On the Edge:
Redevelopment Projects at the Urban-Marine Interface in Vancouver, BC

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Abstract

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This thesis looks at three urban waterfront redevelopment projects along Vancouver, British Columbia's False Creek that were developed beginning in the 1970s. It seeks to determine to what degree such projects have actually implemented the discourse and perspectives of the planning/design and ecological fields, how successfully they may have done so, and how they have influenced and been influenced by one another. The three projects studied—False Creek South, False Creek North, and Southeast False Creek—were analyzed in terms of their implementation, ecological success, social success, and economic success to determine how well ecological and urban/social discourses were integrated. False Creek South, the earliest of the projects, was one of the earliest residential redevelopment projects in an urban, former industrial setting. Its popularity caused Vancouver to rethink the dominant urban planning paradigms of the time. Although it fundamentally altered the trajectory of the city's urban development, it nevertheless still adhered to modernist ideas of top-down planning and social engineering through the built environment. The natural environment, by contrast, was largely overlooked. False Creek North, building on the successes of its predecessor, introduced density in what is the largest urban development in North America; it is largely responsible for the

development of the urban development style that has become known as “Vancouverization.” Despite its density, it nevertheless incorporates a number of open green spaces for residents, though none were specifically designed with ecological restoration in mind. False Creek’s most recent development, Southeast False Creek, was developed with the goal of creating the world’s “most sustainable community.” It includes numerous components designed to enhance both the social and ecological environment of the area, such as wetlands, rainwater recovery, and shoreline restoration. These projects demonstrate an evolution in the planning paradigm in Vancouver that has seen urban waterfront redevelopment projects gradually become more inclusive of ecological and environmental components, despite what has been a historical antagonism between the two disciplines.

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Chapter I: Introduction

This paper explores the intersections between urban and environmental discourses as they pertain to urban waterfront redevelopment. Nowhere is the interface between the urban, built environment and the ecological realm as starkly delineated as it is along the urban waterfront. Redevelopment projects along this interface must therefore pay attention to the balance between the discourse from urban planning and design disciplines, as well as from environmental and ecological disciplines. This thesis looks at three varied urban waterfront redevelopment projects along Vancouver, British Columbia's False Creek in order to determine to what degree such projects have actually implemented the discourse and perspectives of the planning/design and ecological fields, how successfully they may have done so, and how they have influenced and been influenced by one another. By increasingly drawing from both environmental and urban studies instead of relying on a single, dominant development philosophy, successive generations of False Creek projects have become economically, environmentally, and even socially more successful than their predecessors.

1.1: History of the Urban Waterfront

Perhaps more than any other neighborhood subtype, the urban waterfront has undergone radical shifts in the role it plays in contemporary urban life. Today, as cities themselves undergo what has been termed an urban renaissance, derelict, post-industrial waterfront lands are being redeveloped. Unlike many other urban

redevelopment projects, however, waterfront redevelopment occurs in a sensitive—albeit often highly degraded—ecological habitat. As such, projects in this area must integrate discourse not only from the urban development realm, but from the environmental and ecological restoration realms as well.

Underdeveloped, waterfront industrial sites offer not only large tracts of buildable—albeit often highly polluted—land, they also occupy some of the choicest waterfront locations. By virtue of the unique historical, building, and environmental challenges posed by these sites, and the often unorthodox solutions that are implemented, such redevelopments are often considered to be on the cutting edge of various urban planning and design paradigms. The increasing demand for urban real estate in the twenty-first century has accelerated this process. Early, mid-century redevelopment projects stemmed almost wholly from contemporary urban planning/design discourse, believing that the social condition could be not only influenced, but controlled by urban planning wrought large—the now-infamous "urban renewal" era. Mirroring the larger socio-cultural trends of environmental concern that have existed in the developed world for the past half-century, the current iteration of waterfront redevelopment increasingly incorporates environmental amenities and ecological restoration as a necessary part of redevelopment.

1.2: Environmental Degradation on the Urban Waterfront

For centuries, the world's major transportation and trade routes all centered on water. With the first stages of globalization and global trade, cities that were advantageously located on a protected harbor or on a navigable river became centers of trade, commerce, and society. Until the twentieth century, in fact, the term "port city" was synonymous with "great city" (Hall 1998: 40). In the unsanitary, overcrowded, disease-ridden cities of the industrial revolution, the waterfront was the dirtiest, most dangerous, most fetid district; it would continue as such for more than a century (Marshall 2001: 18). Though having a much shorter industrial history, the indispensability of water-borne communications and trade in the New World meant that North American cities' waterfronts soon caught up with intensively industrialized European ports (Tunbridge 1988: 68). In fact, the polluted, industrial characteristics of the waterfront district was something that in many cases was celebrated; after all, "these were the sites of industry and served their...functions extremely well. These were the sites where the Industrial Revolution was manifest, where the wealth of cities and nations was made" (Marshall 2001: 17). This intensive use resulted in waterfronts that had been abused and neglected for so long as to be completely unrecognizable as part of the natural environment, and they were accordingly not seen as such; the waterfront was merely an extension of the factories and other industrial infrastructure that were appearing in urban settlements.

The continued degradation of these waterfront areas ended, not in the face of an environmental movement—still decades off—but because of rapid technological changes that swept maritime industries (Brown 2009: 104). In North America, even heightened wartime production was not enough to stave off the inevitable, as industries decamped waterfronts in the urban core to neighborhoods, cities, and even countries further afield. For the new, post-industrial city, the remnants of waterfront industry were problematic: these now empty, but still grossly polluted, central areas were separated physically, socially, and economically from the modern city (Marshall 2001: 17).

In many cities, the waterfront was left untouched by successive generations of urban renewal and redevelopment, its early- and mid-century infrastructure slowly rotting away. Even in the early twenty-first century, as the resurgence of the urban city as a fashionable and desirable locale drove expensive development in waterfront neighborhoods, the actual waterfront often remained unchanged; see, for example, the still undeveloped waterfront of redeveloped neighborhoods such as Williamsburg, Brooklyn.

Figure 1: Undeveloped, prime waterfront property in Williamsburg, Brooklyn

It was only after the "virtual abandonment of the urban industrial port in combination with the increased caché of waterfront living and working" that development of these large sites at the water's edge in the urban core could even be contemplated, with many cities seeking to reinvigorate declining central business districts with new waterfront developments of various sorts. More often than not, however, the perception of the waterfront as something fundamentally disconnected and different from the natural environment remained. Contaminated areas were either capped or were remediated only insofar as they no longer posed a risk to human activity; the ecological health of such areas was either ignored or seen as being too far damaged to be restorable. It is only very recently that increased attention has been placed on the ecological condition—both past and present—of such areas, and efforts have begun to incorporate its consideration into contemporary redevelopment plans. In some cases, this has taken the form of full-scale restoration projects to entirely rehabilitate an area; more commonly, ecological

restoration occurs as a piece of a larger redevelopment project that may have an entirely different goal or perspective than a standalone restoration project would.

This thesis broadly seeks to understand how urban waterfront redevelopment projects are situated at the nexus of urban and environmental discourses. The earliest waterfront redevelopment projects ignored the ecological aspects of the project entirely (e.g. Point State Park in Pittsburgh, Detroit's Renaissance Center); conversely, the earliest environmental restoration projects ignored the urban realm altogether, in favor of more "restorable" habitat. Long neglected by both, the increasing focus on livability and ever-growing environmental awareness has meant that large-scale projects in waterfront areas must successfully—or at least *appear* to successfully—incorporate both good urban design standards as well as meet certain environmental goals in order to be viable.

Chapter II: Previous Research and Methodology

2.1 Background Literature and Previous Research

There is a significant amount of literature on waterfront redevelopment in the context of urban history, primarily from the fields of urban planning/design and architecture. However, very little of this established literature mentions environmental considerations at all, let alone incorporates an analysis of ecological restoration components into the context of the broader project. In the 206 pages of *America's Waterfront Revival* (Brown 2009), the term "ecology" is entirely absent; "environment" appears only once[1] (15). When it does make an appearance, as in *The New Waterfront: A Worldwide Urban Success Story* (Breen 1996), it is only insofar as to mention that "massive efforts and large sums of money go along with the commitment to correct years of pollutive practices" (89). This frames the restoration aspects of the project only in the context of the money and effort that was required for environmental cleanup—steps required 'before the project could be begun,' or as an example of 'problems that had to be surmounted.' Such a perspective views ecological restoration not as a constituent part of a product, but rather as a problem that must be solved to allow the project to commence (or continue)—what can be termed the "brownfield" perspective (Lafortezza et. al 2004: 29).

[1] The sentence in which the word appears hardly encompasses the time, effort, and money that have been spent in an effort to mitigate the environmental damage done in these industrial areas: "the environmental movement was gaining momentum, leading to pollution controls that sought to clean up old industrial sites like those on the waterfront to make them appropriate for these new uses" (Brown 2009: 15).

Conversely, environmental literature is similarly circumscribed within its own field of expertise, often viewing an ecological component of a project as being an entirely separate project altogether. Although “Guidelines for Developing and Managing Ecological Restoration Projects” (2005: 1) states that it is applicable to projects conducted under the auspices of any type of group, there is no further discussion of how to manage a project that is a constituent part of a larger redevelopment, run in parallel with another project, or is funded because of a larger project—at least one of which is applicable to many, if not most, environmental components. This analysis seeks to develop an understanding of whether and how projects on the ground relate to the literature and theoretical frameworks of these historically antagonistic disciplines.

Much of the literature that does integrate the planning/design and ecological perspectives belongs to the field of landscape architecture, and it is from this discipline that much of the theoretical framework used in this thesis will be derived—especially that of Antrop (2006). Within this framework, *landscape* refers not just to the natural physiogeography of a given area of land, or even to the altered physical state that is the result of human actions, but also to the socio-cultural underpinnings that have affected and helped to shape the land. A prime example in understanding the cultural aspects of a landscape is Australia’s Uluṟu Kata-Tjuṯa National Park, the first “cultural landscape” to be inscribed in the UNESCO World Heritage List, whose monolith—though also noteworthy from a purely geological perspective—forms a part of the traditional belief system of one of the oldest extant human societies

(UNESCO 2012). It is from landscape architecture that this concept of landscape as the product of both natural and cultural factors first arose. The European Landscape Convention defines landscape as "an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors" (Council of Europe, 2000). This interdisciplinary focus has a long history in landscape architecture; as early as 1840, Alexander von Humboldt defined landscape simply and concisely as "*der Totalcharakter einer Erdgegend,*"[2] thereby including both the perceptive and natural aspects of a territory in a holistic perspective (Zonneveld 1995: 199). This view compares to the traditional view of landscape ecologists, who consider human activities as landscape-disturbing processes, as well as to the pervasive idea of landscape "referring only to the traditional rural countryside (in the European tradition) or to spectacular nature (in the American tradition)" (Antrop 2006: 195). Designing new landscapes that incorporate both natural and urban landscapes requires incorporating numerous different semiotic discourses. In an urban context, this implies that an ecological perspective of landscape "broadens and differentiates...[to include] concepts such as natural, human, social or quality of life capital, [which] are principally expressions of this broadening" (ibid).

One of the great ironies of contemporary landscape preservation is the degree to which it, despite being well-meaning and environmentally conscious, fails to recognize the impact successive generations have had on landscapes, which are constantly in flux. This holds true both for environments that many, if not most, consider to be "pristine," as well as for urban environments, which few realize have

[2] Trans: "the total character of earthly surroundings."

been altered far more than they might suspect. More on this varying perception of landscapes is found in the work of Anne Whiston Spirn (1996), who notes that even some of the United State's most treasured "natural" wonders are in fact greatly, if not wholly, contrived:

> Most [people] are startled to learn that New York's Central Park was constructed, that even the Ramble is an 'artful wilderness,' and that Boston's Fens and Riverway were molded out of polluted mudflats, planted to grow into tidal marsh and floodplain forest. Even those few who recognize Central Park and the Fens as constructions are surprised at how extensively the experiences of Niagara Falls and Yosemite are shaped by design, for these have come to stand as monuments of nature untouched by human artifice. (Spirn 1996: 91)

These spaces "are often not 'seen,' not understood as having been designed and deliberately constructed, even when the landscape has been radically reshaped" (ibid.). Few would argue, of course, that cities have not molded their surroundings to some degree have fundamentally affected almost every aspect of their surroundings; ecological, geographic, and social landscapes have been, in many cases, altered almost past recognition. In addition to—or perhaps because of—the physical and social changes to the land, however, the perception of the land itself also changed. As Yi-fu Tuan puts it, "confrontation with novelty served to magnify a people's cultural bias: migrants saw the new environment through eyes that had adapted to other values." (Tuan 1974: 63).

This discord between perception and reality has proved to be a lasting paradigm under which much of the west has developed; it has remained a dominant, if underlying, force in the relation of humans to their environments. Even as society

has passed through various eras and perspectives of human/environment interaction—periods of ignorance, of exploitation, or of conservation, for example—this underlying disconnect has continued to exert a strong influence on development and environmental management. This idea holds especially true in the Pacific Northwest, whose cities pride themselves on their closeness to the natural environment and whose residents, as previously mentioned, place a high value on environmental preservation.[3] Nevertheless, even in such cities the surrounding landscape and environments have been greatly altered. More than a century of intensive logging has decimated the once-widespread old-growth forests; rivers have been dammed, channelized, and straightened. However, it is in the interface between water and land that these alterations have been the most fundamental, with development and armoring impacting a significant amount of the Northwest's shoreline. This is, of course, especially acute in urban areas. As will be seen in the case studies below, Vancouver has dramatically reshaped its shoreline through regrading, filling, and dredging, eliminating the vast majority of estuarine wetlands—a process that is by no means unique to Vancouver.

This thesis will also utilize the work of Alexander (2001) that explores the tensions between the ecological, social, and economic aspects of a project. Unlike Antrop and other landscape architects, whose framework is fundamentally based in the idea that planning/design and ecological disciplines should be integrated in the

[3] Until recently, the city of Seattle even branded itself as such; the city's official tourism slogan, "Metronatural™," was designed specifically to highlight the link between the urban and the natural.

design of new landscapes, Alexander views the disciplines as so discordant as to be non-integrable. Rather, they must be effectively balanced. Although the relative emphasis given to each aspect is ultimately a political and ideological decision, Alexander argues that too much skew can ultimately doom a project. If a project is completed in a way that neglects the disadvantaged or that is not replicable because of a failure to return a profit, it is little more than a "noble experiment"—it will not achieve market emulation that will allow the ecological and social components to be broadly adopted (5).

2.2: Methodology and Definitions

This thesis looks at three successive projects along Vancouver's False Creek spanning more than four decades in order to trace the evolution of ecological and planning/design paradigms and their integration. How well this integration has occurred will be measured using four specific criteria: implementation, social success, economic success, and ecological success.

1. *Implementation:* This criterion is concerned with the project's timeline and completion. While delays, which are often inevitable, are not inherently negative to a project (and often can prove beneficial), significant community opposition or antagonism between developer and regulatory bodies can have a deleterious impact.
   Therefore, implementation is concerned not only with whether the project was significantly delayed or sidetracked and why, but also what

effects these delays may have had on other aspects of the project. It also looks at how the project made it through various permitting requirements and procedures. Were special dispensations of any kind required? Was the project required to perform any mitigation actions or did it take advantage of any type of incentive program?

2. *Economic:* The financial profitability of a project—especially private projects—is often used as the sole indicator of success. Even in the case of public projects, the project's ability to drive economic development is usually one of the most cited aspects in the public sphere (though not necessarily by the same side) before, during, and after completion. While an important factor in the project—especially in understanding whether the project can serve as a replicable model—economic success cannot be measure solely by profitability. In the case of public or philanthropic projects, for example, profitability may be relatively unimportant to overall goals. Therefore, an economically successful project in the context of this thesis is one that meets its stated economic goals. This could be reaching a certain level of profitability or return, but can also mean accepting a reduced level of profitability in return for other benefits. This includes benefits that are social or ecological in nature, as well as broader economic benefits that are benefits to the community as a whole, even though they may not directly impact the core project. An example of this latter type of

benefit would be the economic activity generated by having a showcase for the green services and technology sector, or any avoided off-site infrastructural costs for a greenfield site (Alexander 2001: 9).

3. *Social*: Social success is difficult both to define and to evaluate. This criterion of success is most clearly identified with literature from the fields of urban geography, planning, and design; it is, very broadly, concerned with quality of life. For the purposes of this thesis, quality of life will be defined using four of the five dimensions of quality of life as defined by Felce and Perry (2005: 60) and the National Institutes of Health. *Material Wellbeing* comprises "quality of the living environment, finance and income, privacy, transport, possessions, meals/food, neighbourhood, security, and stability/tenure". *Physical Wellbeing* includes health, fitness, and physical safety. *Social Wellbeing* includes personal relationships as well as community involvement, activities, and acceptance. Finally, *Development and Activity* includes work, leisure, education, and productivity.[4] Of course, many of these attributes may not be directly affected by the built environment, particularly a specific project. It should also be noted that environmental components can be included in the social aspect of success if they are directly related to human quality of life (see the discussion on environmental amenities below).

[4] The final dimension, *emotional wellbeing,* includes self-esteem, status/respect, and religious faith.

4. *Ecological:* As might be expected, this measure of success is closely linked with environmental discourse, which has traditionally evaluated success in two ways. Compliance success is based on evaluating compliance with a permit, program, or contract. Functional success, by contrast, is based on evaluating whether ecological functions have been restored (Kentula 2000). This thesis will utilize the latter, defining an ecologically successful project as one that rehabilitates key physical processes and functions "to increase and improve the quantity, diversity, and connectivity of...habitat" ("CVFPP Draft Measures of [Environmental] Success" 2009).

These criteria are by no means mutually exclusive, and are more often than not deeply linked with at least one other type. For example, a seawall that also functions as a pedestrian path contributes to both social and ecological success; alternatively, the inclusion of rent-control requirements can contribute to social success at the expense of economic profitability (though it could also improve the project's implementation by fast-tracking certain required permits).

In the context of this study, which is especially interested in how projects incorporate values and ideologies from two disciplines that have historically been distant, if not downright antagonistic, a differentiation must be made between environmental aspects of projects rooted in different disciplines. The term

"**environmental amenity"** refers to those aspects rooted in urban/social discourse; this includes storm- and rainwater catchment systems, vegetated roofs, and other aspects designed for a "sustainable community." It also includes green spaces, bike paths, and transportation infrastructure that indirectly encourages sustainable living or has other environmental benefits. Those environmental components rooted in ecological discourse—an "**ecological restoration"—**are specifically designed to enhance/create habitat or restore habitat functioning. It is important to note that, despite its name, ecological restoration does not necessarily restore an environment to the original habitat type, nor does it necessarily restore it to the equivalent of an untouched, pristine state. These terms are by no means mutually exclusive; as is discussed above, a large number of components serve both as environmental amenities and as ecological restorations.

Waterfront Project: this term is defined by Breen (1994: 10) as including "everything from a wildlife sanctuary to a container port, and the full spectrum of uses in between." It is important to note that in some cases, a waterfront project is not directly on the water, but rather has strong visual or historical connections to it; the archetypal example of this is Seattle's Pike Place Market. While all projects in this report are indeed shoreline-adjacent, some are partially separated from the water by a road or rail right-of-way; in these cases, the project is considered in its entirety.

2.3: Use of a Case Study Approach

In analyzing the role of restoration components within the context of larger redevelopment projects, the obvious choice of methods was to utilize case studies. As outlined by Yin (2003), the case study allows "an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident" (13). The case study method allows for a greater understanding of the highly contextual variables in the multiple projects that are examined in this analysis. Furthermore, the use of case studies is better able to account for the complex social phenomena that are examined in this report (Schell 1992: 11).

The story of industrialization, degradation, abandonment, decay, and redevelopment is so ubiquitous as to be almost archetypal in North American urban history. However, given the time required for the planning, permitting, and execution of redevelopment projects—often decades or more—there is a significant lag between the incorporation of paradigm shifts into projects, and the maturation of said projects to the point at which they can be evaluated. Thus, there are relatively few examples of the large-scale incorporation of restoration components into projects that are currently well underway or already completed. The Pacific Northwest, a region that has long been recognized as being at the forefront of environmental movements, was an early adopter of encouraging—even requiring—environmental restoration components in redevelopment projects. British Columbia, along with the rest of the Pacific Northwest, set early legal precedents for ecological restoration

(Casselmann 2011; Tisher 1994: 19).[5],[6] Its three metropolitan areas—Portland, Oregon; Seattle, Washington; and Vancouver, British Columbia—have highly educated and environmentally conscious populations; the latter two cities are inextricably tied to their waterfronts in both a geographical and historical sense. Vancouver, however, is widely known for its exceptionally strong planning regime that has put it at the forefront of planning paradigms, providing a much longer history of urban waterfront redevelopment than either Portland or Seattle.

2.4: The Sites

Vancouver, with its downtown surrounded on three sides by saltwater, presented a number of possible redevelopment areas: Burrard Inlet to the north of the downtown peninsula, towards which downtown Vancouver is arguably oriented; False Creek to the peninsula's south, the city's former industrial area, and Port Metro Vancouver, the city's current industrial port area, which is spread out some distance both to the south and east of the downtown peninsula. Given the area's industrial heritage and relatively established history of redevelopment, it was decided to focus

[5] Although it does not directly affect this thesis or the case studies, it should be noted that since 2001 British Columbia has dramatically curtailed its environmental regulations as part of a policy of "deregulation." In 1991, the province brought 607 charges under its environmental statutes; in 2004, it brought just 29 (West Coast Environmental Law (2007).

[6] Washington's precedent, in fact, dates to as early as 1933, when the Washington Supreme Court ruled in *Drainage Dist. No. 2 v. City of Everett* that no specific right exists for the continued maintenance of an artificial condition. Despite the longstanding precedent in Washington, only six other states have reached similar findings. In *City of Everett,* the drainage district sued after the city drained a series of dams that had been used for an obsolete water supply system. The resulting sedimentation clogged the drainage district's intakes, prompting a lawsuit claiming that the dam's 30-year history had constituted a permanent change, and that the drainage district was entitled to a continuance of the artificial condition. The court ruled against the drainage district, allowing the area to revert to a natural state.

on the False Creek area, a once-heavily contaminated industrial neighborhood that has undergone successive redevelopment projects over the past four decades. Within these broader areas, three case studies were selected that are either perceived of or portrayed as incorporating both environmental and social goals. This contrasts with other notable projects in the regions such as the Lower Duwamish Waterway in Seattle or the Citygate project in Vancouver, which are clearly dominated by ecological restoration or social goals, respectively.

A brief description of each of the three projects that appears in this research, the reasons for its inclusion, and what we hope to learn from it is listed below:

False Creek South: begun in the 1970s, False Creek South is the oldest project looked at in this report. The decision to redevelop a formerly industrial, contaminated site into a residential, mixed-use neighborhood was considered extremely radical at the time; however, its success paved the way for future projects in the area, and arguably fundamentally altered the trajectory of urban development in Vancouver. This project looks at the introduction of mixed-use development and the role of community involvement.

False Creek North: developed as a single parcel following Expo 86, this project introduced the exceptionally high densities[7] and "Vancouverism" for which the city is now known. This project examines the role that external, geopolitical forces can have on internal, globally insignificant projects—in this case, the 1997 transfer of sovereignty over Hong Kong from the United

[7] By North American standards

Kingdom to the People's Republic of China—as well as the case for density that increasingly is a part of the urban redevelopment discourse.

Southeast False Creek: the newest and most environmentally focused project in False Creek, this project was initiated in 1991 following the success of its neighboring projects. This project examines how the sustainability and environmental discourse—the "green movement"—can become the defining characteristic of redevelopment projects as opposed to a mere component.

Chapter III: Description and Analysis of the Case Studies

3.1: Introduction

Vancouver, British Columbia is an important port city on Canada's West coast. With a metropolitan population of over 2.3 million, it is the largest urban area in Western Canada and the third largest in the country (Statistics Canada). Vancouver has one of the most diverse populations in the country, with a full 52% speaking English as a second language. It is also widely recognized to be a leader in urban and environmental policy. Unlike most cities of its age—its contemporaries being cities in the so-called "sunbelt" of the United States and in the American and Canadian West—Vancouver has developed a highly dense, residential downtown. In fact, Vancouver boasts the highest residential density of any major North American city (Boddy 2005). Furthermore, Vancouver is the only city in North America lacking a freeway within its borders. These highly anomalous characteristics for a young North American city are partly the result of geography, but are much more the product of a strong culture of social activism and progressive, intentional policies on the part of the city. This is evidenced by the three major redevelopment projects that have taken place around False Creek, each separated by more or less a decade: False Creek South, in the mid-1970s to early 1980s; False Creek North, in the late 1980s to early 1990s; and Southeast False Creek, from the mid-1990s to the present.

3.2: History & Geography

The city of Vancouver is located on the Burrard Peninsula in southwestern British Columbia, in a region known as the Lower Mainland. It is bordered to the North by Burrard Inlet, to the South by the Fraser River—an important habitat for spawning salmon—and to the West by the Strait of Georgia, beyond which lies Vancouver Island and the Pacific Ocean. Downtown Vancouver lies on a smaller peninsula that extends from the northern shore of the Burrard Peninsula, from which it is separated by an inlet known as False Creek.

Vancouver is the youngest major city in North America—younger than its sister city to the South, Seattle, and even younger than such archetypal twentieth-century cities as Phoenix or Calgary (Boddy 2005). However, the region has a long history of indigenous settlement dating back thousands of years. The Lower Mainland area was first settled by indigenous peoples around ten thousand years ago, following the retreat of glaciers. The area fell within the traditional territory of three peoples—the *Sḵwxwú7mesh* (Squamish), *Tsleil-Waututh*, and *Xwméthkwyiem* (Musqueam). As was the case with other indigenous groups in the Pacific Northwest, the extremely abundant resources allowed for the development of artistic and cultural heritages to a degree uncommon in most hunter-gatherer societies: "[the area] was originally covered with a thick forest of fir, cedar, hemlock, spruce and salal, and in the marshy land near the shoreline was a dense growth of crabapple bushes. The waters off the large tidal beach area were home to sole, perch, sturgeon, and a variety of waterfoul [sic], while elk, deer, bear and beaver were at

home on the land. All these resources were traditionally used by local Native peoples in a myriad of ways" (Macdonald 1999). Although the greatest density of indigenous settlements lay to the south, along the Fraser River, a heavily travelled trading path led directly to settlements around False Creek, Kitsilano, and Stanley Park. This trading path would later become Vancouver's Main Street.

The Lower Mainland region was first discovered by Europeans in 1791, during George Vancouver's epic 1791-1795 expedition of the Pacific Northwest; however, little attempt was made to settle the region for almost seven decades. In 1858, gold was discovered on the Fraser River, spawning a massive influx of settlers—in Victoria, on Vancouver Island, more than 30,000 prospectors arrived within one month to the town of just 500. Although the gold rush lasted a mere two years, it spawned settlements throughout the Fraser River Valley. Perhaps more importantly, it awakened Britain to the economic and resource potential of the area, leading it to declare the Colony of British Columbia. Despite the boom in population and interest in the new colony, however, the Vancouver area itself remained almost totally uninhabited. As with indigenous settlements, the population was concentrated along the Fraser River to the south, which allowed access to the British Columbian interior; the colonial capital was sited in the city of New Westminster.

The first sign of a shift in Vancouver's favor came in 1859, when Robert Burnaby, while camping in the area, wrote, "our [spare] time has been occupied in exploring all the ins and outs of this Inlet, which I prophesy will become one of the greatest naval rendezvous and centres of commerce on this side of the world"

(McLeod 2002: 111). By 1863, the first industry came to Vancouver: lumbering. Some of the largest trees in the world grew along the southern shores of False Creek; they were soon in high demand for use as masts for the ever-larger ships of the Royal Navy. Prized not just for their height, but also their straightness and sturdiness, False Creek lumber was even special ordered by the Celestial Emperor of China to construct the Gate of Heavenly Peace in the Forbidden City of Beijing. The new settlement was officially platted and name Granville in 1870, though it was most often referred to by its original moniker, Gastown.

In 1871, the Canadian Pacific Railway selected the settlement as its transcontinental terminus due to its natural harbor. The resultant boom in the city's population led to the development for the first time of the area south of False Creek, a neighborhood that became known as Mount Pleasant. The shoreline became lined with sawmills and shingle mills; eventually seventeen sawmills employing 10,000 workers would line the waterfront. Soon, more industry moved in, including Coughlan's shipyard. With the outbreak of the First World War, the shipyard was given a large contract to build eight 800-ton naval ships, making it the city's largest

employer and sealing False Creek's role as the industrial heart of the city.

Fig. 2: False Creek, 1912 (Vancouver Municipal Archives)

Meanwhile, also partly in response to the war-related increase in industrial output, the Great Northern Railway and Canadian Northern Pacific Railway expanded their yards and terminals by filling in the easternmost part of False Creek, shortening the inlet by almost two kilometers. The rapid industrialization of the area continued at a breakneck pace through the end of the war and even through the Great Depression. The Second World War only saw an increase in the area's industry; more than fifty-five 10,000-ton freighters were built in False Creek shipyards to replace those sunk by German U-boats in the North Atlantic, while the region's famed lumber was milled and turned into military aircraft. The Second World War was the high point of False Creek's industrial history. As the city's economy shifted from manufacturing and industry to a service-based economy, industry began leaving the area and was not replaced. The polluted, industrial inlet that was left

behind was heavily contaminated with heavy metals, polycyclic aromatic hydrocarbons (PAH), and creosote-laden pilings, not to mention that it was now many times smaller than its original size (see image).

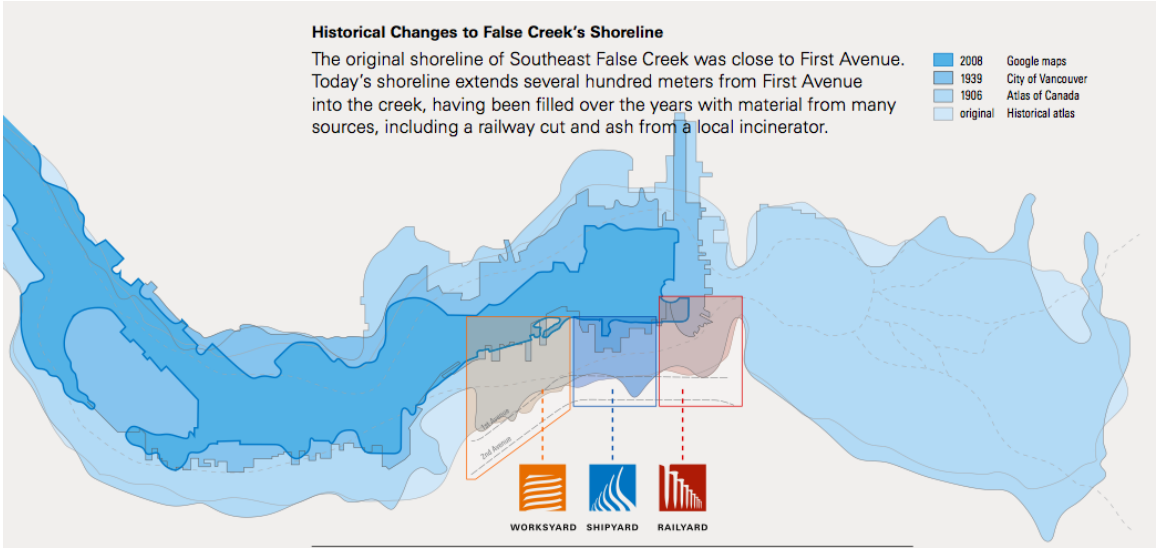

Fig 3: Current and historic extent of False Creek (Millennium Water)

3.3: False Creek South

By the late 1960s, much of the area along the False Creek shoreline was considered derelict and slated for redevelopment in concert with the implementation of an area-wide freeway system. That this plan was never implemented is a testament to the power of local, grassroots forces, which became exponentially more powerful mid-century with the work of activists such as Jane Jacobs (Klemek 2011: 48). Such activism found some of its earliest successes in Vancouver, dramatically shaping not only False Creek projects in the 1960s and 1970s, but altering the city's development trajectory to this day.

In 1970 a large area of contaminated land along South False Creek was acquired by the City of Vancouver. A member of the Vancouver City Council and former geography professor at the University of British Columbia, Walter Hardwick, fought the city's redevelopment plans, arguing against both the city's plans and its decision-making process on issues of land use. Instead, he conceived of and pushed for the development of "an idyllic residential community that would express the ideals of a generation that rejected the harsh modernism of freeways and urban renewal for car-free village squares and bike-filled greenways, a place to raise children, with mixed uses and mixed incomes.... It all seems so obvious now, but it was so radical then" (Price 2009). Indeed, it is hard to underestimate just how radical this idea was in an era when few other cities were even contemplating downtown brownfield reclamation and redevelopment projects. 1970 was a year still firmly ensconced in the throes of modernism and modernist urban planning. In New York City, plans to raze SoHo, Greenwich Village, and large swaths of Midtown Manhattan to built the Lower Manhattan and Mid-Manhattan Expressways would not be cancelled for another year (Clines 1971). In Seattle, the R.H. Thomson Expressway was still planned to cut through the Washington Park Arboretum and connect to three new East-West expressways, destroying many of central Seattle's neighborhoods and isolating its downtown with freeways on all sides (Crowley 1993). In urban waterfronts, the situation was even more extreme:

> "Today we wonder how the planners and architects of yesterday could allow highways to be built along the waterfront and destroy these valuable city assets. Today we think of the waterfront as an urban amenity, a special place

> in the city. However, the waterfront as a site of amenity is a relatively recent phenomenon. Attitudes toward the waterfront have changed significantly over the last fifty years. The reasons should be obvious; waterfronts were the working areas of the city. As places of industry, they were dirty and messy and held little value in our collective conscience. They were places to be avoided at all costs." (Marshall:18)

Today, the importance of maintaining the integrity of the urban fabric is universally recognized and acknowledged, as are the dangers of a failure to do so—see, for example, the rapid and extreme decline of the South Bronx following the construction of the Cross-Bronx Expressway in 1963 (Caro 1974). In the 1970s, however, Hardwick's ideas flew in the face of conventional wisdom and practice and were decades ahead of their time. Compare the current literature on the creative class—first popularized by Richard Florida in 2002—with this excerpt of an address from Walter Hardwick in October 1970:

> Shifts from agrarian, to industrial, to post-industrial societies have major impact on the function form and structure of the city. Our forefathers saw Vancouver as an industrial and commercial city. Manufacturing and distributing the natural resources of the province for shipment to the markets of the world. The city they created was to service those ambitions. We were the "Gateway to the Orient and the Pacific", the "Terminal City by the sunset sea". The city was a place to get rich, and the docks, warehouses, sawmills, and other industries were one of the physical manifestations of wealth. **In consequence waterfront for sawmills, docks and manufacturing plants were priorities for land uses. The natural setting of Vancouver, its amenities were of secondary importance**....
>
> .... Social and economic change impinges on our landscape. At one scale we can look at our competitive position in the national city system.... Our ability to employ our young people and provide a better quality city will depend upon an ability to attract and keep persons capable of instigating action. A number of prerequisites are now well known, "Appealing institutions, urban, climatic and cultural environments". Management and professionals, the catalysts of a quaternary economy, are becoming choosy. In a recent survey

> education quality through good schools and universities, better than average solutions to traffic, cleanliness and safety were most frequently mentioned. These factors are not things that normally come to mind of the policy maker who is dedicated to growth in raw material producing industries. These factors are not high on the priority of our civic bureaucrats who see our growth in secondary industry....
>
> The priorities of land use shift from the warehouse and the factory to the ancillary services of downtown – the computer, the park, the specialty shop, the café and the inner city residence. **This shift is manifested markedly in the decision to recast the form of False Creek [South] from an industrial slum to an integral part of our residential and commercial fabric.** (Hardwick 1970; emphasis added)

Hardwick's vision for Vancouver was eventually implemented, with Hardwick himself leading the redevelopment team. The project began with a major public involvement and co-design process, which established public priorities for an accessible waterfront seawall; mixed-tenure housing including market condominiums, co-op and low-income housing and live-aboard marinas; and a vibrant waterfront market (False Creek Official and Area Development Plan 1974). Every one of these aspects was not only not contemporary planning practice, but was radically antithetical to the top-down, use-separated, modernist planning paradigm that prevailed at the time. The result, an area that includes today's Granville Island and False Creek South neighborhoods, was a revolutionary development for Vancouver and proved to be highly successful, with Granville Island and its market especially becoming one of the city's top tourist destinations. In 2004, the area was named "One of the World's Great Places" by the Project for Public Spaces. The success of the project fundamentally altered the trajectory of urban development in Vancouver, ushering in a new planning paradigm that would not become prevalent in other North

American cities for another three decades and allowing for the creation of a planning department whose power is almost unparalleled in North America.

In Vancouver, the public sector responded to the success of the False Creek South project by creating the so-called “Living First” strategy, formally adopted by the Vancouver Central Area Planning Department in the early 1980s. The strategy “emphasiz[ed] housing intensity and diversity; coherent, identifiable neighborhoods; and regional architectural principles” (“Towards a Sustainable Future” 2009). Under the Living First program, more than eight million square feet of land was rezoned from commercial to residential in the downtown core; railyards and industrial zones along the waterfront were likewise earmarked to be environmentally rehabilitated and redeveloped for housing.

Analysis

Implementation. False Creek South was one of the earliest examples of a redevelopment project that was fundamentally shaped by the actions of and input from community stakeholders. The successes of the project would fundamentally affect the planning of future projects in the region, with community discussions and stakeholder groups becoming a legally mandated aspect of the city’s planning model and process. False Creek South would ultimately lay the foundation for a redevelopment approach to brownfield sites that has since become known as the Vancouver Model.

Economic. Although the project has proven to be highly popular with residents from its opening through the present day, False Creek South has been plagued with

economic problems. Its medium-density housing, considered high in the 1970s, is far too low to maximize revenue in the city's exploding land market. In the mid-2000s, residents sued the City of Vancouver's Real Estate Division—their lessor—over a proposed increase in lease rates of 500% ("False Creek Urban Heritage Trail"). Granville Island, a large public market that was built in the area, was initiated with a CAD$25 million Federal grant, but has been self-sufficient ever since (ibid).

Social. One of the primary goals of the project was to create a community with a diverse social mix. Though striving for a very different goal, this was largely accomplished through the very-modernist idea that quality of life and the built environment were inseparably linked. Therefore, housing was organized around small, semi-private enclaves, which were connected by green spaces and a seawall promenade in order to promote interaction; 30% targets were set for low-income, middle-income, and market rate housing. Because of this then-radical idea of social diversity, the Federal government undertook a post-occupancy study. It found that while the green spaces and promenade were well used, the semi-private enclaves were not; residents desired more anonymity and privacy than was provided. This, along with the rate of return from the medium-density development, provided justification for the much higher densities that were seen in following projects (De Sousa 2008: 139). Granville Island, in the center of the development, has become one of the most successful social spaces in the city, with over eleven million annual visitors to the public market. Additionally, the island celebrates the industrial heritage

of the area through its repurposed industrial architecture and remaining heavy industry ("False Creek Urban Heritage Trail").

Ecological: Although the project is notable for attempting the redevelopment of a brownfield site at all, given the context of its era, it attempted very few, if any, restoration-oriented components. All environmental consideration was given to capping pollution for the future residents of the area (De Sousa 2008: 139). In the years since the project's completion, however, a concerted effort has been made to develop habitat enhancement projects along the shoreline. These have been predominantly funded by the local Squamish and Musqueam tribes, who once maintained extensive fishing grounds in the area ("False Creek Urban Heritage Trail").

3.4 False Creek North

The next major redevelopment along False Creek occurred in the 1980s, when the entire north shore was cleared to make way for Expo 86[8]. Following the fair, the British Columbian government sought a single buyer to redevelop the site. While the False Creek South project had convinced leaders of the merits of pedestrian-oriented neighborhoods with a mix of uses and incomes, development of the False Creek North area would bring a new element into the mix—density. The result would be the first examples of the high-density, high-rise urbanism that has since become known as *Vancouverism*. Ironically, the impetus for the Vancouverization of its eponymous city lay not within Vancouver, nor even Canada,

[8] Officially known as the 1986 World Exposition on Transportation and Communication

but more than 10,000 kilometers away. False Creek North exemplifies the power of global and national forces in generating and shaping extensive waterfront redevelopment (Riley and Shurmer-Smith 1988: 50).

In 1949, enormous numbers of refugees fleeing the Communist Revolution in China fled to the British Crown Colony of Hong Kong, whose population exploded from 500,000 in 1945 to 2.2 million by 1950. The British government, desperate to avoid the massive, blocks-long high-rises already appearing in the space-constrained colony, implemented a strict building code that resulted in the propagation of tall, thin towers. It is this building code, according to Vancouver architecture critic Trevor Boddy, that is the predecessor of Vancouverism. In Hong Kong the new style of building created by the code became highly desirable, symbolizing the economic boom that was transforming Hong Kong:

> After the "Mid-Levels" of Hong Kong's harbor-side Central sprouted tall, thin residential towers, these were soon copied all over the Crown Colony. To succeed in this market, every new development desired at least a piece of a harbor view. There were no urban design view controls, just a building code. But even a slice of a view to water was thought to be good luck according to still-powerful Cantonese superstitions. Thus, an interest in variety of light and view are the simple human realities behind Hong Kong's, now Vancouver's, preference for tall, thin towers." (Boddy 2004: 16)

With the transfer of sovereignty over Hong Kong to the People's Republic of China planned for 1997, the late 1980s and early 1990s saw cities around the Pacific Rim competing to receive the wealthy, educated immigrants—and, more specifically, their investments—fleeing the prospect of a Communist regime. While many Australian and West Coast American cities saw substantial numbers of immigrants,

they paled in comparison with the mass migration to Canadian cities; since the late 1980s, Vancouver and Toronto alone added 200,00 immigrants from Hong Kong, more than the next six non-Canadian cities combined (Boddy 2004: 18). In addition to the influx of people and skills, they received more than $15 billion (CAD) in real estate investment: “Vancouver [became] to the Overseas Chinese exactly as Miami is to Latin Americans, a new global phenomenon...the ‘portal city’” (18).

Because the province was only interested in selling the 240-acre site as a single parcel, few Canadian or American developers were willing to assume the enormous risk. In 1988, the land was sold for CAD$2 Billion to Li Ka Shing, a Hong Kong business magnate and one of the world’s wealthiest men (Peck 2003). Li developed tall, thin residential towers that accommodate high populations and preserve view corridors, similar to those in Hong Kong; their broader, medium-height commercial bases ensure an active and mixed-use street level (Boddy 2005: 18). Unlike traditionally density-averse North Americans, the newly-arrived, wealthy Hong Kongers knew and liked small, high-rise apartments, making Li’s development—known as Concord Pacific Place—an instant success. As had happened with similar building styles in Hong Kong, the popularity of such developments soon spread to new residents of many different backgrounds, spurring a building boom that would dramatically reshape the entire downtown Vancouver area.

Fig 4: View of False Creek North (on the left) in 1978 (top) and 2003 (bottom) ("Towards a Sustainable Future")

Vancouver's downtown population more than doubled between 1990 and 2005. Today, more than 90% of towers in downtown Vancouver are residential (Boddy 2005).[9] A testament to the densification that this represented, this increase in population resulted in no net increase in automobile trips ("Case Studies: Vancouver, British Columbia, Canada" 2008). More than just defining the cityscape, Vancouverization has become emblematic of the city and its residents, as noted by architect and urban designer Bing Thom:

> It's a spirit about public space. I think Vancouverites are very, very proud that we built a city that really has a tremendous amount of space on the waterfront for people to recreate and to enjoy. At the same time, False Creek and Coal Harbour were previously industrial lands that were very polluted and desecrated. We've refreshed all of this with new development, and people have access to the water and the views. So, to me, it's this idea of having a lot people living very close together, mixing the uses. So, we have apartments on top of stores.... This mixing of uses reflects Vancouver in terms of our culture and how we live together (Thom, undated).

[9] In fact, this has developed into somewhat of a problem for Vancouver planners, who now worry that even more of downtown's office functions will leave because property taxes are much higher for businesses than for residences (six times higher) and because economic returns are so much higher for new condos than for new offices (five times higher—one of the largest such skews anywhere) (Boddy 2005).

Fig. 5:: Tall, narrow residential buildings that allow for high urban densities while preserving view corridors are characteristic of Vancouverization. False Creek is in the foreground.

Analysis

Implementation. The city's insistence on selling the False Creek North parcel as a single piece of land resulted in a much longer search to find a willing buyer. However, the development of a single parcel placed the city in a better negotiating position. As an enormous project with a single developer, the city of Vancouver was able to demand a number of significant concessions from the developer, chief among them the requirement that the developer pay for all of the city's planning and regulatory work. This allowed for the creation of a dedicated planning staff to work across all city departments and alongside the developer, as well as to organize public workshops and public consultations. This allowed the project to better reflect the needs and desires of the City and the adjoining community. Furthermore, it allowed for an exceptionally fast timeline, given the size of the project: the largest urban development in North America, it took less than ten years from conception to the opening of the first units ("Concord Pacific").

Economic: As has been mentioned, the City's costs for the project were dramatically lessened by requiring the developer to pay for planning and regulatory costs, as well as for public necessities such as schools, roads, and parks. Despite these added costs, the developer had recouped the entire development costs through condominium sales in only a few years (Berelowitz 2005: 115).

Social: To date, Concord Pacific has more than 10,000 units, making it the largest urban development in North America. The public-private partnership that planned the site developed seven organizing principles to guide the area's development, all of which deal with the area's social development: 1) integrate with the city, to make it an integral part of Vancouver; 2) build on the setting, incorporating such things as water-dependent uses and sense of place; 3) maintain the sense of a substantial water basin, to enhance the presence of False Creek; 4) use streets as an organizing device, to further integrate the development and surrounding areas; 5) create lively places having strong 'imageability,' to make open spaces identifiable, memorable, and lively; and 7) plan for all age groups with a particular emphasis on children, to create robust neighborhoods (De Sousa 2008: 144). As with False Creek South, green spaces connect parklands and form a continuous promenade along the waterfront.

Ecological. While there is a more explicit focus on "sustainability" than in False Creek South, the predominant focus of False Creek North remains on the social aspects of the development. Following the extensive remediation that was required to clean up the site for habitation, the environmental benefits of the project are

oriented towards “green living,” with high-efficiency HVAC systems, excellent transportation connections, and so on. Even without a specific ecological focus, the benefits of 10,000 new units in a dense, urban setting instead of in the suburban, auto-centric periphery cannot be underestimated. Interconnected green spaces connect to a regional greenway, theoretically allowing for ecological processes and species migration; however, this has never been measured or studied to determine what species might actually make use of this corridor (Sarkissian 2009).

3.5 Southeast False Creek

If False Creek South was about proving the worth of mixed-use, pedestrian living, and False Creek North about increased densities, then Southeast False Creek would be about sustainability and environmental restoration. As Gordon Price, Councilor for the City of Vancouver from 1986 to 2002, says:

> When the Southeast False Creek brownfield site came up for consideration, a new consensus proffered an alternative vision, this one closer to the ground, motivated as much by the challenges of sustainability as the desires of livability. This sustainable community would take on the critical problems facing us as producers and consumers on this planet and serve as a place of continuous learning and problem solving. (Price)

Of course, Price’s “ new consensus” hardly came about spontaneously; it was the product of year of political maneuvering and infighting that, at many junctures, could have derailed the project.

In the early 1990s, in response to the success of the False Creek North Project, the City of Vancouver announced its intentions to develop the 80-acre area

known as Southeast False Creek. The city publically committed to ensuring that the site was redeveloped as a "model sustainable community" ("Southeast False Creek Planning" 2011). Furthermore, this project would be the first to follow the Vancouver Planning Department's new template for such redevelopment, which was also prompted by False Creek North's success. This collaborative model relied on large developers' experience in understanding the financial feasibility and marketability of project, the Planning Department's ability to require public amenities (e.g. affordable housing requirements, parks, public art, etc.), and a technical committee comprised of representatives of all relevant City departments (e.g. Engineering, Planning, Parks, etc.) to streamline the approvals process (Alexander 2001: 10).

Almost immediately, the "model sustainable community" became the subject of controversy—not because of the decision to build sustainably, which was broadly supported and lauded, but over the definition of what constituted "sustainable." Three factions arose within the public sector, each lobbying for their own vision of a sustainable community. Interestingly, these three competing visions of sustainability correspond almost exactly to the variants of "success" used in this analysis: ecological sustainability, social sustainability, and economic sustainability (Alexander 2001: 3). The most visible representatives of these three lobbies are the Vancouver Parks Board, the Vancouver City Council, and the city's Property Endowment Fund. The Vancouver Parks Board, of course, had a vested interest in the environmental quality and quantity that was being planned. The Property Endowment Fund is responsible for managing city-owned real estate with the goal of generating a

“reasonable” economic return while supporting the City’s public objectives—a clear mandate of economic sustainability (9). Finally, social sustainability was championed by the Vancouver City Council itself.

Southeast False Creek’s industrial past left an extensive legacy of soil and water contamination in the area that had to be addressed by the redevelopment project. Sediment both in and around the water had levels of PCBs (polychlorinated biphenyls), PAHs (polycyclic aromatic hydrocarbons), and heavy metals, especially copper and lead. Several measures exceeded British Columbia contaminated regulatory limits for the protection of marine and aquatic life, and some also exceeded the limits for soils in residential areas and parks. Furthermore, a total of sixteen combined sewer overflows (CSOs) resulted in fecal coliform levels in False Creek three times above levels safe for swimming. Most of the natural shoreline of the creek had been removed and replaced with concrete and rip rap, leaving a shortage of viable habitat.

Environmentalists saw in the proposed redevelopment of Southeast False Creek a chance to remediate and restore many of the environmental injustices that had long been ignored. From 1990 to1995, they pushed for—and succeeded in—the adoption of planning policies that included environmental objectives, specifically to:

- incorporate energy-efficient community design into the southeast shore of False Creek,
- manage land consumption,
- manage landscaping,
- manage energy consumption,
- create a livable community,
- manage water consumption,
- manage waste, and

- foster ecological learning ("Draft Ecological Framework" 1995)

Vancouver is one of the least affordable housing markets on the planet—when incomes are factored in, only Hong Kong is less affordable[10]—and affordable housing is therefore a perennial issue in Vancouver politics. Furthermore, there is very little family-oriented housing in the central core, a problem only exacerbated by the sharp increase in small-condominium projects that proliferated during and after False Creek North. These problems are especially evident and severe in the neighborhoods immediately surrounding the Southeast False Creek project, which are some of the poorest, highest minority areas in the city, and have the highest proportion of rental housing (see table below). Immediately to the northeast of Southeast False Creek is the neighborhood known as the Downtown Eastside, infamous for being the poorest postal code in Canada. Furthermore, there is a significant disparity in the availability of access to green space between the east and west sides of the city[11] (Alexander 2001:7).

[10] The study, by consultant firm Demographia, compared median incomes with median home prices. Historically, Western cities have had a housing to income ratio of around 3, meaning the median house price is three times the median annual household income. In Vancouver, the ratio is 10.6. By comparison, New York—with a higher median home price but a significantly higher median income than Vancouver—the ratio was only 6.2 (International Housing Affordability Survey 2012)

[11] For comparison, the wealthy neighborhood of West Point Grey has 3.27 hectares of parkland per 1,000 people, while the Downtown Eastside has only .2 hectares (Alexander 2001: 12)

Table 1: Demographics of neighborhoods adjacent to Southeast False Creek prior to project (Statistics Canada; Alexander 2001).

	Downtown Eastside	Mount Pleasant	Strathcona	Vancouver (as a whole)
Population	4,956	23,695	11,645	514,008
Avg. Household size	1.2	2.0	2.1	2.3
Median household income	$8,748	$26,485	$12,143	$35,544
Persons in low-income households	80%	43.7%	64%	31%
Persons with English as a second language	47.4%	42.6%	64.9%	48%
Dwellings rented	99%	42.6%	64.9%	48.2%
Green space (ha./1000 persons)	0.2	0.43	2.0	1.12

As far back as 1988, the city council had adopted policies for False Creek that made it clear that social sustainability was of critical import in their vision for the upcoming project. Among them were requirements for:

- a continuous public waterfront walkway,
- development of a predominantly residential area,
- a minimum of 20% of dwellings for low income households and 50% for families with children,
- a minimum of 2.75 acres of parkland per 1,00 population, and
- adequate provision of community facilities and services ("False Creek Policy Broadsheets 1998).

These requirements made it clear from quite early in the planning process that the project would not—nor was it intended to—maximize profit. As has already been discussed, a project need not necessarily make a profit or even recoup its costs (as is the case with most publically funded restoration projects), but doing so

will give the project marketability and creates the potential for similar projects—along with their restoration components—to be similarly adopted. As is the case with many such projects, Vancouver had to balance its desire for economic return with its desire to achieve the particular social and ecological goals that were being lobbied for by the environmental and social justice lobbies. Prior to the False Creek South project, City-owned properties were not managed in any revenue-minded way, but rather were considered only as assets for city development. This changed in 1975, with the creation of the Property Endowment Fund, which, as mentioned, is specifically charged with generated a reasonable amount of economic return on city-owned properties. This has added an additional level of burden to redevelopment projects that seek to use city-owned land, which can no longer be developed from a purely altruistic or service-oriented view. Ultimately, the City intended to recover its costs and even make a small profit form the Southeast False Creek project, but accepted far lower profits than a private developer would expect from the site (Smith 2000).

In Southeast False Creek, another economic issue arose in regards to the cleanup of the site's contamination: should the project have to cover the costs of remediating the soil and groundwater? While the cleanup was an integral and necessary part of the project, many argued that the project should not be forced to pay for "the legacy of other people's irresponsible practices, because this would afflict it with an unfair handicap that would bias its financial performance." The City

Council agreed, clearly stating that the costs of cleanup would not be considered an internal cost of the project (Smith 1999).

From the beginning, the project's relationship with the waterfront was deemed critical to the "branding" of the project. Scott Hein, Senior Urban Designer for the City of Vancouver, says "the most storied district in a seaside town is its waterfront, and Vancouver is no exception. In the [Southeast False Creek] former industrial zone, the waterfront teemed with thousands of workers, as well as ship and rail traffic converging to exchange goods. The transition from abandoned industrial site to vibrant sustainable community [depended] heavily on successfully revisioning this waterfront" ("Towards a sustainable future" 2009). To this end, all of the elements of a sustainable project are highly visible in this area, perhaps more so than in any other part of the project. A primary reason for this was, in the words of the principal landscape architect for the project, to "engage the foreshore—have people be able to get to the water wherever, and whenever, they wanted" (Long 2009). The waterfront is one continuous park, measuring over 650 meters in length, and features a 4.5 meter width for pedestrians and 4.5 meters for cycling—wider than the average street. The vertical seawall was replaced with a series of benches, rip-rap, large boulders, and decks, which provide habitat as well as further blurring the demarcation between the human and natural habitat.

Fig. 6 (above): Southeast False Creek waterfront. False Creek North in the background.

Fig. 7 (below): wetlands are incorporated directly into the community design.

A system of wetlands was created to provide both green space and habitat while simultaneously filtering surface runoff before it reaches False Creek. Even the wetlands, however, also play a social role, albeit one that is somewhat unexpected—a children's play park. "Whenever you put water near children, they want to play with it. And wherever you have water, you have mud; some people have issues with that," says Tilo Driessen, a planner with the Vancouver Park Board. "But it's important for us to make the exposure to natural elements a part of children's play" ("Towards a sustainable future" 2009). By melding wildlife habitat, natural play, and aesthetics,

the planners hope to subtly educate visitors about infrastructure, interconnectedness, and sustainability. One of the most significant ecological restoration components of the project was the creation of "Habitat Island" just offshore, which provides intertidal and upland habitat. In 2008, these efforts resulted in herring returning to spawn along a one kilometer stretch of False Creek for the first time in decades (Hume 2009).

While the three types of sustainability discussed above are by no means mutually exclusive, their implementation did lead to conflict during the planning process. The most significant conflict occurred between the Vancouver Parks Board and the Vancouver City Council.[12] The former, citing the lack of public green space in the adjoining neighborhoods, favored converting the entire site into a park, while the council favored the creation of a new residential neighborhood. While most speakers at public hearings favored the sustainable community option as opposed to the all-park option, the park lobby was an especially vocal minority. Seeking a compromise solution, the council greatly enlarged the parkland area of the plan to 26 acres (out of the total 80 acres). Despite this, the park advocates continued to press for the all-park solution. The refusal of the council to back down on the sustainable community idea is attributed by Alexander (2001) to four factors:

1. The community option would return income to the City through the sale of land to developers and in future tax revenues, while the park option would be solely a cost.

[12] It should be noted that both the City Council and the Parks Board, like much of the municipal governance of Vancouver at the time, were dominated by the Non-Partisan Association (NPA); this meant that little conflict stemmed from ideologically-driven party lines.

2. The all-park option would lose the potential for the project to serve as a model for future projects.
3. Serious questions about whether nearby residents would utilize the park.[13]
4. Finally, changing the plans for the site from a development to a public amenity would reopen arguments that other types of public amenities would be equally valid and should be pursued.

Analysis

Implementation: The initial decision by the Vancouver City Council to declare its intentions of building a sustainable community was undoubtedly one of the most important decisions affecting the development of Southeast False Creek. At this early stage, such a public commitment not only set the tone for all future discussion of the project, but created public pressure for follow-through, in effect locking the city into a certain development trajectory, albeit still a quite broad one. Additionally, a number of factors built into the development process were fundamental in shaping the development of the Southeast False Creek Project: the openness of the project to input from the environmental, social justice, and design communities allowed those groups to apply pressure to the Council at key junctures when the Council may otherwise have backtracked. Such pressure was especially effective in this case because of the high profile of the project.[14] The collaborative approach, both within and between municipal agencies, developers, and public/professional groups, allowed for the exchange of ideas required for such a multifaceted project, building

[13] In urban planning, the general rule of thumb is that most people will not walk more than five minutes to reach green space; thus putting the site too far from most residents of other neighborhoods.
[14] As an example of the project's high visibility, the Council's decision against the all-park option dominated the headlines of the *Vancouver Sun* for a full two days.

consensus and streamlining what would otherwise have been an exceptionally arduous policy development and permitting process.

As the owner of the land, the City of Vancouver had a vested interest in having the project proceed quickly, both in order to begin reaping tax proceeds as well as to create its model sustainable community that could act as a showcase for other cities' projects. Nevertheless, its position as a public entity made it unable to alienate important communities. Therefore, while permits did not present a significant issue in the development process, community involvement and planning did, with the city and developer trying to appease various social justice, community, environmental, and design groups. The nature of this democratic process—responsive to votes and public image—inherently biases such community-based projects towards urban/social paradigms. By framing the ecological restoration components of the project as providing additional environmental amenities, support from a broader spectrum of stakeholders was established.

Ecological. A significant amount of resources of the Southeast False Creek Project were devoted to environmental amenities and ecological restoration; environmental sustainability is the most familiar type of sustainability to the general public, and it was therefore important to implement a project in which these types of amenities were highly visible. Residential properties utilize extensive eco-friendly infrastructure such as greywater recovery systems and heat exchangers. Ecological restoration of the site is tied in with these systems; for example, runoff from the project is naturally filtered through a system of wetlands that have been created rather than simply

draining into the creek. The return of spawning herring in 2008 and 2009 is indicative of increased availability of habitat and lower levels of contamination within False Creek itself. Environmental education plays a significant role in all of the restoration and sustainability components, which are rarely off-limits to the public and incorporate pedestrian paths, playgrounds, and an abundance of signage/information.

Social. Southeast False Creek added a significant amount of open and green space for nearby residents, with walking/biking paths, parks, and play areas making up a significant portion of the overall project's area. Twenty percent of residential properties are earmarked for low-income residents. However, this is far lower than initial plans, which called for a 30-30-30 split between social, affordable, and market housing similar to what was implemented in False Creek South. Given the current real estate market in Vancouver, most of the project's residences are far too expensive for even the average family.

Economic. As expected, the Southeast False Creek project was profitable, with property values nearby rising considerably. Secondary and tertiary resales in the project have regularly seen double-digit increases, although there are too few such resales to draw a firm conclusion ("International Housing Affordability Survey: Ratings for Metropolitan Markets" 2012). Increased densification of Vancouver translates to higher tax returns for the City, further boosting profitability. However, Vancouver is currently considered to be in the midst of a severe housing bubble,

with properties significantly overvalued. Thus, the financial outlook of the project could change significantly in the not-too-distant future.

Chapter IV: Conclusion

The three projects along False Creek show a clearly defined linear path through successive phases of urban theory. However, they also show a gradual acceptance and incorporation of ideas that can be related to the current discourse on ecological restoration almost as clearly as they do to broader ideals of social and environmental sustainability—something that would have been almost unthinkable fifty years ago, when urban development and environmental restoration were seen as a contradiction in terms.

4.1 Implementation:

The way in which False Creek's three successive projects related to the surrounding communities and were implemented is highly indicative of the planning model for which Vancouver is well known, with an exceptionally strong planning department that is able to effectively control—or at least moderate—other city departments and even the developers themselves. This model was first developed during the False Creek South Project, and has been refined with each successive project[15] based upon successes and failures of previous projects as well as by changing socio-ecological paradigms and values. Despite its revolutionary ideas on mixed use and diversity, False Creek South's strict architectural and density requirements were a direct manifestation of 1970s modernist planning ideas that sought to mitigate "urban ills" such as poverty and

[15] The vast majority of which, of course, were not in False Creek.

overcrowding. The resulting semi-private enclaves, designed to foster social interaction and community, are highly underutilized; low densities have made it difficult to make any kind of profit.[16] For False Creek North, these modernist-inspired requirements were relaxed in favor of other neighborhood concessions, such as schools, which benefitted False Creek North greatly. In Southeast False Creek, Vancouver's strong planning regime was used primarily to increase stakeholder participation and power and to moderate the many public participation processes that went in to the final plan—a significant departure from the far more technocratic planning process seen with False Creek South.

4.2 Ecological

The early projects along False Creek were some of the earliest brownfield redevelopments, creating communities on land that few would have considered usable previously, let alone for residential areas. Despite these accomplishments, there was very little focus on ecological aspects of the sites beyond simply capping any contamination, though this is perhaps unsurprising given the lack of a developed environmental consciousness in their respective decades. The most recent iteration, Southeast False Creek, actively promotes itself as being a model for sustainability and environmental restoration. Many of its environmental components can be seen from an urban/social perspective as

[16] It should be noted, however, that residents almost universally like the development. Though the semi-private spaces are often empty, they have not become the dangerous, crime-infested pockets that similar spaces in other modernist developments (cf. Cabrini-Green, Pruitt-Igoe, etc.).

well as from an ecological perspective. Its waterfront promenade—a feature found in all three projects—actively incorporated ecological restoration in the form of habitat benches in False Creek itself. Similarly, its rainwater retention ponds act as reflecting pools for the buildings—quiet, contemplative spaces—as well as providing wetland habitat and filtering runoff before it enters False Creek.

4.3 Social

In the 1970s, a decades-long commitment to livability was sparked by the False Creek South project; it has resulted in a city consistency ranked as one of the most livable in the world. False Creek South and its successor, False Creek North, not only embodied the best of urban/social discourse, they actively shaped and directed it. Including the pre-False Creek South plans for the area, False Creek embodies the complete transformation that urban planning/design paradigms have seen over the past forty years, from a use-separated, auto-dominated city to one with mixed uses; activated, pedestrian-friendly spaces; and a focus on livability and an improved quality of life. In the context of False Creek, this has meant an ever-increasing number of social and environmental amenities. False Creek South, though far ahead of its time in incorporating pedestrian promenades along the waterfront, nevertheless is spatially disconnected from surrounding neighborhoods; in False Creek North and Southeast False Creek, inter-neighborhood connections were actively promoted.

Especially interesting, however, is how environmental discourse has influenced the livability and social standards of the later generations of projects. In False Creek South, modernist ideas of influencing quality of life purely through the built environment were prevalent; quality of life focused only on issues of material wellbeing. Because many quality of life considerations in Southeast False Creek were undertaken as part of sustainability initiatives, there was a much greater focus on physical and social wellbeing, which are manifested throughout the site in the form of promenades, public gathering spaces, and activities/infrastructure that promote wellness.

4.4 Economic

Of the three projects in this thesis, only False Creek South has struggled financially. It is interesting to note that it is this project whose guiding ideology came almost exclusively from the urban planning realm. False Creek North and Southeast False Creek, which have both been financially successful, both incorporated more environmental or sustainability aspects into the final projects. This suggests that, at the very least, environmental restoration components do not have a significant negative economic impact on development projects; in fact, they may actually enhance the project's visibility and demand.

Furthermore, Southeast False Creek has undoubtedly created many ancillary economic benefits—such a major project's effect on the local green technology industry, while difficult to quantify, have benefitted not only from the

project itself, but from the increased attention that the project has focused on Vancouver as a model for environmentally sound urban development.

4.5 Possible Future Research

Because of Vancouver's somewhat anomalous planning structure, expanding the scope of this thesis to include other metropolitan areas in the rest of the United States and Canada would greatly enhance the understanding of how ecological discourses have been incorporated into urban waterfronts. Especially interesting would be the various projects in and around the downtown Seattle area, which is currently planning a US$2 billion waterfront redevelopment plan that will fundamentally transform its downtown waterfront.

In addition to looking at ecological discourse in an urban setting, a future study could also examine urban/social discourse in a more rural setting to determine the extent to which human-oriented discourse has found its way into ecological restoration projects. Traditionally, restoration projects conducted in rural areas have had a mainly ecological focus, although they are often highly controversial among local residents. Perhaps such incorporation of urban and social discourses into rural ecological projects has the potential to make such projects more palatable to historically resistant agricultural and rural communities.

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VI: Appendix

Fig 8: False Creek North, as seen from Southeast False Creek

Figs. 9 & 10: Southeast False Creek