | | | | | | | | | | | |
| | | Big Marsh Creek | Chetco Creek | Clackamas River | Crooked River (Chimney Rock) | Deschutes River (Lower) | Eagle Creek | Grande Ronde River | Imnaha River | Joseph Creek | Lostine River | Mckenzie River | Metolius River | North Fork Crooked River | North Fork Smith River | North Powder River | North Umpqua River | Owyhee River | Powder River | Quartzville Creek | Rogue River (Upper) | Salmon River | Sycan River | Whychus Creek | Wildhorse Creek | Willamette River | Klickitat River | Skagit River | White Salmon River (Lower) | |
| EMERGENT ELEMENTS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Boundary | Reference to ORVs in boundary description | N | Y | N | Y | Y | N | Y | N | N | N | N | N | N | N | N | Y | Y | Y | Y | Y | Y | N | N | N | Y | N | Y | N | |
| | River characterization as part of boundary description | N | Y | Y | Y | Y | N | N | N | N | N | Y | Y | N | N | Y | Y | N | Y | Y | Y | Y | N | Y | N | Y | Y | Y | N | |
| Classification | River characterization as part of classification description | N | Y | Y | N | N | Y | Y | N | Y | Y | Y | N | Y | Y | N | Y | Y | N | Y | Y | Y | N | Y | Y | Y | Y | Y | N | |
| Educational components to plan | Bibliography | N | N | Y | N | N | Y | Y | N | N | N | Y | N | Y | N | N | Y | Y | Y | Y | N | N | Y | Y | Y | Y | Y | Y | N | |
| | Definition of "ORV" | N | Y | Y | Y | Y | Y | Y | Y | Y | Y | N | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | N | Y | Y | Y | N | Y | |
| | Explanation of classification | N | Y | Y | N | N | Y | Y | Y | Y | Y | Y | Y | Y | N | Y | Y | Y | Y | N | Y | Y | Y | N | Y | Y | Y | Y | Y | |
| | Glossary | N | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | N | Y | Y | Y | Y | Y | Y | Y | Y | N | N | Y | Y | N | N | |
| | History of river | N | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | N | Y | Y | Y | Y | Y | Y | |
| | River description | N | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | N | Y | Y | Y | Y | Y | Y | N | Y | Y | Y | Y | Y | |
| | Integration with other management | Other management areas | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| | Other management regulations | N | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | N | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | |
| General management issues | Access to river | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | |
| | Climate change | N | N | Y | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | Y | N | N | N |
| | In-stream flow targets | N | N | Y | Y | N | N | Y | N | N | N | Y | N | N | N | N | N | Y | N | N | N | N | Y | N | N | Y | N | N | N | |
| | Management plan development | N | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | |
| | Resource extraction | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| | Section 7 guidance | N | N | N | N | N | Y | N | Y | Y | Y | N | N | N | N | Y | Y | N | N | N | N | Y | N | N | N | N | N | N | N | N |
| Monitoring | Monitoring tools and techniques | Y | Y | Y | Y | Y | Y | Y | N | Y | N | Y | Y | Y | Y | Y | Y | Y | Y | N | Y | Y | Y | Y | Y | Y | Y | Y | Y | |
| Private property (when applicable) | Managing acquired property | N/A | N/A | Y | N/A | Y | N/A | N | N/A | N | N/A | N | N/A | Y | N/A | N/A | Y | Y | Y | N/A | N/A | Y | N/A | N/A | N/A | N/A | N | Y | Y | |
| | Description of private property | N | Y | N | Y | Y | Y | Y | Y | Y | Y | Y | Y | Y | N/A | N/A | Y | N | Y | Y | Y | Y | Y | Y | N/A | N/A | N/A | Y | Y | |
| | Land acquisition | N | N | Y | N | Y | N | Y | N | Y | N | Y | N | Y | N/A | N/A | Y | Y | Y | N | N | Y | N | N/A | N/A | N/A | N/A | Y | Y | Y |
| | Restrictions on private lands | Y | Y | Y | Y | Y | Y | Y | Y | Y | N | Y | Y | Y | N/A | N/A | Y | Y | Y | N | Y | Y | Y | Y | N/A | N/A | N/A | Y | Y | Y |

