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The Wildēor Downtown

Exploring Wilderness Remnants In Urban America

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PART II

NORTHERN AMERICAN URBAN WILDERNESS
AN UNEXHAUSTIVE SURVEY

We selected the case studies for this survey by searching for the places across the Northern America territory that meet the definition of urban wilderness we formulated in Part I. In some cases, our choices were corroborated by the fact that other communities, organizations, and agencies had already used the expression urban wilderness in describing the places we are addressing, as was the case for Vancouver, Portland, Los Angeles, Toronto, New York and Minneapolis. The selection process started by considering the thirty most populated conurbations in Northern America[1]. US/Mexico bi-national urban regions such as San Diego/Tijuana and El Paso/Ciudad Juarez were also included in the list. The criteria defining conurbation were exclusively based on 'the continuity' or urban development of the territory, aligning with the study's strong emphasis on morphological analysis. For this reason, the reader might note some discrepancies between our criteria and that of the U.S. Office of Management and Budget in defining metropolitan and combined statistical areas. For example, we have considered Dallas/Fort Worth as a conurbation, but we have considered the Washington D.C. metropolitan area and the Baltimore metropolitan area as two distinct entities because of the large patches of open space that still separate the two.

While the considerations behind this list of thirty cities have been rather straightforward and have brought us to a conclusion we feel able to defend, the selection of the most relevant urban wildernesses for each city has, on the contrary, been complex and as of today we

[1]"The United States Census Bureau," *Population Estimates*, last modified June 27, 2013, accessed August 3, 2013, http://www.census.gov/popest/data/index.html.

still consider it unresolved. Often, as we were working on a specific case study we were aware that in the same city another place could have rightfully been considered an equally relevant urban wilderness. The main reason for this uncertain attribution is related to the matter of scale. The desire to keep the range of scale open in this study forced us to choose between the small grain or the big picture. As a matter of example, there were two possibilities to designate as Washington D.C.'s premier urban wilderness. We considered both the wedging Potomac River Gorge that winds down from Great Falls to the point where the National Mall meets the water - a vast urban wilderness bisecting most of the urban region - and the small Theodore Roosevelt Island - minute patch of forest that has curiously endured in the very core of the great capital city. In the end we chose the second for our survey. As a matter of fact, many other studies of Northern American urban wilderness could have been and could be developed. For instance, if we had decided to focus on the urban scale we could have analyzed the wild and abandoned riverine islands that are scattered in urban settings across the United States and Canada, such as Heron Island and Devil Island on the Saint Laurant River in Montreal, Ross Island on the Willamette River in Portland, Moseintheih Island on the Mississippi River in Saint Louise, Petty Island on the Delaware River in Philadelphia, Peche Island on the Detroit River in Detroit, Theodore Roosevelt Island on the Potomac River in Washington D.C., Mill Rock Park on the East River in New York City, and Brunot's Island on the Ohio River in Pittsburgh. Focusing on the regional scale instead we could have addressed the eleven megaregions as defined in 2008 by the American Regional Plan Association. The Arizona Sun Corridor, the Cascadia, the Florida, the Front Range, the Great Lakes, the Gulf Coast, the Northeast, the Northern California, the Piedmont

Atlantic, the Southern California, and the Texas Triangle megaregions would have been addressed as sole urban entities and the most significant urban wilderness would have been identified in each. If we had developed the study in this way, we possibly would have started from the work and writings of American conservationist and forester Benton MacKaye, from his effort to redefine the relationship between the Northeast and the Piedmont Atlantic urban regions and the natural system of the Appalachian Mountains. Not without some regrets, we decided not to take these roads, inclined instead to develop the research project by looking at case studies that amply range in scale, sometimes encompassing only a few hundred acres and in other instances several thousand acres, and therefore playing very different roles in their respective urban regions.

While deciding on the variables and constants in our case study selection, we finally opted for addressing each and every of what we have defined as the five primary non-anthropized landscapes: woodlands, shrublands, grasslands, wetlands, and deserts. Each was explored through three case studies. Here also it has not been easy to neatly designate places within these categories. Some of the case studies defined as wetlands include large areas of dry uplands; on the contrary, some of the shrublands include vast patches of estuarine wetlands; some of the grasslands include patches of forests and some of the forests, patches of meadows, and so on. For categorization purposes we therefore took into account the dominant landscape of the region and its ecozone.

When all the final decisions had been made, we had a selection of fifteen case studies chosen from thirty cities, three for each dominant

primary landscape. Each group of three also has a certain coherence in terms of geographic location: all of the urban forests are situated in the Pacific Northwest, all of the wetlands in the Atlantic Coastal Plains, all of the urban grasslands in the Upper Midwest (even if in this category we are aware of the fact that most of them develop in areas that belong to the deciduous forest biome), all of the urban deserts in the Southwest, and lastly, all of the urban shrublands in Coastal California.

CHAPTER 1
URBAN WOODLANDS

I went to the woods because I wished to live deliberately,
to front only the essential facts of life,
and see if I could not learn what it had to teach,
and not, when I come to die, discover that I had not lived.

H.D. Thoreau

1.1 Stanley Park in Vancouver

The core of Vancouver's metropolitan region sits on a twenty-five hundred acre finger-shaped headland that juts from the southern shore of the Burrard Inlet, in the western Lower Mainland of British Columbia. It stretches toward the opposite shore of the fjord forming the First Narrow, a tight passage in the waterway. Two deep indentations carve into its perimeter: False Creek, penetrating from the west, reduces its connection with the mainland to an isthmus in the east; Coal Harbour, penetrating from the east, cuts it into two parts. Although Vancouverites usually refer to the whole headland as the 'Downtown Peninsula'[1], the city's actual downtown occupies just the southernmost end of these two parts. Stanley Park occupies the other.

Within the noteworthy green space system of the Vancouver metropolitan region, Stanley Park is possibly the most relevant piece, as it is the most centric and most historically significant for Vancouverites. Stanley Park possesses all of the characteristics of a major urban park but nevertheless appears within this survey because it offers settings that

[1]The peninsula is also known as the 'Coal Peninsula.'

On the previous page, Fig.1: Evan Leeson, Aerial photograph of Vancouver, 2009. Stanley Park in the Foreground.

Above Fig.2: Aerial photograph of Vancouver, Stanley Park in the foreground.

recall the idea of wilderness in a way that a common urban park could not possibly do.

The tract of land comprised within the park's limits is the most prominent part of the headland. It has a surface area of 1.56 square miles (4.05 square kilometres) and its shape can be loosely described as a triangle whose vertices are Ferguson Point, Prospect Point and Brockton Point, projecting toward the North Shore Mountains, the Strait of Georgia and the glacial fjord's inner water, respectively. Stanley Park is also the very centre of the whole metropolitan region. Even if the recent growth of municipalities such as Surrey and Langley are pushing the centre of gravity of the urbanized land south and east, most of its centres such as Vancouver, West Vancouver, North Vancouver, Burnaby and Port Moody, lean on the shores of the inlet and revolve around the park.

The park's boundaries are well defined as a result of its geographic situation, namely its relationship with the peninsula's landform. The boundary is more blurred where the park connects with the city: in the stretch of land between Coal Harbour and Lost Lagoon and in the aforementioned isthmus of the west end, where a succession of green spaces penetrate into the downtown.

The headland is characterized by a Marine West Coast climate. The protection offered by the North Shore Mountains and the warm Pacific Ocean currents create mild climate conditions. While summer months

are generally dry, fall months in contrast count with precipitation on an average of about half the days each month.[2]

Layered sandstone and mudstone, known as Huntingdon Formation, underlie most of the peninsula's soil, while an igneous bedrock sculpted by the eroding action of the inlet waters shapes the cliffs of the park's northern and northwestern shore. The cliffs of Prospect Point and Siwash Rock are examples of these formations: thin dykes generated by infiltrations of magma through fractures in the sedimentary rock. The dark fine-grained basalt boulders of Prospect Point display vertical fractions and columnar structures produced by the contraction of the magma during cooling and solidification. The headland itself owes its present shape to these blocks of intrusive rocks: without them winter storm waves would have washed away its sandstone shores long ago. The headland's overall topography ranges from a flat landscape to steep cliffs. Five different watersheds are located within the park, altered by roads, trails, culverts, and ditches. Lost Lagoon and Beaver Lake represent Stanley Park's two most significant wetlands. Beaver Lake is one of Vancouver's remaining natural wetlands and Lost Lagoon, which is man-made, is an important wildlife habitat.[3]

Approximately six hundred and fifty of Stanley Park's one thousand acres are covered by marine west coast forest with its distinctive community of giant conifers and its understory trees, shrubs, ferns and

Fig.3 & Fig.4: Aerial photograph of Vancouver.

[2]Environment Canada, *1981 to 2010 Canadian Climate Normals*, accessed April 9, 2009, ftp://ftp.tor.ec.gc.ca/Pub/Normals/English/.

[3]Stanley Park Ecology Society (SPES), *State of the Park Report for the Ecological Integrity of Stanley Park*, accessed August 4, 2013, http://www.stanleyparkecology.ca.

Fig.5: Stanley Park, Thick fog moves through Lions Gate Bridge.

mosses. Western hemlocks account for almost fifty percent of its trees. Other represented conifer populations are Douglas-firs, sitka spruces and western red cedar. The forest's thick understory of bushes, herbaceous plants and mosses includes salal, elderberry,, and red huckleberry bushes and deer ferns, sword fern, lady fern, bracken, and fiddlehead ferns that grow in the shadows of the giant conifers.

Stanley Park is home to thirty mammal species, over two hundred bird species, a dozen species of amphibians and reptiles, seventy freshwater and marine fish species, and at least one hundred and ninety genera of invertebrates.[4] Small, unnamed wetlands and streams serve as critical refuges for terrestrial amphibians in the summer while intertidal areas support diverse communities of migratory and overwintering waterbirds, fishes, and invertebrates. [5]

The park rests on a territory which for millennia had been inhabited by the Musqueam and the Squamish peoples and their ancestors[6]. Before European arrival, the first used it as a place to gather resources, the latter had for centuries settled on the central part of the peninsula's eastern shore in a village called *X̱wáýx̱way* (Whoi Whoi), Place of Masks. Another significant site for the Squamish was Prospect Point, called *Schi'lhus*, High Bluff. Coal Harbour instead was known as a fishing spot for herring. Siwash Rock, still a popular landmark today, was called *Slah-kay-ulsh*, or "He is Standing Up". According to Squamish oral tradition,

[4]Ibid.

[5]Paul Grant, *The Stanley Park Companion* (Vancouver: Blue Field Books, 2003).

[6]Maj. J.S. "Skit" Matthews, "Salish Languages," *Early Vancouver* I (1936): chapters 1-3.

the Transformer Brothers had transformed a man into this rocky formation.[7]

The arrival of Europeans was preceded by the smallpox virus. Spreading through native populations of other regions that had already been occupied, it had already devastated the Squamish population by the time the area was first explored by José Maria Narváez in 1791 and Captain George Vancouver in 1792. By the seventies of the eighteenth century, together with influenza and measles, it had eradicated thirty percent of the indigenous population. Following this date there is no other recorded contact with Europeans until the mid-eighteen hundreds when British Royal Navy admirals made an agreement with Squamish leaders to defend the land against an anticipated invasion from the United States.[8] The invasion never took place but the episode is the first of a series demonstrating the British Armed Forces' interest in the Coal Peninsula as a strategic location.[9]

The peninsula was designated a military reserve in 1863 in a survey conducted by Royal Engineers. Permanent white settlements were established in the first days following the proclamation of the Canadian Confederation around a saw mill, Hasting Mills, which in effect developed as a company town. Although the area of the park was logged by six different companies between the 1860s and 1880s, its

Fig.6: Fog sitting above the bushes in Coal Harbour, Stanely Park; Vancouver in the background. Fig.7: "Lost Lagoon" Stanley Park..

[7]Jean Barman, *Stanley Park's Secret*:*The Forgotten Families of Whoi Whoi, Kanaka Ranch and Brockton Point* (Madeira Park, BC: Harbour Publishing, 2005), 20.

[8]Eric Nicol, *Vancouver* (Toronto: Doubleday, 1970), 15–16.

[9]Andy Paull, "The Battle-Ground of Stanley Park," Vancouver Sun, March 26, 1938.

Fig.8: William McFarlane Notman, Royal Tour: Aboriginal Women and Childen, Vancouver, 1901.

military designation saved it from further development. However, there were many logging operations taking place in the park including the presence of logging camps which significantly influenced the vegetation pattern of the park. In terms of tree selection, the finest firs were taken first while cedar was not considered very valuable and as a result some giant western red cedars have survived until today.[10]

The resolution that led to the creation of Stanley Park was the first ever put forward by the City Council of Vancouver. On May 12, 1886, it officially requested the Dominion Government to grant the land held as a military reserve to the city for the creation of a public park[11]. Unlike most parks that derive from a process of enparkment, the land that would become Stanley Park was, like in the case of New York City's Central Park, set aside before the city's urban development had encroached upon the area surrounding it. The park was officially opened on September 27, 1888, named after Lord Stanley of Preston, Governor General of Canada. The following year, Lord Stanley became the first Governor General to visit British Columbia and to visit the park. On that occasion he made the park's official dedication:

> To the use and enjoyment of peoples of all colours, creeds, and customs, for all time. I name thee, Stanley Park.

At the time of the dedication, several indigenous populations still lived on the lands declared part of the park. Some would continue to live on

[10]Ibid.

[11]Lynn Vardeman and Freda Carr, *A Guide To Stanley Park* (Vancouver: Seaside Publications, 1973).

the land for years, but most of the dwellings at the Squamish village of X̱wáýx̱way were reported as vacant by 1899, and in 1900, the remaining houses were purchased by the Park Board for $25 each and burned. The last Squamish family to leave the peninsula lived in the park until 1923.[12]

It is interesting to also review the major park management interventions that have played a part in its development. Only a few groves of monument tress that were too big to be cut down a century ago endure today The remainder of the forest is composed of second and third growth stands. The construction of roads, trails, culverts, and ditches have intensely altered the park's five watersheds. In addition, park management regularly augment streams and wetlands through municipal water supply. As western hemlock succumbed to infestation by dwarf mistletoe when reaching great size, park management regularly planted western red cedar and spruce while topping hemlocks. Topping has since been a common practice for other reasons including making trees less vulnerable to strong windstorms. Overall the canopy height has decreased by thirty percent since 1930. In addition, riparian areas in the park have been strongly impacted by infrastructure and the many invasive plant species within park lands number to at least fifty.

The consequences of natural disturbances, windstorms and plant diseases in primis have led to the extensive intervention of park management bodies for the sake of both prevention and restoration. As a matter of example, forest management practices such as tree planting, stand thinning, dead tree removal, hazard tree removal, grass moving,

Fig.9: The first Vancouver City Council Session, 1886.

[12]Jean Barman, *Stanley Park's Secret*, Op. Cit.

Fig.10: Joe Capilano, a leader of the Squamish people. Capilano fought for the recognition of Native people rights in the Vancouver Region.

and rock scaling have been very common since the early 1930s when it became clear that the forest's appearance would change without such interventions.[13] In the last decades more complex ecological restoration and enhancement practices have complemented these with the objective of improving the health and integrity of the forest, riparian and intertidal zone ecosystems.

The duality that the downtown and the park establish is unique in North America: the most densely populated and the most densely forested areas in the urban region lay side by side, crisply defined in their boundaries, roughly equal in surface area, as if divided by a virtual axis of symmetry. In fact, downtown Vancouver has approximately one hundred thousand inhabitants[14], Stanley Park one hundred thousand mature trees[15]. Stanley Park refutes something that we take for granted: that urban areas are characterized by a lineal gradient that defines the progressive decrease of wildness as we move closer and closer to their very core, and supports the idea that a different topological structure for the city is possible.

Apart from offering the downtown a forested alter ego, Stanley Park also occupies the centre of the whole Vancouver metropolitan region, its very

[13]Stanley Park Ecology Society (SPES), Op. Cit.

[14]With the expression Downtown Vancouver we refer to the sum of two different districts: the Downtown Vancouver District and the West End. The surface area of Downtown Vancouver is 0.788 sq mi, the surface area of the West End is 1,448 sq mi. As of 2006, the population of Downtown Vancouver was 43,415; the population of the West End was 44,560 (City of Vancouver, 2011).

[15]Stanley Park Ecology Society (SPES), Op. Cit.

heart. The peculiarity and the potential of its situation cannot be underestimated, and it is in fact somehow revolutionary. If the heart of the cities of the Western world can practically always be considered to be variations or interpretations of either a highly constructed, scarcely vegetated *locus* following the tradition of the polis agorà, the castrum's forum, and the città's piazza, or a scarcely constructed and highly vegetated place following the tradition of the Medieval *village green* and the city common, Stanley Park demonstrates the possibility of an alternative to the architectural and to the pastoral. It claims the potential for a wild or pseudo-wild environment to become the central and foundational place around which a city revolves.

Stanley Park also offers the possibility for relevant considerations Fig. 12:concerning the definition of urban wilderness itself. Every acre of the forested areas of Stanley Park has been intensely managed since the park's creation and therefore we might say that it is somehow just as cultivated as its lawns and gardens.

In other words, the Stanley Park forest is far from being a spontaneous ecology, actually its quite the opposite. The communities and managers connected to the park do not really value the wildness of its forest above all other things, as is often the case for wilderness areas protected by the Wilderness Act. Instead they value most the conservation of the landscape's image that faithfully reproduces the aesthetics of the northwestern marine forest as seen by early settlers upon first contact with the land. Following this reasoning, Stanley Park is not as different from New York City's Central Park as might first seem as it too embodies a will to create a living diorama of the Romantic wilderness that remains one of the most powerful and meaningful images of the

Fig.11: A Squamish village at Coal Harbour, 1886.

On the following page: Fig.12: Resting inside a giant hollow cedar, Stanley Park, 1888. Fig:13: Siwash Rock, an outcrop in English Bay, Stanley Park, 1890.

American landscape. Perhaps the difference between the two parks could be limited to the techniques used to maintain these man-made reproductions, Olmstedian Central Park being the more manicured composition following a nineteenth century conception of landscape design and Stanley Park, that far from being a wild environment, is a very convincing reproduction of it.

1.2 Bainbridge Island Groves in Seattle

The Seattle metropolitan area stretches along the banks of the main branch[16] of Puget Sound, a vast glacial inlet system that penetrates southward into the central Pacific Northwest Region from the Juan de Fuca Strait. Most of the urban land spreads evenly throughout the eastern sound shore, extending from the city of Everett, by the Tulalip Bay to the north, to the city of Tacoma, by the Commencement Bay to the South. The western shore of the channel as well as its islands, on the other hand, have yet to be touched by massive development, conserving a pattern of forest patches, grazing lands and suburban developments lined by a rectilinear road system.

Seattle's core clusters around Elliott Bay, a gulf that, contained within West Point to the north and Aki Point to the south, draws its bowed profile roughly halfway through the eastern coastline of the sound. Leaning over the bay, Seattle's downtown overlooks the largest island of the sound, an eighteen thousand acre tract of land, home to an affluent independent municipality and almost twenty-five thousand people: Bainbridge Island.

[16]The main channel of the sound is also known as the "Main Basin."

Despite being only minutes away from the downtown of the major metropolis of the Northwest, on the island the low-density residential areas and the few small clusters of local businesses and municipal institutions are intertwined with agricultural land, meadows, wetlands, segments of rugged coastline and - most notably - with extensively scattered patches of thick forests. As a matter of fact, virtually every backyard on the island opens to the woods. The specific and quite unique warp and woof of the suburban fabric allow for both a tight-knit communal life and time and space for daily encounters with nature making it a singular, but nonetheless relevant case study for this survey.

The island is approximately three and a half miles (5.6km) wide and ten and a half miles (16.9km) long. Adjacent to the Kitsap Peninsula, that wraps around it, the island borders the main body of Puget Sound in the east, Port Orchard Bay in the west, and two high-current tidal passages, Agate Pass and Rich Passage, in the north and in the south, respectively. The island is characterized by its polylobulated shape and irregular coastline that stretches along approximately 58 miles (93.3km) through numerous bays and inlets. The Washington State Ferries service from Winslow in Eagle Harbor to Seattle's Coleman Dock is the only direct mode of transportation to the city. The island is connected to the Kitsap Peninsula by the Agate Pass Bridge, providing the only alternative route off the island.

Puget Sound and the Pacific Ocean moderate the climate on the island which experiences summer daytime temperatures of 70˚ to 80˚ F and winter daytime temperatures between 40˚ to 50˚ F. Winters are wet and mild while summers are dry and moderately warm. Annual rainfall

Fig.15: An aerial view of Bainbridge Island and the Puget Sound.

levels vary from an average low of 35 inches to an average high of 45 inches.

Soils on the island resemble those of the rest of the sound: dense, compact, glacial till at a rather shallow depth with underlying hardpan. The glacial till is composed of sand, gravel, clay, silt and varying thicknesses of overlay bedrock. Low, rolling hills characterize the topography. There are a number of north to south oriented ridges that reach elevations of 250 to 300 ft (76 to 91 m). At an elevation of approximately 400 ft (122 m), Toe Jam Hill is the highest ridge located on the southeast end. The diversity of coastal landforms along the shoreline include tidal flats, tidal deltas, streams, lagoons, cuspate forelands, tombolos, spits, dunes, rocky outcrops, bluffs, and islands.

The island is composed of 12 different watersheds and 45 sub-basins. Its surface waters include a large array of small lakes, ponds, streams, and wetlands. Except for the North Eagle Harbor sub-basin-4 which encompasses Winslow, all other watersheds and sub-basins on the Island are drained by natural streams and drainage ways. The existing drainage system consists of springs, streams, ditches, and wetlands. Documented wetlands number 354 with a total area of 1,242 acres. An extensive network of small streams and creeks formed from either rainfall or groundwater empty directly into Puget Sound or into the bays or inlets surrounding the island. Those formed by rainfall only flow during the rainy seasons while groundwater streams usually flow year round.

Similarly to the marine and estuarine environment of Puget Sound, coastal forests, shorelands, tidelands and tidal inlets make up the island's

shoreline habitats while the inner part of the island's terrain alters between residential suburban developments and woodlands, meadows, wetlands, and riparian habitats. As a result of the coastline's extension in relation to the island's surface area, shoreline saltwater habitats are a major component of Bainbridge's ecosystem. The tidelands are home to crabs, oysters, clams, and geoducks. Waterfowl and several shorebird species live along the shores or stop over on their migratory paths.

Seventy percent of Bainbridge, that is 12,190 acres, is covered by forests.[17] Among the most extensive Fort Ward Park, Gazzam Lake, Island Wood and Grand Forest together account for 2,466 acres. The predominant tree species include alder, madrona, big leaf maple, western hemlock, western red cedar, and Douglas fir. Growing in the forests' understory, native species include trailing blackberry, elderberry, huckleberry, salmonberry, Oregon grape, Indian plum, oceanspray, sword fern, salal and vine maple.[18] The predominant mammal species include coyotes, deer, rabbits, raccoons and squirrels. Other fauna worth mentioning are open land species such as pheasant and quail, bald eagles and the great blue heron. Wetland and riparian areas are home to other small mammals, amphibians and fish. [19]

Looking at the type of land use classifications on the island, it is clear that agriculture remains a central element of life. As of 2004, 222 total acres on 38 parcels were classified as agricultural land. Farms include

On the previous page, Fig.16: Railroad Avenue near Elbe, Washington. 1908

Fig.17: Madrona Tree Roots on Bainbridge Island.

[17]City of Bainbridge Island, *Community Forest Management Plan* 2006, 18.

[18]Ibid, 21.

[19]Baibridge Island Chamber of Commerce, *History,* accessed August 4, 2013, http://www.bainbridgechamber.com/default.aspx?ID=9.

Fig.18: John Brady. New growth out of a dead tree, Bainbridge Island.

strawberry, raspberry, tree, goat dairy, and organic vegetable farms. Another 38 parcels of land (over 20 acres) are classified as Open Space Forest Land and 16 as Open Space Timber (less than 20 acres). Approximately 620 acres are classified as timberlands while a few tracts of second-growth timber remain as well.[20]

Suquamish peoples and their ancestors lived within the territory for approximately ten thousand years before the arrival of Europeans. On his search for the elusive Northwest Passage, British Captain George Vancouver became the first European to set foot on the island in 1792. While mapping the area he traveled throughout Puget Sound meeting members of the Suquamish tribe. Stories recount how he and his expedition team anchored the Discovery off Restoration Point, in the southern end of the island, mooring there for several days, as small boat parties surveyed the sound. He personally named the point itself on May 29, on the anniversary of the English Restoration, in honor of King Charles II.

The presence of European Americans in the area increased with the establishment of British trading posts in the early nineteenth century throughout Puget Sound and the Strait of Georgia and the island was eventually named after Commodore William Bainbridge, commander of the U.S.S. Constitution in the War of 1812.

In the years following, the logging and shipbuilding industries established themselves on the island. Large, strong, abundant and easily accessible, western red cedars were in high demand for the construction

[20]City of Bainbridge Island, Op. Cit.

of ship masts. Port Madison became Kitsap County's first county seat as it grew into a major sawmill and flourishing commercial center. In 1850 Seattle was described as merely a "flourishing milltown across Puget Sound from Port Madison."[21] In the midst of this rising commercial activity, the U.S. government began signing treaties with local tribes once the Washington Territory was established in 1853. The Suquamish signed a treaty known as the Point Elliott Treaty on January 22, 1855, ceding most of their land to the United States. The only land not ceded became the Port Madison Indian Reservation, near the Suquamish winter village site at Agate Pass. In the decades to come, the island would house the world's largest sawmill at Port Blakey and the Hall Brothers Shipyard, which became the largest industry on Bainbridge. In its early years, it built 88 four- and five-masted schooners. In 1939 the company began building steel-hulled ships and during the second world war employed 2,300 people.

The first generation of Japanese immigrants, known as the Issei, arrived on the island for the first time in 1883. Together with Hawaiians and Filipinos they established their communities within walking distance of Port Blakely Mill. After the closing of Port Madison's sawmill, many Japanese and Filipinos remained on the island despite the lack of jobs. Some were able to obtain small parcels of farmland for their own use as payment for helping settlers clear trees from their farms and many of these families used their new land to grow strawberries which did well on the island and required little start-up capital. In fact, by 1940 canneries on the island were processing close to two million pounds of berries per year.

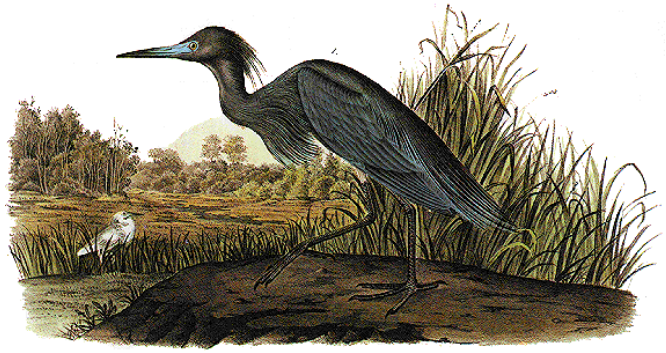

Fig.19: John James Audobon, The Blue Heron.

[21]Baibridge Island Chamber of Commerce, Op. Cit.

Fig.20: Edward S. Curtis. "A woman from the Coast Salish Tribe," 1913.

Another significant presence was the U.S. military, which since the establishment of Fort Ward in 1890 was active on the island for more than 60 years. Fort Ward, erected on the land originally known as Beans Point on Rich Passage along the island's southern shore, served to protect the Puget Sound Naval Shipyard at Bremerton. It was abandoned and inactive by 1928, only to become a central military strong point during the second world war when it became a top-secret military listening post. It was an excellent location for espionage, and in fact the United States cracked the Japanese forces' wartime code from Fort Ward. In late March of 1942, about three months after the Pearl Harbor attack, the U.S. Army rounded up all 227 Japanese-Americans living on Bainbridge Island. They were the first men, women and children in the country to be interned during the war. Many Filipino people who assisted the Japanese farmers were left to operate the strawberry fields, often helped by First Nation workers recruited from northern communities.[22]

The city of Bainbridge Island has occupied the entire island since February 28, 1991, when the former City of Winslow annexed the rest of the island. The community on the island has since the 1960s become an increasingly affluent bedroom community of Seattle, which is only a 35-minute ride away on the Washington State Ferries. Concern for the preservation of green space and control of both residential and commercial development strongly characterize the community while the

[22]Ron Konzak and Mickey Molnaire, *Across the Sound* (Seatlle: Wind Harp Press, 2004).

Bainbridge Island Land Trust is greatly instrumental in maintaining island open space.

Over the last twenty-three years the Bainbridge Island Land Trust has protected the wildness of the island through acquisition and conservation easements of forestlands, shorelines, streams, wetlands, riparian corridors, open spaces, and scenic vistas. The land trust has worked together with landowners, conservation organizations, and governmental entities. These efforts have led to the preservation of more than 1200 acres since 1989. Of these, over 920 acres are open to the public.[23]

Residents of the island actively support the land trusts' work of preservation. The Bainbridge Island Community Values Survey conducted in 2000 indicated citizens' high support for preservation of agricultural land and environmentally sensitive areas. While the island's communities and industry have changed over the decades since initial European settlement, its residents actively seek to maintain an integrated model in which suburban life remains connected to nature. Inhabitants seek to manage their environment largely through the actions of the Bainbridge Land Trust in order to conserve and preserve open space and forestland.

The community efforts and management interventions have achieved the preservation of enough contiguous natural open space amidst development to create a unique human habitat. Forests, wetlands and

Fig.21: Edward Curtis, "An Evening on the Puget Sound," 1913.

[23]The Bainbridge Island Land Trust (BILT), *Conservation Plan* 2012, 4.

Fig.22 A. Bruce, "Suburbs of Hoquiam," Washington, 1907. These kind of postcard were used to draw attention to the resources of the area.

shorelines take on a fundamental role in its suburban fabric.[24] Wildlife corridors and recreational greenways form an extensive system weaving in and around daily life patterns allowing for a unique configuration. The entire island is in fact the enduring demonstration of the possibility of an alternative to the American suburb as it has become throughout the one hundred-fifty years of its history, one that goes back to and revives the very origin of the idea of the suburbs itself: a place where people live both together and in nature.

The island breaks the narrow-sighted paradigm of the dualistic vision wilderness/non-wilderness that was already *in nuce* in the Act of 1964 and that too often demonstrated its limitations before being definitively demolished by Cronon's writing.[25] On Bainbridge, wildness manifests itself just steps beyond every backyard fence, permeating the experience of daily life. The suburban family's longed-for visit to a National Park as only means to reconnect with nature and with the very meaning of the American landscape reveals all of its limitations when compared to the constant opportunity for the practice of the wild that Bainbridge and any place like it allows for. And while the great American National Parks are undoubtedly unique in their ability to stand as frontier remnants, [26] places like Bainbridge also recall no less relevant topoi of the American landscape as experienced in early European-American history: the

[24]Ibid

[25]William Cronon, "The trouble with wilderness," in *Uncommon Ground: Rethinking Human Place in Nature,* ed. William Cronon (New York: Norton & Company, 1996).

[26]Michael C. Hall, "National Parks and Wilderness Areas as Frontier Remnants" in *Tourism in Frontier America*, eds. Shaul Kracover and Gradus Yehuda (Oxford: Lexington Books, 2002), 283-296.

village sprouting amidst the woodlands, the thickets and the meadows of the wild country.

1.3 Forest Park In Portland

The Portland metropolitan area sits by the confluence of the Willamette and the Columbia Rivers, in the southern Pacific Northwest Region. It spreads out onto the north end of the Willamette Valley, northwest of the Boring Lava volcanic field. Despite its distance from the high mountains of the Coastal Range and the Cascade Range, it establishes a direct visual relationship with their peaks, which appear to the west and to the east, respectively. The metropolitan region's major relief are the Tualatin Mountains, penetrating the flat urbanized area from the northwest like a wedge: Portland's core is squeezed between the eastern slope of this long succession of low crests and the western banks of the Willamette River. Like a spur off of the Northern Oregon Coastal Range, the Tualatins mark the boundary between the Tualatin Basin and the Portland Basin and separate the city of Portland from other municipalities such as Hillsboro and Beaverton.

"Close to the heart of downtown Portland lies a large, relatively undisturbed tract of land that captures the essence of what is natural and wild and beautiful about the Northwest."[27] It is Forest Park. It occupies the majority of the Tualatin Mountains' eastern slope, stretching along the entire hilly range with the exception of its two ends. Its eastern border, well defined by St. Helens Road, is clear-cut and

Fig.23: Aerial photograph of Bainbridge Island.

[27]Marcy Cottrell Houle, *One City's Wilderness* (Portland: Oregon Historical Society Press, 1996), 2-5.

Fig.24: Aerial view of Forest Park.

sharp, while its northern, southern and western borders, defined by Newberry Road, Burnside Street and Skyline Boulevard, respectively, merge with patches of forests that spread beyond its confines and alternate in landscape with more manicured park areas to the south, urbanized areas to the southwest, and rural areas to the northwest and to the north.

The park is a vast patch of marine west coast coniferous forest that penetrates deeply into the urban core. With a five thousand acre surface area, it is one of the largest municipal parks in the world. Emerging over the flat valley where the city sits, it provides Portland with a green backdrop visible from within the city as well as panoramic views of the city's skyline and of five of the Cascade Range's majors peaks - Mts. Rainier, St. Helens, Adams, Hood and Jefferson.

Located in the marine west coast climate region, the climate in Forest Park is marked by wet, and cool winter days and warm and dry summers. It experiences an average rainfall of 40 inches (1,000 mm) each year.

A 700 ft. thick bed of heavy, fine grained, igneous rock - the Columbia River basalt - forms most of the hills' bulk. Strata of laterite, mudstone, granitic rocks and quartzite pebbles overlay the basalt for hundreds of feet. The Portland Hills silts cap these layers reaching a thickness of fifty-five feet by the crest of the range. Formation of Boring Lava are visible in isolated sections of the range's ridge. Portland Hills silt overlying the Columbia River basalt is an unstable formation when wet:

frequent landslide have further carved its slopes[28]. The hill range of the park is an anticline that emerges over the synclines of Portland and the Tualatin Valleys. The terrain is defined by a twelve mile long, steep and straight ridge, running northwest to southeast and by a system of secondary crests and depressions downgrading steeply toward the Willamette riverbed through countless ridges and ravines. The elevation ranges from 50 ft., by the ridge base, to 1,100 ft., by the ridge crest. A succession of streams flow perpendicularly to the ridge down to the Willamette River.

The dense continuous forest canopy of the park is interrupted only by a few paved motor roads, high voltage transmission lanes and fire breaks, as well as by a limited number of small clearances. Germantown Road cuts across it, connecting St. Helens Road with Skyline Boulevard. Springville Road and Forest Lane wind down the slope from Skyline Boulevard. Erickson Drive twists along the ridge side. Rectilinear clearances cut across the slope in the central and in the northern section of the forest allow for passage of power lines. Only a few remnants of civil construction dot its surface. The park is carved by a network of trails, featuring more than eighty miles of paths, firelanes and gravel roads.[29] An exception is the well-known landmark Stone House which was originally built in the 1930s by the Works Progress Administration.

A fragment of the Western Oregon Coniferous forest ecosystem, Forest Park exhibits its characteristic flora and vegetation patterns. Part of the

Fig.25: Aerial view of Portland, Oregon.

[28]Ibid.

[29]*The Forest Park Conservancy*, accessed August 6, 2011, http://forestparkconservancy.org

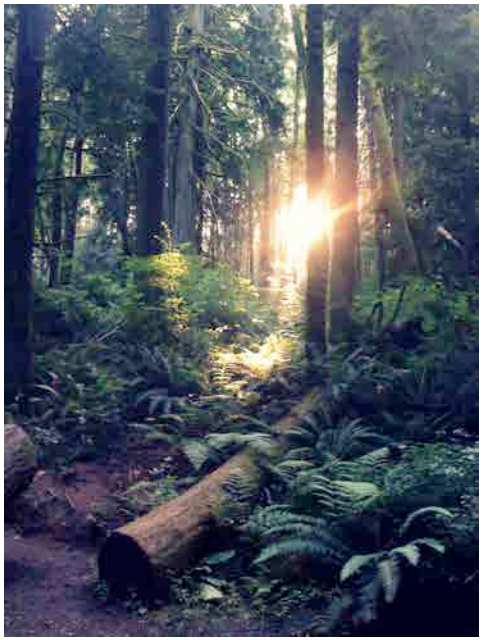

Fig.26: Sunlight shining through the forest, Forest Park, Portland, Oregon.

larger Douglas fir region of Western Washington, Western Oregon and Northern California, the area belongs to the western hemlock vegetation zone. Hundreds of species of native Oregon plants grow within its borders. In its natural and undisturbed condition, the zone has three dominant species: Douglas fir, western hemlock and western red cedar, and other well-spread species such as grand fir, black cottonwood, red alder, big leaf maple, madrone and western yew tree. The understory is populated by sword ferns, salal, Oregon grape, lady ferns red huckleberries, vine maples and western hazels and wildflowers such as wild ginger, inside-out flower, hooker's fairy bells, vanilla leaf, evergreen violets and trilliums. In addition, the decline in the recent past of logging operations in the Tualatin Mountains has been responsible for an initiation of ecological succession so that today the percentage of deciduous trees, especially of red alder, is much higher than in mature western hemlock zone forests. The ecological succession within Forest Park is composed of six stages: all of which are observable throughout the park. The grass and forb stage is observable by the firelanes: patches of bracken fern, Canadian thistle and fireweed. The shrub stage is characterized by thimbleberry, salmonberry, red-flowering currant, Indian plum and several species of blackberry all ranging in height from two to twenty feet. At the same time, young red alder, big leaf maple, willow, bitter cherry and Douglas fir have begun to establish themselves. The third stage of the ecological succession is recognizable by the presence of abundant alder and maple trees, twenty-five to seventy-five feet tall, with girths of eight to ten inches. In this successional stage in Forest Park, red alder and big leaf maple loom above the slower growing Douglas fir. Sword fern, Oregon grape, red elderberry and several species of blackberry constitute the understory. The abundant presence of red alder, growing in the western hemlock area only by streams and

river banks signals the presence of a previous disturbance. Large areas of the park are covered by forest at its fourth and fifth successional stage: conifers topping hardwoods and mid-aged conifers. In the fifth stage, Douglas firs rise to stately heights. Individual fir trees reach heights from ninety to one hundred forty feet and trunks with a diameter up to twenty feet. In the shadow of these firs grow a variety of shade tolerant conifers: western hemlocks, western red cedar and grand firs. The park contains a few small patches of old-growth forest close to Macleay Park, Germantown Road and Newton Road. There, trees are predominantly western hemlocks, western red cedars and Douglas firs, observably old and quite large, often having broken off crowns. Large snags and downed log in various stages of decay are also abundantly present. These last two features are apparent in mid-aged conifer stands as well, but in lesser quantity than that found in the old-growth.

More than one hundred species of birds and sixty species of mammals live or range throughout Forest Park.[30] Among the birds there are eight native species of hawks, five species of owls, ten species of warblers, five species of woodpeckers, and eight species of sparrows. Among the larger mammals we might mention mountain lions, black bears, bobcats, elk, black-tailed deer, coyotes, red foxes, beavers, beechy ground squirrels, spotted skunks, Townsend moles, and Mazama pocket gophers.

Before European-American settlers arrived, the area that today comprises Forest Park was covered by an extensive Douglas fir forest. While heading back East, the 1806 Lewis and Clark expedition stopped

Fig.27: The St. Johns Bridge spans the Willamette River in Portland.

[30]"Forest Park, Portland Parks and Recreation," *City of Portland, Oregon*, accessed May 4, 2011, http://www.portlandonline.com/parks/.


Fig.28: Danielle Hughson, Forest Park. 2010.

over at the confluence of the Columbia and the Willamette Rivers and William Clark sailed up the Willamette to survey the area. From there he commented on the hillsides he could see from the river to the south and west of Sauvie Island. At the time the trees were predominantly Douglas firs, with some grand fir, western red cedar, and western hemlock present in moister areas as well as smaller stands of big leaf maple, red alder, and other broadleaf trees and shrubs. There were some young forest patches as well as old-growth patches and some trees reaching five feet or more in diameter[31].

The speculation of the Willamette River's fertile valley started soon after its discovery. Throughout the 1820s and 1830s, the Hudson Bay Company (HBC) controlled nearly all trading operations in the Pacific Northwest, based out of the company's headquarters at Fort Vancouver on the Columbia River. Spurred by the HBC's settlement there, pioneer travel began up and down the Willamette. The company's strong hold on the region was broken by the first successful large wagon train to reach Oregon in 1843 led by Marcus Whitman. Permanent settlements soon dotted the landscape along the lower Willamette, beginning with the small communities of Linnton and Springville in 1843 and with the establishment of Portland in 1845. In the years that followed, thousands of immigrants poured into the Willamette Valley. In 1846, the United States acquired full authority of the most settled areas of Oregon Country south of the 49th parallel.

[31]Thornton T. Munger and Paul C. Kaiser, *History of Portland's Forest Park* (Portland: Forest Park Committee of Fifty, 1960).

As soon as small towns and villages began dotting the plains west of the Tualatin Mountains a route over the hills along the river that would avoid bypassing the range from the south became necessary to reach the shipping docks. Settlers began to widen trails traced by Native Americans and explorers. By 1849, each of these routes had become well-traveled passes. Most are now the paved roads cutting through the park today: Germantown Road, Springville Road, Cornell Road and Cornelius Pass [32]. By 1859 most of the land of today's Forest Park had been given away by the Government in Donation Land Claims and was quickly being logged. Wood from the Tualatin Mountains was used for a variety of purposes including building materials, firewood, and fuel for the steamboats coursing the river.

The process that led to the preservation of Forest Park began in 1899 when city authorities created a Municipal Park Commission. Board of Commissioners member Rev. Thomas Lamb Eliot, a Unitarian Pastor who occupied a relevant role in Portland's community at the time, contracted the Olmsted Brothers to make a preliminary study for the creation of a park system. In 1903 John C. Olmsted came to Portland to conduct research and made several important suggestions. In their study, the Olmsteds envisioned a circuit of connecting parks looping around the city known today as the forty miles loop. They also strongly suggested that the West Hills be bought to create a park with a wild woodland character.

> The investment of a comparatively moderate sum in the acquisition of these romantic wooded hillsides for a park or

Fig. 29: Forest Park as a place for contemplation.

[32]Marcy Cottrell Houle, Op. Cit, 8.

Fig.30: Lumberjacks in Forest Park, early XX century.

> reservation of a wild woodland character would yield ample returns in pleasure to taxpayers on to those dependent on them, while to a large part of poorer classes a visit to these woods would afford more pleasure and satisfaction to a visit to any other sort of park. (…) No use to which this tract of land could be put would begin to be as sensible or profitable to the city as that of making it a public park.[33]
>
> It is true that people look upon such woods merely as a troublesome encumbrance standing in the way of more profitable use of the land, but future generations will not feel so (…). If these woods are preserved, they will surely come to be regarded as marvelously beautiful.[34]

In 1907 voters approved a million dollar bond issue to carry out the Olmsted Plan although most of the new funding was used to improve existing parks and the plan to purchase land on the West Hills was temporarily discarded.[35] Emanuel Mische, head of the Bureau of Parks and Recreation from 1908 to 1915, advocated for a wooded parkway along the West Hills. In 1912, E. H. Bennet, eminent city planner from Chicago gave positive remarks on the proposed park in his preliminary report for the creation of a "Greater Portland Plan."

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[33]John Charles Olmsted and Frederick Law Olmsted, *Report of the Park Board, Portland, Oregon* (Portland: Portland Park Commission, 1903).

[34]Ibid.

[35]Cottrell Houle, Op. Cit., 10.

However, in 1914 the city opened a logging camp on the proposed park land as a measure to reduce unemployment in the community. In the same years developers put pressure on the city to urbanize the area. Real estate manager Richard Shepard promoted and built the scenic drive along the contouring ravines that are today known as Leif Erikson Drive, completing construction in 1915. Hundreds of lots occupying fourteen hundred acres were then forfeited to the city council after the owners refused to pay for repairs of the roads. In the following years other land, burned by out-of-control slash fires caused by logging operations, was forfeited to repay delinquent taxes.[36]

It was not until 1943 that the Forest Park cause received more recognition when Robert Moses came to Portland to draw up the "Portland Improvement Report":

> The City has not taken full advantage of its great natural assets such as the wooded hills and river front. Wooded hills and valleys in and around Portland have in large measure been overlooked, probably because good scenery and forests are so plentiful in the Northwest. We believe that steep wooded hillsides located on the westerly border of the City should be in public ownership.… The wooded hillsides west of the City are as important to Portland as the Palisades of the Hudson are to the city of New York."

Soon after, a group of citizens, led by forester and Audubon Society President Thornton T. Munger formed the Committee of Fifty in 1946 to put action behind the Olmsted's report and to promote the city's

Fig.31: A Sitka Spruce logged in the Oregon Coast Range 1918.

[36]Ibid.

Fig.32: John James Audubon, Birds of America,

acquisition of the forested hills and ravines above the former site of Guild's Lake[37]. The Committee raised money and consciousness and convinced the State to allow counties to transfer lands to city parks that had been confiscated due to tax default. On July 1947 the city council dedicated the first two thousand acres to the park and planned to acquire another six thousand. Notwithstanding the fact that a fire burned eighty percent of the park in 1951 the city council went ahead with its proposition.[38] Soon after the fire, Portland high schools launched a multi-year reforestation program through which thirty thousand trees were planted.[39] In the decades following, Natural Resource Management Plans were put into place to meet the changing needs of the park. The most recent one dates to 1995 and is today augmented by the joint efforts of the Portland Parks and Recreation department and the Forest Park Conservancy. The vision outlined in the management plan speaks to the importance of the park for the community of Portland:

> Forest Park represents an unparalleled resource where citizens can enjoy the peace, solitude, ruggedness, variety, beauty, unpredictability and unspoiled naturalness of an urban wilderness environment; a place that maintains this wilderness quality while allowing appropriate passive recreational and education use without degrading natural resources; an urban laboratory for

[37]Connie P. Ozawa, *The Portland Edge: Challenges and Successes in Growing Communities* (Portland: Portland State University, 2004), 152.

[38]Ibid.

[39]Portland Parks and Recreation, *A Chronological History* (Portland: Portland Parks and Recreation, 1998), 17.

> environmental research and resource enhancement and restoration; America's premier urban ancient forest.[40]

Presently Forest Park spans over five thousand acres while land acquisition still proceeds.

Since its inaugurations Forest Park has been a unique "refuge for both people and wildlife and an integral part of the environment of Portland."[41] A walking distance from the centre of the city, it is a sanctuary for the native local flora and fauna and a place for solitude, reflection and contemplation. Its five thousand acres of intricate forest of gigantic trees make it an archetypal manifestation of the idea of the forest, a fragment of the landscape early conservationists worked to protect and a place present-day Portlanders proudly uphold as a monument to the great outdoors of the Pacific Northwest. As the pressure of urban development in the Cascadia Megaregion intensifies, this urban wilderness and wildness will gain more and more significance.

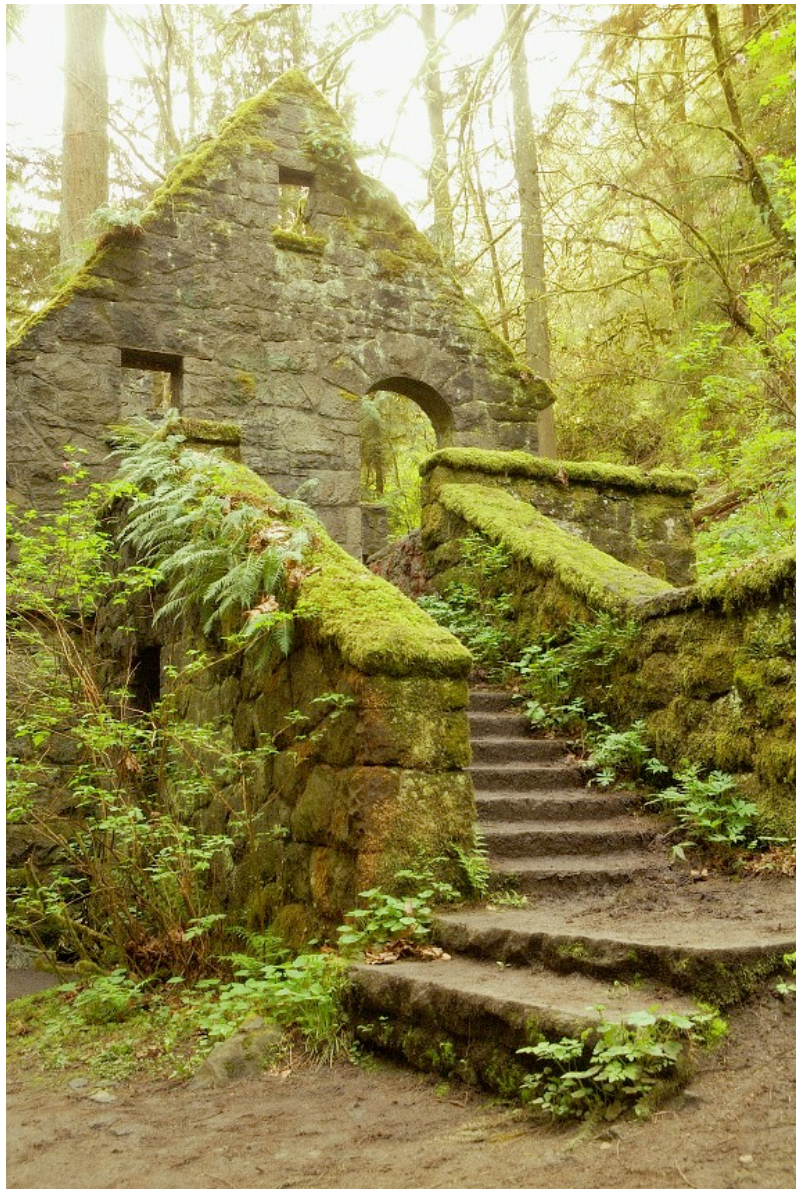
The case study of Forest Park and Portland is no less significant from a morphological perspective. The city of Portland is deeply penetrated by a wedge of wildland that connects the continuous system of vast undeveloped open spaces outside the metropolitan region with the urban core. This configuration is almost unique. Only a few other similar cases occur in Northern America, all of which in a desert ecosystem. Just like Vancouver, Portland brings the 'wilderness

Fig.33: John James Audubon, Flying Squirrels.

On the following page, Fig.34: The Stone House, Forest Park.

[40]Portland Parks and Recreation, *Forest Park Natural Resources Management Plan*, adopted by City Council February 8, 1995.

[41]Marcy Cottrell Houle, Op. Cit., xiv.



downtown' but unlike Stanley Park that is a mere enclave, disconnected from the great outdoors, Forest Park is a real gateway to it.

While Stanley Park represents an alternative model to the classic nineteenth century Olmstedian public urban park, such as Central Park in New York City or Golden Gate Park in San Francisco, and the island of Bainbridge represents an alternative to the model of the suburbs developed in the same era, Forest Park undoubtedly represents an alternative to the large wild parks of North America, yet another American idea of the second half of the eighteen hundreds. Forest Park is by far less extensive than any early National Park yet incredibly close and therefore readily accessible to the urban population. As a matter of fact, the park has arguably the same degree of wildness and is able to evoke each and every meaning of the Romantic conception of wilderness with the exception of vastness and remoteness. Just like Stanley Park and Bainbridge Island it tells the story of a path that could have been taken by urban America, but was not. A path that would have led to the possibility of a quotidian immersion in the wild. The transformative almost subversive living manifesto Forest Park is can be fully understood by imagining what it would be if at its very core Manhattan had a lush wilderness instead of a sophisticatedly designed edulcorated representation of it. By proving that it is possible to preserve a magnificent fragment of the breathtaking wild environment that once made up the American landscape next to the core of a bustling city, it is asking all other metropolises how it is that they do not have one.

CHAPTER TWO
URBAN GRASSLANDS

As I looked about me I felt the grass was the country,
as water is the sea.

Willa Cather

2.1 Detroit's Urban Meadows.

The core of the Detroit-Windsor binational urban region spreads outwards from the flat shores of the Detroit River, the twenty-eight mile long strait that connects Lake Saint Claire and Lake Erie, in the southern Great Lakes Region. Flowing south through a series of oblong islands the river draws a curved trajectory marking the boundary between the United States and Canada, separating the Detroit metropolitan area that develops radially on the north shore from the city of Windsor that lies on the south shore.

More than by anything else, the city of Detroit's urban fabric is today characterized by the diffuse, consistent presence of voids, vacant lots and unplanned open spaces that are dominated by ruderal vegetation and scattered, abandoned buildings. The ever-changing number, extension and form of such voids cannot be defined if not through a thorough and constantly updated atlas, the realization of which goes beyond the scope of this research, nevertheless we can provide some relevant data in this regard. City officials have estimated that Detroit now has 100,000 empty lots, corresponding to one third of the total number of parcels. Amounting to roughly fifty thousand square miles, this abandoned land

On the previous page, Fig.1: Leslie Street Spit, Toronto's downtown in the background.

Fig. 2: Satellite image of Detroit and Windsor.

is equal in surface area to the entire city of San Francisco.[1] With the exception of a few consolidated affluent neighbourhoods, urban voids are speckled throughout every part of the city, becoming most densely concentrated toward the city centre.[2] Detroit's urban meadows offer incredible insight into the very subject of this survey and we will therefore address them as a generic whole and single case study.

The city of Detroit encompasses an incredibly large surface area, occupying 143 square miles (370 square kilometres). Its flat terrain has a surface height of between 580 to 670 feet (175 to 200 m). Geologically, Detroit is an ancient lakebed atop 15 stories worth of glacial till. Layers of shale limestone and sandstone lay under the soil together with large veins of salt.[3] The geophysical character of the region of the Great Lakes was largely shaped by the glacial movements of the Pleistocene period between two million and ten thousand years ago, of which the Wisconsin period glacial movements occurring between 10,000 and 15,000 years ago are the most recent. The advance and retreat of the ice sheets moulded the land into the heterogenous landscape visible today. Located in the Huron Erie lake plain, Detroit's landscape is characteristic of lake plains which are often marked by flat and featureless landscapes of low lying topography and poor drainage.

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[1]Aaron M. Renn, "Detroit: Urban Laboratory and the New American Frontier," *New Geography,* November 4, 2009, http://www.newgeography.com/content/001171-detroit-urban-laboratory-and-new-american-frontier.

[2]Camilo José Vergara, "Downtown Detroit," *Metropolis*, April 1995, 33.

[3]Mary Makarushka, "Detroit's Vacant Lots Provide 'Natural Laboratory' for Studying Soil Processes," *Soil Horizons,* March 2012, https://www.soils.org/publications/sh/articles/53/2/6.

The character of the Detroit area prior to European settlement was characterized by tall forests of elm, beech, maple and walnut; open oak savannahs, and marshlands found along creek, stream and river beds and in low lying areas.[4] A long history of development has transformed Detroit's landscape leaving minimal reference to this pre-settlement character. Today all of the soils within Detroit are classified as urban.

As result of excavation, filling or dumping, compacting and other disturbances, the soil of Detroit's urban meadows has characteristics that are dramatically different from those of natural soil.[5] Furthermore, the extraordinary number of demolitions and burnings of abandoned homes and buildings in recent years has generated an enormous amount of debris that has very often stayed in situ. It is in fact not uncommon to find that professional wreckers or "residents-turned-amateur-demolishers" have dumped rubble from demolitions into the excavations formed where basements once stood.[6]

The prolific practice of levelling buildings has also created a critical contamination issue. Even before the city's economic decline, Detroit's industry had already played a significant role in the pollution of its soils. Contamination with lead and other heavy metals stemmed from coal burning, smelting, lead paint and leaded gasoline and while many efforts

Fig. 3: Abandoned sections of the city of Detroit, Satellite Image.

[4]Marjorie T. Bingham, *Flora of Oakland County, Michigan: A study in Physiographic Plant Ecology* (Bloomfield Hills: Cranbrook Institute of Science, 1945).

[5]Wynne Parry, "Among Detroit's Abandoned Places Emerge Earthly Insights," *Life Science*, April 17, 2012, http://www.livescience.com/19746-detroit-vacant-lots-urban-soil.html.

[6]Jeff Byles, "Disappeared Detroit," *Lost Magazine*, no. 2, January 2006, http://www.lostmag.com/issue2/detroit.php.

Fig. 4: Abandoned sections of the city of Detroit.

have been made to minimize these pollutants, a report from 2010 found that nearly sixty percent of 39,199 children tested from the Detroit public school system had a history of lead poisoning.[7] Studies such as this indicate that the contamination of the soils of the city's urban meadows continue to be a public health hazard. In fact, weathered cement and iron nails found in the soils where demolitions have been carried out act as immobilizing agents for lead. The calcium carbonate and iron oxide of these products chemically combines with lead and prevents it from being ingested in dust or from being leached into groundwater.[8]

The Detroit River is 32-miles long and ranges in widths of 0.5 to 2.5 miles (0.80 to 4.0 km). It forms a major element of the international border between the United States and Canada and connects Lake St. Clair and the upper Great Lakes to Lake Erie. At its source, it is at an elevation of 574 feet (175 m) above sea level and drops only three feet before flowing into Lake Erie. It begins on an east to west flow but then bends and runs north to south. The watershed basin for the river is close to 700 square miles (1,800 km2).[9] Lake St. Clair, situated about six miles (9.7km) northeast of the downtown areas of Detroit and Windsor, includes the Anchor Bay along the Metro Detroit coastline. It is the smallest lake in the Great Lakes system, approximately 26 miles (42 km) from north to south and about 24 miles (39 km) from east to west. The northeastern portion of the lake is characterized by an extensive delta

[7]Mary Makarushka, Op. Cit.

[8]Ibid.

[9] U.S. Environmental Protection Agency,"Detroit River," accessed August 4, 2013, http://www.epa.gov/greatlakes/aoc/detroit/.

system of which the Michigan section has been predominantly urbanized, while in Ontario a major part has been set aside as the Walpole Indian Reservation.[10]

Detroit is characterized by a humid continental climate that is influenced by its location near the Great Lakes and its position in a major storm track. Winters tend to be long and cold, with storms of rain, snow, freezing rain and heavy snowfall. Yearly snowfall averages approximately 45 inches. Summers are marked by warm, humid weather with occasional thunderstorms.

The pertinent history of Detroit for this case study centres on the evolution and subsequent decline of what was once one of the major manufacturing and economic hubs in the world. In the 1950s the city's population peaked at just under 1.9 million.[11] Since the end of the second world war the story of Detroit has been dominated by the demise of the automotive industry and the shedding of its population. As of 2006, it was the only city in the United States to have a population grow beyond one million and then shrink to below one million.[12]

Beginning in the 1830s, with its strategic location along the Great Lakes waterway, Detroit grew steadily as a transportation hub with shipping, shipbuilding and manufacturing industries dominating the economic

Fig.5: Asia Villarosa, Smile. 2010.

[10]Great Lakes Information Network, "Lake St. Clair," accessed August 4, 2013, http://www.great-lakes.net/lakes/stclair.html.

[11]*Detroit Population History*, accessed August 4, 2013, http://www.somacon.com/p469.php.

[12]United States Census Bureau, "Detroit Population," accessed August 4, 2013, http://www.census.gov/population/www/documentation/twps0027/tab01.txt

Fig.6: Detroit skyline as viewed from a roof top in Windsor, December 1937

arena. Then in 1896 Henry Ford built his first automobile and in 1903 founded the Ford Motor Company. He, along with other automotive pioneers like William Durant, the Dodge brothers, Walter Chrysler and Packard, bolstered the city's hold on the automotive industry. Labeled the Motor City, the auto industry fuelled growth during the first decades of the twentieth century. The city assumed tens of thousands of new residents, mostly workers migrating from the southern United States. Adding to these numbers were tens of thousands of immigrants from Europe.[13] During the 1940s the nation's first urban depressed freeway was constructed in Detroit. The city's productive capacity also played a key role during the second world war as its industrial base was harnessed to meet wartime demands. Adding to its many nicknames, Detroit also became known as the Arsenal of Democracy.[14] In the decades following the war, however, the slow and progressive decline of the automotive industry began to unravel its economic base and city's dwellers began to leave the city in large numbers. The downsizing and decreasing profits characteristic of the 1970s and 1980s as a result of rising import shares on the U.S. auto market and rising oil prices, continued into the years of recession in the 1990s and finally culminated with the request of the Big Three for government aid in 2008. As the strength of the Big Three declined, the urban landscape in Detroit began to dramatically change as well. Between 1970 and 2000, the city demolished more than 160,000 homes. The number of demolition permits given out in the period between 1978 and 1998 far outnumbered the number of building

[13]Arthur M. Woodford, *This is Detroit: 1701–2001* (Detroit: Wayne State University Press, 2001).

[14] Jenny Nolan, "Willow Run and the Arsenal of Democracy," *The Detroit News,* January 28, 1997.

permits issued during those same years, with 108,000 demolition permits granted compared to 9,000 of the latter. Since its population peak in 1950, the city has lost forty-eight percent of its population. Some vacating residents abandoned homes outright while others left after defaulting on mortgages.

Abandoned homes came under management of the Department of Housing and Urban Development (HUD) which would in turn relinquished them to the state, which would then give them to the city and the city would finally demolish them. Block after block of the city was demolished be it by the HUD or mobs of citizens setting fire to districts at a time. Citing reports from issues of the Detroit Free Press from July of 1989, Jeff Byles in his article "Disappearing Detroit" puts the figures in perspective: "counting 15,215 empty buildings in the city, a cancer the paper called 'an infection more pervasive than ever documented' and testimony to the exodus of middle-class families 'that is both a cause and a result of the economic decay that has crippled many Detroit neighbourhoods.'" [15]

The extent of destruction by fire and demolition reached an extraordinary level, to the point that on April 26, 1993, the city official responsible for monitoring municipal services, Marie Farrell-Donaldson, proposed relocating the few remaining residents in nearly vacant blocks to better neighbourhoods, bulldozing their homes and building fences around the areas. Outside the fences she proposed planting conifers and

Fig.7: Detroit skyline as viewed from a roof top in Windsor, December 1937.

On the following pages: Fig.8-20: James Griffon, Feral Houses, Detroit.

Fig.21: The abandoned Michigan Central Station, Detroit. The last train to leave the station was in 1988. since then the station has become a symbol of blight and decay.

[15]Jeff Byles, Op. Cit.

inside them she intended to allow the land to return to its natural state.[16] Her plan officially called for Detroit's downsizing.

The term urban meadows has been coined to characterize the expanse of empty tracts of land that intersect the communities and commercial areas of the city that continue to function. Orchard grass (Dactylis glomerata) is the dominant herbaceous plant in Detroit's urban meadows.[17] Commonly used for pastures, it has been reported growing in the United States since before 1760.[18] Numerous other native plants, mammals and birds have returned to Detroit in the last decades and thrive in the meadows. In a city reverting from a prominent urban centre to a heterogenous terrain taking on wild and rural undertones, it is not uncommon to see ring-necked pheasants, jack rabbits, peacocks, foxes and coyotes within the tall grasses covering former downtown neighbourhoods. In fact, wild turkeys are reportedly making their homes in what were once neatly trimmed backyards. These urban meadows are composed mainly of ruderal grasses, hardy herbaceous plants, and once carefully planted ornamental plants and trees. The pronounced revegetation phenomenon in the city's vacant lots is associated with the

[16]Rogers Worthington "What To Do With Vacant City Lots? 'Mothball' Them, Official Says,"*Chicago Tribune*, May 5, 1993, http:/articles.chicagotribune.com/1993-05-05/news/9305050086_1_east-side-city-hall-common-council.

[17]*Society for Ecological Restoration,* accessed August 3, 2013, *http://www.ser.org/.*

[18]"Orchardgrass," *University of Missouri,* accessed August 3, 2013 http://extension.missouri.edu/p/G4511.

social stress, low median income and subsequent neighbourhood decline that has characterized the city in recent decades.[19]

Debates among city officials, community organizations and stakeholders and ordinary residents to determine how to best utilize these large expanses of vacant land have been numerous and unsettled and have protagonized the debate in the field of landscape design throughout the country. In January of 2013, the Detroit Works Project Long-Term Planning released its 'Detroit Future City' - designed to be a strategic framework for the city's next 50 years. Over two years of extensive community engagement and collaboration among civic and business leaders, the plan offers innovative ideas and strategies to address the city's many challenges, in particular, attention is focused on the city's vacant lots and buildings. Nonetheless, only seventy percent of these are publicly owned, with the rest remaining in private hands and those under public ownership are not managed by one central entity, rather by eight different agencies at the state, county and local levels. In this regard, 'Detroit Future City' proposes decision-making matrices to offer guidance on the handling of these vacancies, with an overall theme being that these lots are an asset that need to be activated to fuel a reshaping of the city's economy and residential neighbourhoods.[20] However, as the recent announcement made in July 2013 by city officials to file for bankruptcy still looms, the future of Detroit remains quite uncertain.

[19]Rhonda M. Ryznar, "Urban Vegetation And Social Change: An Analysis Using Remote Sensing And Census Data" (dissertation, University of Michigan, 1998).

[20]*Detroit Future City*, accessed August 4, 2013, http://dev.detroitworksproject.com/.

Detroit represents an unprecedented reality in modern urban history. To derive parallels and to find other examples of cities that experienced such urban decay it is in fact necessary to go back to the descriptions of the desolated Roman Urb of the Early Middle Ages. As discussed by many[21] the situation in which Detroit finds itself, in spite of the dramatic social and economic conditions of its impoverished population, makes it an incredible laboratory on urban nature and on the very role nature can have in an urban environment. As a matter of fact, many hope that in this very opportunity Detroit might find, if not all, some of the solutions to its problems. Nonetheless while much has been said on urban farming very few have discussed the potential Detroit's urban voids would have if addressed for what they are: urban wildernesses.

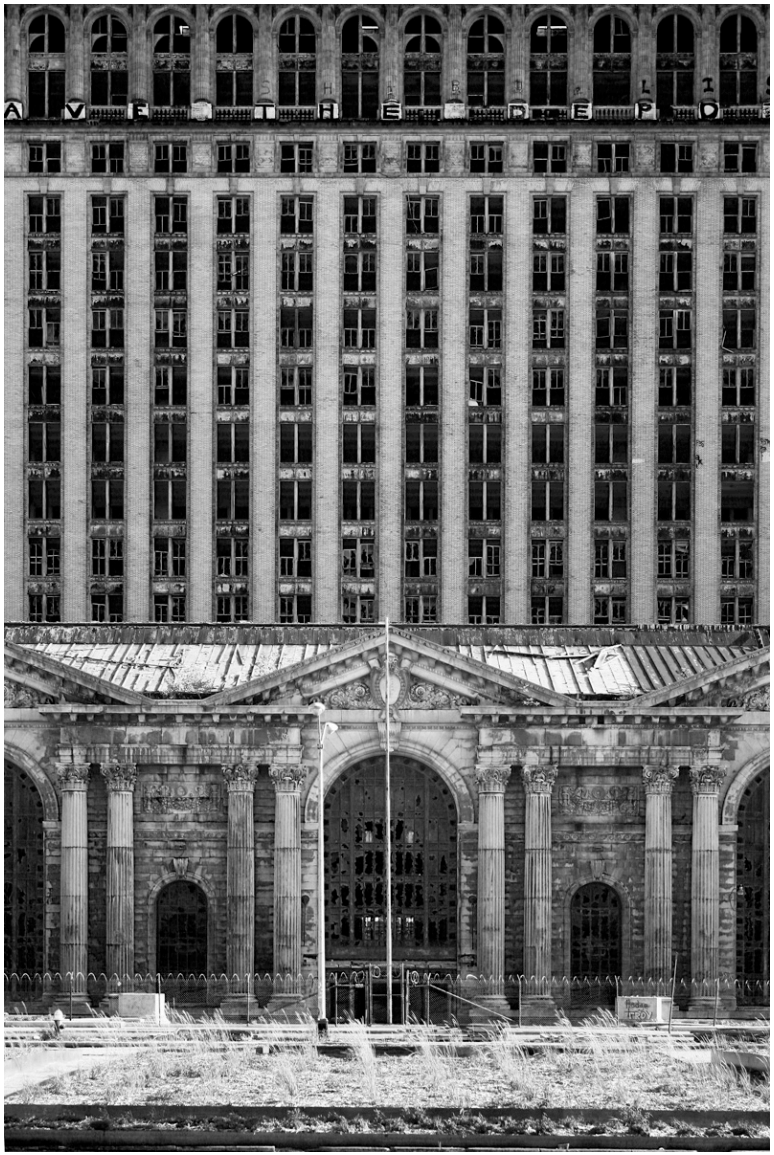
From a morphological perspective the Detroit *urban wilderness system* is made almost exclusively of a myriad of small clusters of abandoned land, the most extensive example of what we have defined as wilderness vest pockets.

As in many case studies we analyzed, in Detroit's urban wilderness the three conceptions of the word wild we identified are woven together into an inextricable semantic bundle. At first, Detroit's urban meadows strike one with their stark *self-willedness*. Nature's indifference toward the layers of cultural meanings still attached to those places it re-appropriates is for most of us deeply unsettling. The sense of defeat and failure we perceive by looking at an elm tree bursting through the roof of what was once someone's home is a powerful rebuke. While the city struggles to make sense of its present state and to avoid an irreversible decline, wild nature

[21]Camilo José Vergara, Op. Cit.

has no qualms about what to do. This slow process of de-urbanization looks much like an inversion in time: we so strongly assume that the history of a city is about transforming land into built environment that seeing a city where the built environment is transforming into bare land makes us think that history is moving backwards. While all of these considerations were crucial for us in defining what self-willedness is, we cannot help but notice that the sense of disquieting fascination that the city's urban landscape raises very much resembles the one described by travellers of the Grand Tour when visiting the dilapidated and tumbled down monuments of Rome which had become the mere settings of pastoral and wild sceneries and that generated the very root of the Romantic aesthetic. And in fact, Detroit today attracts a generation of contemporary flâneur and artists who flocked to the city for the inspiration that could be derived from such landscape as well as for the opportunities its limitless space and abandoned resources afford. This post-modern neo-romantic fascination for Detroit shares so much with the Romantic aesthetic of the late eighteenth and nineteenth centuries in which the appreciation of American wilderness was embedded that we are able to look upon Detroit's urban meadows as places of *wilderness* as much as place of *self-willedness*. In addition to being places of *self-willedness* and *wilderness* the urban meadows are indeed also places of *wildness,* especially from the perspective that is shaped in *Le Manifeste du Tiers-Paysage* by Gilles Clement or by *City and Natural Process* by Michael Hough: ruderal nature is the very refuge of biodiversity, a thriving ecosystem and authentic manifestation of natural process in opposition with our obsessively manicured lawns and gardens.

While Detroit's urban *self-willedness* and urban *wilderness* are, and forever will be, inevitably connected to the most tragic pages of its urban history



culminating with its present state of bankruptcy, Detroit's urban *wildness* could become a fundamental element of a more positive future. Despite the problematic nodes low-density development implies, Detroit is today faced with the opportunity to pioneer a new model where residential development and wild open spaces compenetrate across a vast urban territory. The state of the art in ecological restoration could lend a hand to help envision the strategies and the objectives of a comprehensive management plan for Detroit's urban meadows, an innovative and visionary administration should pilot such an experiment, so necessary for Detroit's survival as for all those cities that are not shrinking but growing exponentially, confronting more and more the dire need for places in which it is possible to encounter the wild.

2.2 The Leslie Street Spit in Toronto

Toronto's metropolitan region spreads out along the western part of the northern shore of Lake Ontario, in the eastern Great Lakes Region. It stretches from the lake's westernmost point, Burlington Bay, to McLaughlin Bay, passing over a large system of ravines that run perpendicularly to the lake's shore. Baymouth bars created by prevailing winds and currents form several lagoons and sheltered harbours such as Burlington Bay and McLaughlin Bay themselves, as well as the Toronto Bay that develops in front of the urban core. East of the Toronto Bay, opposite the commercial harbour, a large man-made peninsula juts from the lakeshore, the Outer Harbour East Headland,[22] most of whose land has been designated for and become the Tommy Thompson Park.

[22]The peninsula is also known by Torontians as the Leslie Street Spit.

Projecting southwestward for roughly three miles and occupying a surface area of more than twelve hundred acres, the Outer Harbour East Headland has a rhomboid silhouette carved by deep embayments. In its present state, four forelands protrude off of its east side forming three bays while a three pool lagoon occupies the west side. The 'baselands' of the headland connect with Toronto's harbour and the city's east end, its prominent part leaning over the city's downtown. The East Headland is today occupied by Tommy Thompson Park and the endikement area. To the west of the spit's base is the Outer Harbour Marine and across from the Outer Harbour lies the industrial basin of the Toronto waterfront. Ashbridge's Bay Sewage Treatment Plant is located to the northeast, adjacent to the base.

The terrain of the headland is more or less flat. Of the three pools, the northernmost is a shallow marsh while the others have deeper floors. The soil of the peninsula consists of silt and sand in its deeper layer and of different kinds of earthfill rubble in the shallower layers: concrete debris - often combined with oxidized rebar, cement debris, asphalt, broken bricks and other ceramic fragments, compressed and oxidized metal scraps and glass shards and more. [23] The Outer Harbour's breakwater spine is constructed of large rubble, including asphalt, concrete, and brick from demolished buildings, and of bedrock material and subsoil taken from construction and excavation sites from the Toronto metropolitan region. The leeward side of the spine facing the Outer Harbour has four peninsulas and four embayments made up of

Fig.22: Satellite image of Toronto.

[23]"History of Tommy Thompson Park," *Toronto and Region Conservation*, last modified July 29, 2011, accessed August 04, 2013, http://www.tommythompsonpark.ca/home/history.dot.

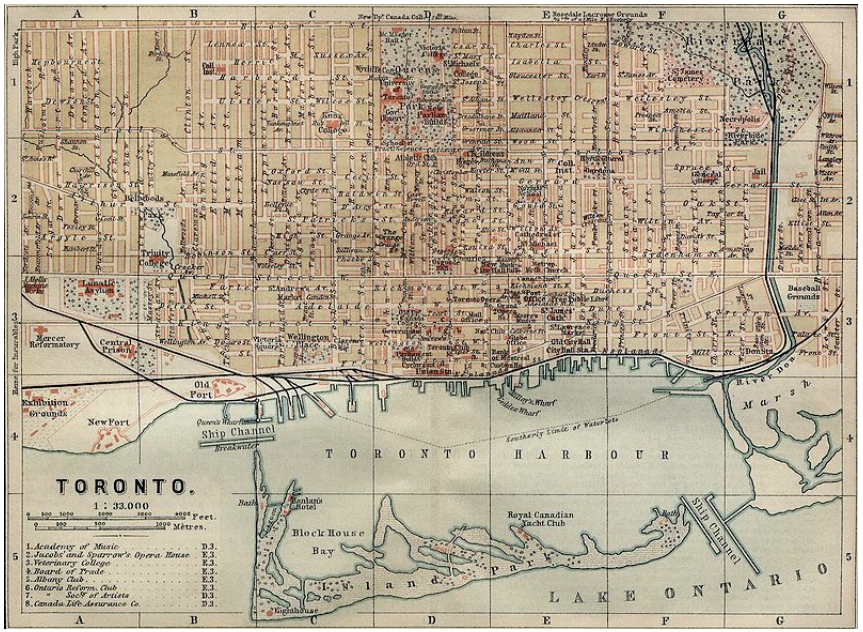


Fig.23: A historical map of Toronto, 1894

silt and sand. These materials are not mixed, but rather remain grouped in homogenous batches. Taking the south side beaches as an example, they are frequently made exclusively of reinforced concrete.

Lake Ontario plays a significant role in the headland's weather. In the summer it helps moderate the city's heat and humidity with its prevailing westerly winds. In the winter these same winds often produce severe wind chill. Compared to the region to the north of the Greater Toronto Area, the Spit on average sees 30 percent less snowfall and twice as much fog with respect to the rest of the city. [24]

Only a few decades ago, the headland did not even exist. At the end of the 1800s, the foot of Leslie Street ended in an expansive marshland, Ashbridge's Bay. For approximately 150 years from the early 1800's to the 1950's, Ashbridge's Bay was used as a dumping ground. Under the Toronto Harbour Commission's waterfront plan in 1912 a good part of it was filled in to create the industrial area of Toronto's waterfront. Filling to construct the Outer Harbour East Headland began in 1959 to increase port facilities. The land base of the headland was then increased significantly in 1973 through the addition of dredgeate from the Outer Harbour shipping channel and a major part of the park's land base was formed in the period between 1974 and 1983 when approximately 6.5 million cubic meters of sand and silt were dredged from the Outer Harbour and deposited at the Spit. The lagoons and sand peninsulas of the park which constitute a significant portion of the

[24]William G. Wilson, Edward D. Cheskey, and the IBA Steering Committee, "Leslie Street Spit Tommy Thompson Park Important Bird Area Conservation Plan" *Leslie Street Spit IBA Stakeholders*, 2001.

park were formed in this way. The construction of an endikement on the headland's lakeward side took place in 1979 and resulted in another major expansion of land area. This endikement would become what are today the protected cells used for the disposal of contaminated material dredged from the Keating Channel and Inner Harbour. To date two of these are filled. A clean cap fill of sand and fill from 0.5 m to 3 m in depth is placed over the contaminated sediment.

The Toronto Harbour Commission's (now Toronto Port Authority) project to construct a site for port related facilities was abandoned in the early 1970's due to the consequences of the containerization revolution on the projected use of the Saint Lawrence Seaway. Soon after that it became clear the natural processes evolving over the years on the site's construction had shaped the land into what some have called "an accidental wilderness." In these years, the Provincial Cabinet assigned the TRCA the responsibility to take the lead on a proposed aquatic park. Before the master plan was implemented, an interim management program began in 1992 to guide land use. The program included public access to the park, shuttle van service within the park, nature interpretation programming, a wildlife management program and a license agreement with the Aquatic Park Sailing Club.[25]

Since 1973 the Toronto Harbour Commission has allowed public access to part of the area and in 1977 a group of birdwatchers, naturalists, and cyclists created the association Friends of the Spit which would later start managing the site and rename it Tommy Thompson Park. John Carley of Friends of the Spit speaks to the significance the park has

Fig.24: Toronto Harbour in1919.

[25]Ibid.

gained in its community in recent years: "maintaining the Spit as a public urban wilderness is a way to return something to Toronto which had been lost by the filling of Ashbridge's Marsh. While not the same … the same natural components of barrier beach and flora and fauna will gradually come to mirror that of the Marsh."[26]

The landscape of the headland is varied. Meadows cover most of the land but there are also young shrublands and woodlands, as well as coastal marshes, sand dunes and cobble beaches. Several areas are characterized by the presence of recently dumped earthfill and rubble that sometimes form small mounds. A paved 'spine road', Leslie Street, runs across the central branch of the headland while other dirt roads run across the minor branches.

Tommy Thompson Park encompasses some of the Toronto waterfront's larges natural habitats.[27] The park counts with more than four hundred species of plants. Of note, the eastern cottonwood is a large tree that typically grows near rivers or other bodies of water on moist, well-drained sand or silt. It is fast-growing but relatively short-lived, living less than eighty years. In ideal growing conditions it often exists in pure stands. The cottonwood forest at Tommy Thompson Park is dominated by native eastern cottonwood, but also includes other trees, notably species of willow, aspen and birch which have grown rapidly in the sandy soils of the leeward side of the peninsula. Purple Loosestrife, a

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[26]William G. Wilson, Edward D. Cheskey, and the IBA Steering Committee, Op. Cit.

[27]"Tommy Thompson Park," *Toronto and Region Conservation*, last modified July 29, 2011, accessed August 04, 2013, http://www.tommythompsonpark.ca/home/history.dot.

non-native, aggressive plant prospers in the shorelines of the embayment. It is a threat to native wetland species which are important sources of food for fish and wildlife throughout the wetlands of Ontario.

Over three hundred bird species have been recorded within the park, including at least fifty-five breeding species. It is an important stopover for migratory birds including songbirds, raptors, waterfowl and shorebirds. Songbirds are often of the Passerine avian order. Most are small perching birds with or without a melodious song or call. Eight species of colonial birds nest or have nested within the park.[28] Colonial waterbirds present in the park include ring-billed gulls, black-crowned night-herons and common terns. The Spit boasts impressive numbers of some of these species including over six percent of the world's breeding population of ring-billed gulls, a total of approximately 55,000 pairs, representing one of the largest breeding colonies in the world. The black-crowned night-heron also nests in the park. Their long term average is of approximately seventeen percent of the estimated national breeding population and was recorded at approximately thirty-two percent of Canada's breeding population when their numbers peaked in the year 2000. Large colonies of double-crested cormorants are also visible within the different park peninsulas. Great Egrets that nest in the cormorants and night-heron colony represent a recent addition to the colonial nesting birds. The common tern instead has been a frequent and well-numbered nester in the park since 1976 and is in fact the park's logo bird. Approximately ninety pairs nest annually on artificial breeding platforms called reef rafts and on an island designed as a tern habitat as part of the TRCA's wetland creation project. When their

[28]Toronto and Region Conservation, Op. Cit.

numbers peaked, the park colony represented 1.8 percent of the estimated North American population. Other frequent nesters in smaller numbers include the herring gull and the great black-backed gull. Owls are often observed throughout the winter, including the snowy owl. On the western peninsulas other species include the great horned, northern saw-whet, barred, boreal, short-eared and long-eared owls.

Nineteen mammal and twelve reptile species have been recorded at the park. These include: beaver, American mink, musktrat, Terrestrial Mammals Eastern coyote, raccoon, Eastern cottontail, European hare, groundhog, red fox, striped skunk, Virginia opossum, deer mouse, house mouse, white-footed mouse, meadow vole, norway rat, Eastern gray squirrel, Eastern red bat, silver-haired bat, hoary bat, big brown bat, and the little brown bat.

The toplands, western embayments and the inner cells have been areas of focus for various restoration activities that have been put into place in an effort to improve the terrestrial and aquatic habitat of the headland. Some examples of such activities include a gull control program and a nesting rafts program which have been provided by the TRCA and the Canadian Wildlife Service.[29] A conservation design calling for minimal human intervention and management combining natural succession with habitat creation has governed the TRCA's creation and enhancement habitat projects aimed at dry and wet meadows, marshes, shoreline ponds, nearshore islands, and shingle, sand, and gravel

[29]Toronto and Region Conservation, Op. Cit.

beaches.[30] These projects have targeted a range of species including several bird species. An often cited example is a bank constructed to target bank swallows where just days after the bank's completion swallows were observed digging nests.[31]

Today, the land and waterbodies within the park are owned by the TRCA while areas under construction are owned by the Ontario Ministry of Natural Resources (MNR) and are leased to the Toronto Port Authority (TPA). Once filling in the MNR owned lands is completed, they will be transferred to the TRCA. Some of the shoreline will be extended and widened as the project comes to completion. The park is currently only open on weekends and holidays as there continues to be heavy truck traffic due to the ongoing filling activities on the MNR leased lands. Even with these limited hours of operation, annual visitor numbers exceed 100,000. As residential growth in the West Don Lands increases, the park is considered to be one of the best areas for green space improvement along Toronto's waterfront.

The Leslie Street Spit is arguably one of the most astonishing phenomenon of urban natural process witnessed in the recent history of Western metropolises. Not by chance, its study has been of paramount importance for Michael Hough in developing what would become his groundbreaking book *City Form and Natural Process* of 1984. The spit subverts our conception of what natural is and confuses who is trying to

[30]William G. Wilson, Edward D. Cheskey, and the IBA Steering Committee, Op. Cit.

[31]"Birds of Tommy Thompson Park," *Toronto and Region Conservation*, last modified July 29th, 2011, accessed August 04, 2013, http://tommythompsonpark.ca/natural-heritage/birds.dot#col.

On the previous page, Fig. 23-29: Tommy Thompson Park

Above: Fig.30: Dave Laird, Toronto skyline from Leslie Spit, Winter 2004.

understand its meaning, proving just how unfirm the ground on which our ideas of nature stand is. A colossal dump, produced by the demolition and excavation necessary for the construction of a bustling downtown, a massive landfill created for an infrastructure that will never be built, a symbol of our wasteful approach to resource usage, becomes a tabula rasa on which wild nature chooses to see the rebirth of an ecosystem whose strength and diversity had long disappeared from the entire region. The striking artificiality of this strip of land made of crushed tin cans, broken tiles, and concrete rubble entangled in rusted rebar and contaminated with lead, iron and oil does not impede nature from there creating a sanctuary for local flora and fauna.

When a few understood the importance of this place they claimed it as an urban wilderness. They indeed used the term wilderness according to the most recent of its acceptations: as a place that by definition deserved protection. The steps from there to the use of state of the art operations of habitat enhancement and management that followed were few. Their efforts made the Leslie Spit ecosystem even healthier and more diverse, nonetheless, more or less unconsciously, they radically and forever changed the sense of the place they wanted so much to protect. In the few decades in which wild nature was reclaiming the land without anyone noticing, Leslie Spit was not only a place of great *wildness*, but also a pure example of what we defined as *self-willedness,* the largest and most unique in any Northern American city. Since becoming a place to cherish and preserve through human intervention, while increasing its *wildness*, the Spit lost all of its *self-willedness* at once. It is not a given to say if this change was for the good or for the bad, undoubtedly it is yet another proof of the complexity of the subject matter of this study.

The parking lot was empty, as expected at 6:00 a.m. Sunday. The air had that late May feel to it, vibrant with promise and verdant life. We passed through the gate and began the long trek towards the peninsulas. The wind had shifted to the south during the night, and birds were literally dropping out of the sky into the Cottonwoods. In the distance a raucous cloud of gulls betrayed the relative calm of the early-morning city. As we approached, long lines of cormorants flew low over the water towards the rising sun. The background din was broken by guttural calls of Common Terns. They gracefully winged their way along the shoreline, heads cocked downward, vigilant for schools of small fish. How they managed amongst the thousands of Ring- billed Gulls swirling over the peninsulas was mind-boggling, though we remarked that despite their diminutive size, they were formidable opponents. After about an hour we stopped walking.

Short repeating whistles beckoned our regards skyward. Wind birds – a dozen Whimbrel – glided into one of the bays. The traffic and city noises had mutated into bird song. Here it was the birds' world. By 7:30 a.m. we had made it to the newly constructed blind overlooking peninsula C. Beyond the birds, beyond the blind, was the city, the morning sun reflecting brilliantly off towering skyscrapers. Marguerite had spotted two Scarlet Tanagers, visitors to Canada from their homeland in Latin America, she told me. A Night-Heron picked at the remains of something just beyond the blind. "Tienes razon, mi amigo,' she said, "this is 'urban wilderness."[32]

Fig.31: Toronto skyline from Leslie Spit, Summer 2005.

[32]William G. Wilson, Edward D. Cheskey, and the IBA Steering Committee, Op. Cit.

Fig.32: The Mississippi River, Minneapolis in the background.

2.3 The Shore of the Mississippi River between Minneapolis and Saint Paul

The urban area of the Twin Cities lies on the flat terrain at the confluence of the Mississippi and the Minnesota Rivers, at the border between the Great Plains and the Great Lakes regions. Radiating from its two metropolitan cores, Minneapolis and Saint Paul, it atomizes across the deep meander of the chief river and its tributary, as well as around the uncountable glacial lakes that punctuate the surrounding territory. Both the Minneapolis and Saint Paul downtowns rise along the Mississippi shores: Minneapolis, just south of Saint Anthony Falls, the only major natural fall of the river; Saint Paul where the river completes its bend before turning south again. Despite the urban region's growth, the fifteen miles of shore that run between one urban core and the other still comprises large expanses of semi-spontaneous ecologies and protected areas, including grasslands, forests and wetlands, most of which are part of the Mississippi National River and Recreational Area (MNRRA).

Moving downstream from Minneapolis to Saint Paul, on the left shore we first encounter the Central Mississippi Riverfront Regional Park, followed by the Gorge Regional Park on both sides, and the Minnehaha Falls Regional Park on the right shore. Fort Snelling State Park sits where the Mississippi meets the Minnesota. Then the large Hidden Falls/ Crosby Falls Regional Park runs along the left side of the river, as well as the Lilydale/Harriett Island/Cherokee Regional Park, the Bruce Vento Sanctuary and the Indian Mounds Park, and finally Battle Creek Regional Park. This system of parks allows the riparian ecosystem of the Mississippi and the Minnesota Rivers to penetrate into the core of the

Twin Cities urban region in such a substantial way as to make them a worthy case to include in this survey.

The Twin Cities lie on top of a bedrock of sandstone and limestones perforated by natural caves. The flat-lying, gently dipping sedimentary rocks of the region form a plateau that has been greatly eroded by the Mississippi River and its tributaries. The river valley is filled with sand and gravel deposits and the region's soils are predominantly formed of fine sands.[33] Glacial terraces border the river between Minneapolis and St. Paul. Within the MNRRA corridor three dominant terraces are found including the Richfield Terrace, that reaches elevations of eight hundred ninety feet, and on which Minneapolis itself has largely been built. Below it, the Langdon Terrace reaches a maximum elevation of eight hundred fifty feet, although it has a great degree of variation in height and in sedimentary make-up, developing over limestone in some regions with sediments only a few feet thick, and in others over eroded bedrock where terraces are made of one hundred feet of sand and gravel. The Gray Cloud Terrace develops south of St. Paul and reaches a maximum elevation of seven hundred fifty feet. The flat, sandy lake plains and terraces are occasionally interspersed with exposed dunes and low moraines. The limestone and dolomite found along the high bluffs of the river shores form steep cliffs, while shale and sandstone form the gentle valley slopes. Elevations in the metropolitan area range from roughly two hundred to five hundred metres above sea level, the lowest altitude being found by the Mississippi

Fig.33: The Mississippi River shores, Saint Paul in the background.

[33]Richard Ojakangas and Charles Matsch, *Minnesota's Geology* (St. Paul, MN: University of Minnesota, 1982).

Fig.34: V. O. Hammon, a historic postcard of Stone Arch Bridge at St Anthony Falls in Minneapolis.

shore in the southeastern end of the river bend.[34] On the eastern half of the metro region which includes the St. Paul downtown, the topography is dominated by large moraine outwash plains.

The frigid winter weather of the region plays an important role in this urban wilderness. Due to its distance from the ocean and its northerly latitude, the Minneapolis and Saint Paul urban regions is one of the coldest of the Americas. Within the state of Minnesota, however, the Twin Cities experience some of the warmest weather because of the urban heat island they produce. In January, the monthly average daily minimum is 5°F (-15°C). On average the cities experience temperatures lower than 1°F (-17°C) thirty times per year, and on average the days per year whose maximum temperature does not exceed the freezing point number approximately eighty. Summertimes are instead generally warm. Annual normal precipitation averages 30 inches (750 mm) and is most plentiful in June.[35]

Before European settlement the region had been home to the Eastern (Santee) Dakota who had historically moved their villages and varied their work around the region by season. Early Europeans in the area included French explorer Daniel Greysolon, Sieur du Luth, who

[34]Ibid.

[35]DNR Division of Ecological and Water Resources, "Minnesota Climatology Working Group," Minnesota Climatology Working Group, last updated January 7, 2013, accessed August 1, 2013, http://climate.umn.edu//doc/twin_cities/twin_cities.htm.

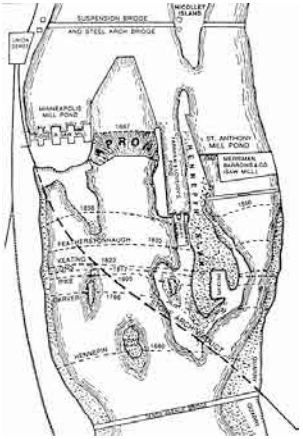
surveyed the Minnesota area in 1680.[36] The Santee Dakota who dominated the lands explored by Greysolon were closely related to several groups including the Yankton, Yanktonai, Teton, and Assinboin and would be collectively grouped with them and referred to as the Sioux by the French. While the arrival of the French influenced the Dakota's migrations they remained the dominant tribe on the upper Mississippi, along the MNRRA corridor, and St. Anthony Falls became their primary gathering site.

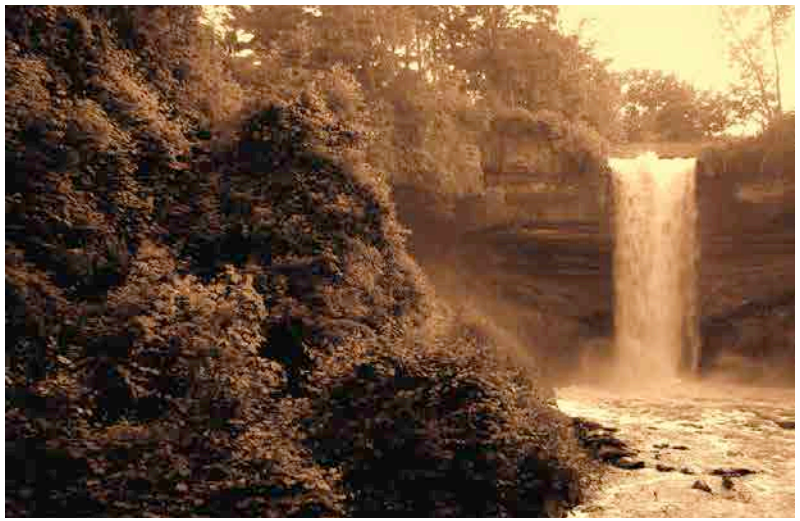
Over the decades of the late seventeenth century, the arrival of both French and English traders to the region would largely influence and spur intertribal warfare. Conflict over fur trading would continue to escalate and extend into the period of British sovereignty in the region. It was not until the Louisiana Purchase in 1803 that the United States began to exert control in the area, restricting trade with the British and Dakota and limiting the supply of goods to the Dakota. Tensions around such policies escalated into the War of 1812 and it was not until after the Treaty of Ghent in 1815 that the number of British traders began to significantly decrease, opening the way for American explorers and traders to begin settling the upper Mississippi River valley. In 1823, the *Virginia* became the first steamboat to navigate the upper Mississippi River, [37] commencing a new era in the region. With the aid of steamboats, trade and settlement quickly increased. The number of

Fig.35: A historic postcard of the Franklin Avenue Bridge in Minneapolis.

[36]John O. Anfinson, National Park Service, *River of History: A Historic Resources Study of The Mississippi National River and Recreation Area*, publication (St. Paul: St. Paul District, Corps of Engineers, 2003), 11.

[37]Anfinson, Op. Cit., 75.





steamboats grew tremendously from 41 in 1844 to 846 in 1862,[38] yet the numbers did not meet the demands of a rapidly growing population of new immigrants and the rise of business and industry. At the same time, these changing social and economic conditions brought on the demise of the Dakota in the region. By the late 1820s, the depletion of game from overhunting, disease, and starvation had created very critical conditions for the Dakota and other local indigenous groups. In 1837, the Mdewakanton of the Dakota People sold their lands east of the Mississippi River to the U.S. Government and they would consequently sell their remaining lands in 1851. These land acquisitions would further fuel the influx of migrants to the region and signal the true removal of the Mdewakantons from the Mississippi River and the MNRRA corridor.

The development of the Twin Cities was in large part influenced by the natural geography of the area. Saint Anthony Falls, named by Father Louis Hennepin after his patron saint, Anthony of Padua,[39] in particular played a critical role in the early development of European settlements. The falls defined the location of Minneapolis' establishment and its later prominence as a mill city. The establishment of Fort Snelling in 1819, at the confluence of the Mississippi and Minnesota Rivers, also spurred the growth of the city. Originally, two towns were founded on either side of the falls and named Saint Anthony and Minneapolis, the first lying on the east side and the latter on the west side. They would be merged into one city in 1872. St. Paul developed around Lambert's Landing, the last place where boats could be unloaded coming upriver, some seven miles

[38]Ibid.

[39]Anfinson, Op. Cit., 55.

(11 km) downstream from Saint Anthony Falls and would become the capital of the Minnesota Territory in 1849. As the capital city, it grew from a population of 900 in 1849 to 10,000 by 1860. Minneapolis and St. Anthony followed similar trajectories with the steamboat traffic of the upper river bringing thousands of migrants from the East Coast and Europe. The numbers were so great that between 1850 and 1860 the population of Minnesota increased from 6,077 to over 172,000.[40] The expansion of railroads east and west of the Mississippi following the Civil War would only add to the cities' development. The latter half of the nineteenth century was marked particularly by the rise of the mill industry. By the early 1900s, the cities were known as the foremost flour milling and saw milling cities in the United States and abroad. St. Anthony Falls fuelled the birth and prosperity of these industries. By 1907, the growth of cities along the river had also dramatically changed the landscape. Wing dams and closing dams were found all along the river's banks from St. Paul to St. Louis and hundreds of miles of riverbank covered with riprap.

In the first six decades of the twentieth century, the Mississippi River would continue to be transformed through commercial activities, navigation improvements, and the creation of larger dams such as the Upper St. Anthony Falls Lock completed in 1963, which stretched the nine-foot channel and head of navigation an additional 4.6 miles farther upstream.[41] In the decades after the second World War the industry of the cities also began to change. With the demise of the flour mill industry and with the land redevelopment of the 1950s and 1960s, the

[40]Anfinson, Op. Cit., 77.

[41]Anfinson, Op. Cit., 95.

On the previous page, Fig.36: A diagram showing the recession of St Anthony Galls between 1680 and 1887.

Fig.37: Minnehaha Falls, Minneapolis

Below, Fig.38: Albert Bierstadt, The Falls of St Anthony, 1880-1887.

Fig.42: Bruce Vento's Sanctuary, Saint Paul.

region's landscape saw the vanishment of mills and the rise of skyscrapers and new industries that are still shaping the metropolitan region today.

The history of the MNRRA corridor has predominantly paralleled the human history of the region. While each individual park in the area has its unique timeline and was set aside as protected land during different periods, they now together form an expanse of green space protecting the Mississippi River shoreline along one of the most urbanized centres in the United States. Despite the immensity of industrial activity along the banks of the Mississippi since the founding of Minneapolis and St. Paul, community and local government efforts have worked to create a corridor of wetlands, grasslands and forests at the very heart of the cities' historically industrial and commercial core. It was in 1988 that the fifty-four thousand acre Mississippi National River and Recreation Area was established by Congress as a partnership park, brining together a diverse group of stakeholders with a common goal of preservation. The National Park Service oversees management of the MNRRA in cooperation with twenty-five local governments, numerous state agencies and organizations that all jointly administer this seventy-two mile stretch of non-urbanized land.

Crosby Farm Regional Park, formerly one of the largest farms in the region, was obtained by the Saint Paul Port Authority and leased to the City of Saint Paul as a park in the early 1960s. Its 736 acres protect a floodplain forest and wooded slopes of oak forest and small lakes and wetlands. The Lilydale Regional Park designated in 1971, formerly a residential community, is now also a floodplain forest comprising 636 acres. As early as the 1900s, local farmers enjoyed visiting the area

around Battle Creek and it was not long before land was donated and the city of St. Paul began acquiring more to create Battle Creek Regional Park in the 1920s. Today this 1,840 acre park protects woods, wetlands, and grasslands and wildlife such as deer, foxes, herons, egrets, and hawks. The Bruce Vento Sanctuary is located at the site of the Wakan Tipi, sacred to the Dakota people. Its storied history includes being at one time a centre of local industry, but it was in 2005 after three decades of neglect, that it became a park in the city of St. Paul comprised of spring-fed wetlands and restored prairies. Its upland grasslands are home to many bird species including redtail hawks which are often spotted overhead. Fort Snelling State Park located at the confluence of the Minnesota and Mississippi Rivers opened in 1962. Its mud flats often provide sightings of animals such as deer, beaver, muskrat, mink, and otters. These protected areas and semi-spontaneous ecologies along the upper Mississippi are home to one of the largest populations of nesting bald eagles in the continental United Sates. The Mississippi River is also home to over 200 species of fish, along with many of Minnesota's forty-eight freshwater mussel species.[42]

A bi-centric metropolis traversed by a green corridor comprised of a system of semi-wild tracts of land, the Twin Cities represent a relevant reference and a model for any study focused on urban polycentrism and urban wilderness. If in Portland wild or semi-wild nature penetrates to the core of the metropolis and in Vancouver wild nature is that core, in the Twin Cities it connects the two foci around which the urban region revolves. Just like in Vancouver and Portland, and maybe even more so,

Fig.40: Doug Wallick, Minneapolis Skyline from Boom Island on the Mississippi River, 2008.

[42]"National River & Recreation Area Minnesota," National Park Service, accessed August 6, 2013, http://www.nps.gov/miss/index.htm.

Fig.42: The Pillsbury Mill in Minneapolis, early 1900s.

this urban wild is not only the most prominent urban element from a morphological perspective, it is also the most relevant source of the narratives that shaped the identity of the cities. The Mississippi River and its shores between Minneapolis and St. Paul offer a great opportunity to explain the very theme this study addresses: the role of urban wilderness as a very distinctive kind of permanence, a primary element of the formal structure of an urban system and a reservoir of meanings for its inhabitants.

While there is consensus on the will to preserve the river shores from urban encroachment, defining the specific goals of such preservation is painfully dilemmatic. In fact, the community has the intention and the means for a substantial preservation of their *wildness*, their *wilderness*, their *self-willedness*, or their cultural landscape, however, as discussed earlier in this research, it is apparent that any effort to preserve one may be detrimental to the others. As each and every park or tract of land under preservation began its process towards conservation at a different time, fairly independently and championed by institutions with diverse goals, and because of the intrinsic characteristics unique to each, some parts of the shores cherish the diversity of their ecosystems, others the spontaneity of their ecologies, others the iconic beauty of the banks of the headwaters of the Mississippi River, and still others the sacredness of those grounds once honoured by the Dakotas and their ancestors or the cultural heritage of proto-industrial America. Even if in some cases management attempts to uphold more than one of these within the same park at the same time, presently the park system is a collection of tracts of land whose protection greatly varies not only in degree, but also in purpose. The National Park Service, that coordinates the many institutions that manage the individual parks, seems not to have any

trouble in making sense out of this fragmented system and is in fact challenging the notion of what a national park is by including the shores of the Mississippi River between Minneapolis and St. Paul within its list of national parks despite the high presence of anthropic traces and its situation within a populous urban region. Nonetheless, we cannot but notice that the urban section of the Mississippi National River and Recreational Area demonstrates not only how nuanced and highly articulated our approach to conservation has become but also how unresolved it remains.

Fig.41: Peter Schawang, Panoramic View of Minneapolis, 1915.

Chapter Three
URBAN SHRUBLANDS

Not even in the Sierra have I ever made the acquaintance of mountains more rigidly inaccessible. The slopes are exceptionally steep and insecure to the foot of the explorer, however great his strength or skill may be, but thorny chaparral constitutes their chief defense... It swoops into every hollow and swells over every ridge, gracefully complying with the varied topography, in shaggy, ungovernable exuberance, fairly dwarfing the utmost efforts of human culture out of sight and mind.

John Muir, 1918

3.1 Sutro Forest of San Francisco

The San Francisco Bay Area urban region revolves around the San Francisco and San Pablo Bays, two shallow bodies of brackish water that constitute the terminal stretch of the estuarine system of the San Joaquin and Sacramento Rivers, in the southern part of coastal Northern California. The bays develop north to south, parallel to the shore of the Pacific Ocean, connecting to it through the Golden Gate strait. On the two opposite sides of the strait, the city of San Francisco and the rugged cliffs of the Marin Headlands look onto each other, as the first and the last elements in a long chain of diverse environments that, enclosing the bay in an area of 1,600 square miles (4,160 sq. km)[1], form the territorial urban system. Within the system, these two counterparts hold a primacy: the first is the most urban, the latter the

[1] *San Francisco Bay Watershed Database and Mapping Project*. The bay covers somewhere between 400 and 1,600 square miles (1,040 to 4,160 sq. km.), depending on which sub-bays - such as the San Pablo Bay - estuaries, and wetlands are included in the measurement.

On the previous page, Fig.1: Saint Gabriel Mountains, Los Angeles in the background.

Above, Fig.2: Houses at the edge of Sutro Forest in San Francisco.

most wild. Yet zooming in on the urban fabric of the city, other smaller wilderness remnants emerge at the neighbourhood scale. Among all, one of particular interest is the Sutro Forest, a mighty woodland of eucalyptus that crops up on the top of one of the city's forty-seven hills as a green tuft at its very centre.[2]

The city of San Francisco has a Mediterranean climate characterized by cool summer months. The city's situation in the San Francisco Bay and along the Pacific coast means its weather is shaped largely by the ocean's cool currents which moderate temperatures throughout the year creating a relatively stable and mild climate with minimal variation from season to season. Particularly unique to the city, when compared to the rest of the Bay Area, are its characteristically cold and misty summer months marked by the daily presence of large fog banks.[3] The city has the coldest daily mean, maximum, and minimum temperatures for June, July, and August among all major cities in the U.S, with average highs ranging in the mid 60s°F and lows in the low 50s°F.[4] Microclimates exist throughout pockets in the city resulting from its complex topography and maritime influences. Neighbourhoods closest to Ocean Beach see far fewer days of sun than those on the city's eastern edge. During the summer, neighbourhoods such as the Sunset experience chilly winds and heavy fog for days at a time. These heavy fog clouds have in fact led

[2]Gladys Hansen, *The San Francisco Almanac* (San Francisco: Presidio Press, 1995), 237.

[3]Scott W. Starratt, "A Brief Introduction to the Weather of the SF Bay Area," in *U.S. Geological Survey: Geology and Natural History of the San Francisco Bay Area* (Reston, Virginia: U.S. Geological Survey: 2001).

[4]Liz Osborn, "Coolest U.S. Cities in Summer,"*Current Results,* accessed August 4, 2013 http://www.webcitation.org/5rVdBgvSs.

some to call Sutro Forest the 'Sutro Cloud Forest.'[5] The hills in the geographic centre of the city are responsible for the significant variation in the annual rainfall across neighbourhoods. Overall, annual precipitation averages 23.6 inches (599 mm). Temperatures throughout the year remain below 75°F (24°C), with roughly only 29 days exceeding this temperature a year.[6] Average lows during winter months range from 46–51 °F (8–11 °C).

San Francisco and the Marin Headlands lie on the very boundary between two tectonic plates - the North American and Pacific Plates - today defined as a transform fault: the San Andreas Fault Zone. Perhaps California's best-known geologic feature, the sliding of the two plates along this fault is what makes the region susceptible to frequent and large earthquakes, but it is also responsible for the production of the region's young, rugged terrain. The origins of the California Coast Ranges, Santa Cruz Mountains and the Diablo Range date to three to four million years ago. The valley of the San Francisco Bay began to form some two to three million years ago as the mountains and hills around it began to rise and the first marine rocks were laid down only 600,000 years ago. Before the San Andreas Fault system formed, what is today known as the Franciscan Complex made up the coastal margin where the Pacific Ocean floor met the North American Plate. These ancient coastal rocks form the basement for the Coast Ranges east of the fault and consist mainly of graywacke sandstone and argillite, and smaller amounts of greenstone, limestone, serpentinite, and a variety of

Above, Fig.3: Gerard Livernois, "Sunset over the Sutro Forest," 2013.

[5]*Mount Sutro Forest*, accessed August 4, 2013, http://www.mntsutro.com.

[6]*Historical Weather for San Francisco, California*, accessed August 4, 2013, http://www.weatherbase.com.

Fig.4: Gerard Livernois, The morning fog lifting over the Sutro Forest, 2013.

metamorphic rocks that when mixed create a *mélange*. The Franciscan Complex is divided into the eastern and central belts, the eastern being older and of higher altitude and metamorphic grade. The central belt is further divided into eight terranes in the Bay Area. The Marin Headlands terrane stretches across the geographic centre of San Francisco, including Mount Sutro. This terrane is composed of basaltic crust covered by chert deposits and sandstones. A dark green basalt, commonly referred to as greenstone, accounts for twenty percent of the terrane's exposed rocks. In the Bay Area, it often appears as weathered zones of orange-brown clays and iron oxides extending to depths of fifteen to thirty feet (5-10 m). Chert is very resistant to weathering and therefore forms many of the ridge tops in the area. It underlies approximately fifty percent of the terrane and is often red in colour as a result of iron oxide deposits. Continentally derived sandstone and other clastic rocks underlie approximately twenty-five percent of the terrane. The sandstone called graywacke has a characteristic greenish-gray colour and is commonly found in submarine landslide deposits. Sandstone beds range in thickness from one to two metres to no more than twenty metres. As they grade upward, they may have thin caps of shale as well.[7]

The mountain summit of Mount Sutro rises 912 feet (278 m) above sea level. Located near the geographical centre of San Francisco, it is today a 61 acre open space reserve owned by the University of California, San Francisco (UCSF), and includes the Interior Greenbelt area, owned and managed by the City and County of San Francisco, which is contiguous

[7]National Park Service Golden Gate National Recreation Area, *Geology of the Golden Gate Headlands*, by William P. Elder (2001).

with it. It is the northernmost peak of what was once known as the San Miguel Hills. Like most of the area's higher terrain, it was once covered with shrubs and native grasses and wildflowers. Situated geographically in the Northern coastal scrub region that extends from the Bay Area northwards to southern Oregon, it is an area whose characteristic native vegetation includes low-lying evergreen shrubs including yerba santa, coast silk-tassel, salal, yellow bush lupine, and a variety of herbs including the Western blue-eyed grass, Douglas iris, and in particular in San Francisco, yerba buena, which once gave name to the town established by Franciscans near the Misión San Francisco de Asís. Soils on Mount Sutro are generally of a thin and sandy material. The soil complex includes Candlestick fine sandy loam, usually 20 to 40 inches thick over the underlying bedrock, Bruiburi gravelly loam and Kron sandy loam which are usually between 10 and 40 inches thick over the underlying bedrock.[8] Many of the hill's slopes have less than six inches of soil depth, however.

The human history of the San Francisco Bay dates back some six to eight thousand years. When the first Spanish explorers arrived in the area they encountered a people called the Ohlone. This cultural group extended from the northern California coast to the Salinas Valley of the central coast. Subsiding mainly as hunter-gatherers and from minimal land management through the practice of clearing and burning, they inhabited the San Francisco Bay when the first Spanish exploration party led by Captain Gaspar de Portola arrived in 1769. He and a group

Fig.5: Eucalypti of Sutro Forest, 2013.

[8]UCSF, *Mount Sutro Open Space Reserve Management Plan 2001*, accessed August 4, 2013, http://www.ucsf.edu/about/cgr/current-projects/mount-sutro-open-space-reserve.

Fig.6: Adolph Sutro, the 24th mayor of San Francisco.

of sixty men travelled northward from San Diego in search of Monterey Bay, only to stumble upon the, until then, undiscovered San Francisco Bay. The area would be further explored in 1772 by Lieutenant Pedro Pagas and in 1776 by Juan Bautista de Anza, the same year in which the Misión San Francisco de Asís (today Mission Dolores) was established by Father Francisco Palou under the direction of Father Junipero Serra, and that a military fort was built at the Presidio. The mission began generating farming communities that revolved around the house of worship, also establishing small-scale manufacturing operations. At its peak, the mission's ranches and farms extended as far east as Alameda and as far south as San Mateo.[9]

With Mexico's independence in 1821, the missions of California were largely secularized. As in the rest of Alta California, the former mission lands in the Bay Area were transformed into large ranchos. Californio families successfully petitioned the new Mexican government to grant them deeds to large parcels as recognition for their military service. One such deed for 4,443 acres was granted to José de Jesús Noé in 1845. Named Rancho San Miguel it encompassed the area around what is today Eureka Valley, including Mount Sutro, and extended past Mount Davidson nearly reaching present-day Daly City. The land, however, would not remain in the possession of Noé for many years. As Alta California became part of the United States following the Mexican-American War, many ranchos were sold or lost as a result of new land acts. Rancho San Miguel itself was sold in large part to the Horner brothers in 1854. Then in 1862, most of it would be purchased by a

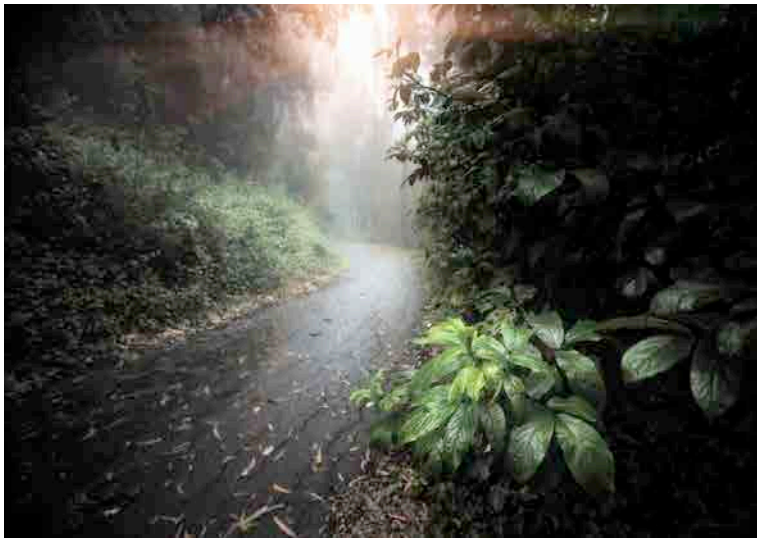
[9]James. A. Sandos, *Converting California: Indians and Franciscans in the Missions* (New Haven: Yale University Press, 2004).

French financier named François Louis Pioche, only to be purchased by Adolph Sutro in 1880. Adolph Sutro became one of the largest real estate owners in San Francisco at the time, owning almost ten percent of the city's acreage. His original intentions were to develop residential neighbourhoods on the former rancho, including on what is today Sutro Forest.[10] Although he did develop a great deal of his landholdings, he is also well remembered for having planted hundreds of trees throughout the city including eucalyptus, Monterey pine, Monterey cypress and other species on Mount Sutro itself, which at the time still did not bear his name, but was instead called Mount Parnassus. In the summer of 1895, he donated thirteen acres of the former San Miguel ranch for the future campus site of the Affiliated Colleges of the University of California, today UCSF. Although trees were temporarily logged during the second World War for domestic fuel, the forest by and large remained intact until UCSF purchased a 90 acre parcel on the southern end of the forest in 1953. In response to community concerns about campus expansion, in 1976, the UC Board of Regents passed a resolution setting aside 58 acres as open space. When the area was remeasured in 1996 it was found to include an additional three acres which in total today make up the 61 acre Mount Sutro Open Space Reserve, still under the University's ownership. Presently, the handful of trails within the reserve are maintained by volunteers under the direction of the Sutro Stewards in partnership with UCSF. In 2001, a management plan was put in place whose priorities include hazardous tree removal and coast scrub demonstration planting and needle grass

Fig.7: University Hospital and Sutro Forest, postmarked 1920.

Fig.8: Sutro Forest in 1958.

[10]Robert E. Stewart Jr., *Adolph Sutro: A Biography* (Berkeley: Howell-North Books, 1962).



enhancement on the hill's summit.[11] In 2007 and 2008, UCSF applied for funding from the Federal Emergency Management Agency (FEMA) for proposed projects to reduce fire hazards and to 'improve the health and safety' of the forest. The university, however, withdrew its applications in response to community concerns about the proposed plans, and in 2009 began a new round of community meetings. Since the conclusion of these meetings in 2010, modifications have been made to the management plan and parts of the plan have been delayed due to the implementation of environmental impact studies. Community groups such as Save Mount Sutro Forest continue to challenge the proposed felling of eucalpyti and introduction of native scrub species, while the University has most recently held a public hearing in February 2013 to solicit public comments on the environmental impact report for its management plan.

The forest is comprised predominantly of the blue gum eucalyptus planted nearly 130 years ago that largely suppress the growth of other plant species. Eucalyptus accounts for eighty-two percent of the tree cover, with other tree species including Monterey pine, Monterey cypress, blackwood acacia, coast redwood, plum, cherry, and Bailey's acacia. The majority are fewer than 12 inches in diameter. The understory is dominated by Himalayan blackberry and California blackberry, but also includes elderberry, french broom, snowberry, holly, myoporum, toyon, cotoneaster, and currant. English ivy grows extensively around the trunks of large trees throughout the forest. Groundcover species also include poison oak, fern, and vetch. Remnant patches of native California plants include 40 species, of which eight are

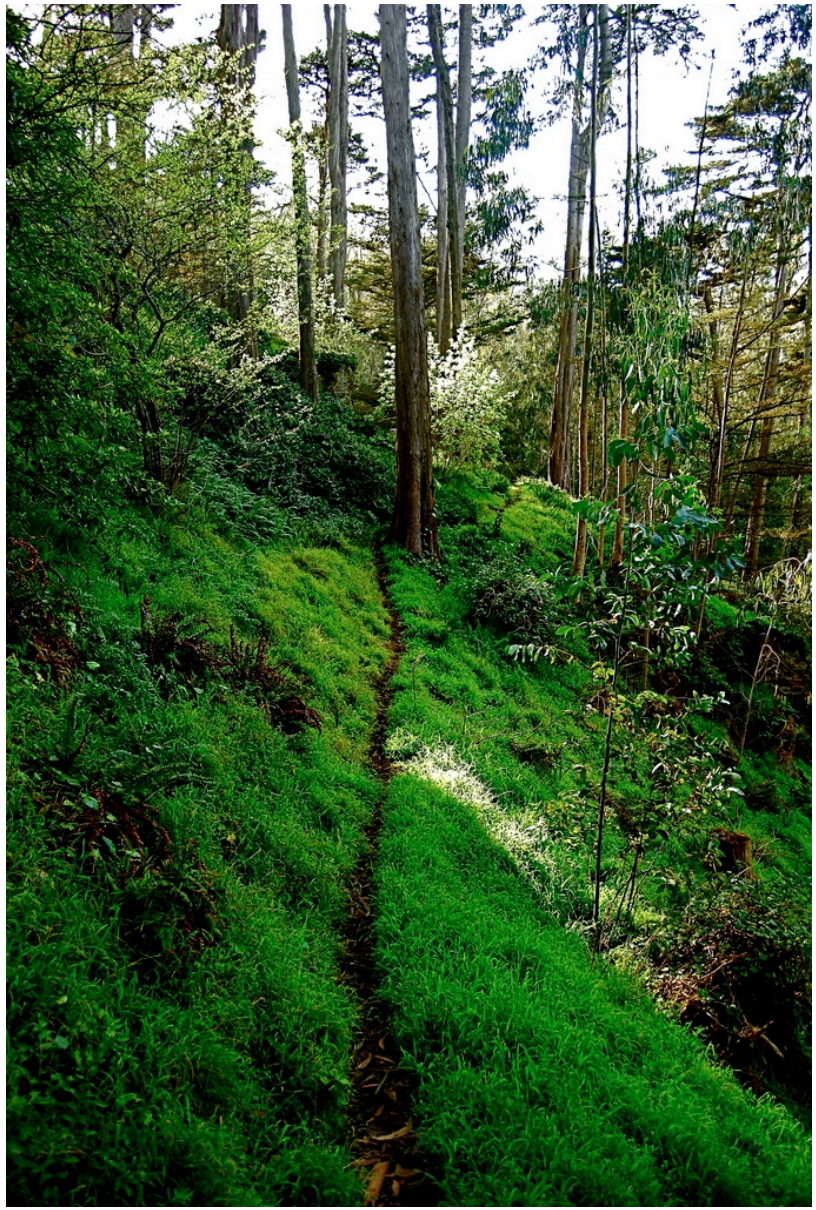
[11]UCSF, Op. Cit.

believed to be indigenous to Mount Sutro: California sagebrush, madrone, coyote bush, poison oak, coast live oak, elderberry, California blackberry, and coast redwood.[12]

Wildlife in the reserve is limited to skunks, raccoons, possums, red-tail and red-shoulder hawks, and owls. The eucalyptus monoculture, invasive English ivy, lack of native plant habitats and general lack of plant diversity has limited the species diversity of wildlife in the reserve.[13]

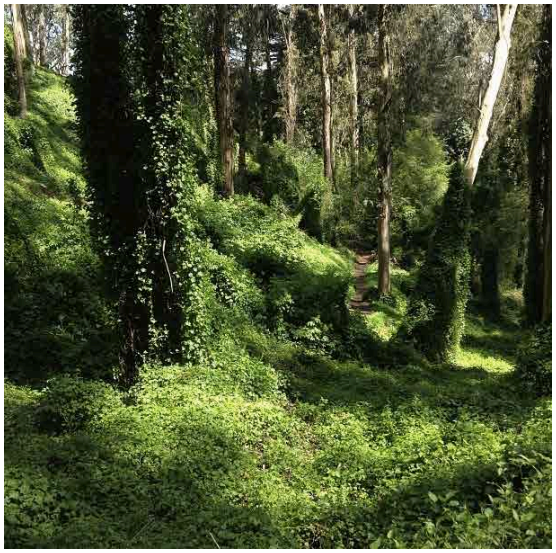
Several neighbourhoods in the city have a similar configuration to those surrounding Mount Sutro: rows of low/medium density units climbing along markedly steep streets, while the steepest and highest sides of the hill and its summit remain untouched by development. Nonetheless when this happens, with no exception but Mount Sutro, the undeveloped land is covered only by bare rock or grasses and brushes. These hilltops, while often offering stunning vistas of the Bay Area, do not provide a sense isolation from its bustling activity and highly anthropized landscape. On the contrary Mount Sutro, with its dense forest and thick understory is such a unique refuge from San Franciscan urbanity to fully deserve a place in this survey.

From a morphological perspective the Sutro Forest is a pure enclave yet it is one that works on a different scale with respect to the ones we have and will discuss throughout the study: the scale of the neighbourhood. Other wild enclaves like Stanley Park in Vancouver, the Leslie Street Spit



[12]Ibid.

[13]Ibid.



in Toronto and the Teddy Roosevelt Island in Washington D.C. are also relatively small in acreage if compared to our case studies in Portland, Detroit, Minneapolis and Saint Paul, Los Angeles, and indeed Miami, yet their situation within the urban system make them morphologically relevant for the entire urban system and apt for serving all of their inhabitants. Sutro Forest instead, far from being known by all inhabitants throughout the San Francisco Bay Area, is a well-kept secret cherished mostly by the people who live in the neighbourhoods immediately surrounding it. While the dark green mass of its canopy is visible to many because of the topographically prominent tract of land on which it stands, it is visited by few and can easily be described as a neighbourhood wilderness.

As many of our case studies, Sutro Forest lends itself to a discussion of the conflicts over the different conceptions of what wild is and thereby pushes our own reflection on the subject matter forward. The stunning scale and verdant vibrancy of its vegetation, even more breathtaking on one of the many misty days of the San Francisco summer, would prompt one to assume that it is an urban wild in all the possible senses of the term. Yet, according to the definitions we worked to develop, Sutro Forest is not a *wilderness.* Anybody minimally knowledgeable on the landscape of California would not hesitate in agreeing: the forest's trees are native of Oceania and its understory is composed mainly of garden vines. Nothing in this landscape resembles the settings in which the epic first contact between the European-Americans and the Pacific West took place. In fact, Sutro Forest is not even a *wildness.* It is common knowledge that the eucalypti and English ivy that dominate its vegetation patterns are two of the most aggressive and invasive exotic species and that they do not support ecological diversity and ecosystem integrity, but rather

limit it. Sutro Forest is solely and purely a *self-willedness*, one of the most astonishing examples present in the metropolises of Northern America. UCSF limits its management to the maintenance of the narrow trails that snake through the trees, for now postponing full implementation of proposed ecological restoration plans.

Sutro Forest is not only an exemplary case of *self-willedness* in the city, but also an exemplary case of how the defence of *wilderness* and *wildness*, despite the arguable righteousness of the cultural perspectives that inspire them, can bring us to an equally arguable destructive proposition for the remnants of wild in the city. As of today a controversy over the future of the forest sees a major part of the local community trying to stop UCSF from its intentions to transform the landscape: a project to proceed with a progressive vegetation conversion in order to reintroduce native species. This apparently unanimously agreeable plan calls for the felling of some 30,000 mighty trees.

3.2 San Gabriel Mountains of Los Angeles

The Greater Los Angeles Area, also known as the Southland, stretches along approximately 125 miles (200 km) of the southern California coastline from the Santa Clara River valley to the northwest to the San Juan Creek to the southeast, penetrating inland to the Coachella Valley. It encompasses the populous counties of Ventura, Los Angeles, Riverside, San Bernardino, and Orange with a total population of nearly eighteen million residents spread over approximately five

On previous pages, Fig.9-13: Sutro Forest.

Fig.14: Kevin Russ, "Sutro Forrest," 2013.

Fig.15: The Greater Los Angeles Basin, 2008.

thousand square miles (12,500 sq km).[14] Hundreds of municipalities characterized by a low-density suburban fabric spread along the river valleys and the flat Los Angeles basin, leaving two mountainous spurs undeveloped: the Santa Monica Mountains and the Santa Ana Mountains. As a majestic backdrop for the entire urban region, the San Gabriel Mountains run northwest to southeast from the Newhall Pass to the Cajon Pass, separating the urbanized territory from the Mojave Desert.

Approximately fifty miles (80 km) long and fifteen miles (24 km) wide, the San Gabriel Mountains tower over Los Angeles County. Their southwestern slope rises abruptly to over ten thousand feet (3,048 m), while their northeastern side descends gradually toward the desert. Unlike most mountain ranges in North America, the San Gabriels lie transverse to the coastline. They are some of the highest and most rugged mountains belonging to the Transverse Ranges geomorphic province which includes the Santa Ynez Mountains, the Santa Monica Mountains, and the San Bernardino Mountains. The San Gabriels' highest peak, Mount San Antonio also known as Mount Baldy, soars to 10,064 feet (3,068 m).

The mountains are a fault-bounded block of ancient crystalline rocks bounded on the north by the San Andreas Fault zone, on the south and southwest by the Cucamonga-Sierra Madre fault complex, and on the east by the San Jacinto fault zone. A combination of tectonic activity and erosion have shaped this young mountain range. They are in fact

[14]"Greater Los Angeles," Metropolitan and MicropolitanStatistical Areas, accessed August 22, 2012, http://www.census.gov/population/metro/.

considered one of the world's fastest growing ranges, rising as much as two inches per year.[15]

The rock formations of the San Gabriels vary greatly in composition and age, from Precambrian igneous and metamorphic rocks to young alluvium deposited by rivers and streams. Bedrock is comprised predominantly of crystalline basement rocks. One of the range's major geologic structures, the Vincent Thrust, separates the crystalline bedrock into two distinct groups: upper-plate rocks and lower-plate rocks. Upper-plate rocks are found on the western San Gabriels, while lower-plate rocks are primarily associated with the eastern San Gabriels. Granitic rocks make up another major component of the basement rocks while gneiss is the most common metamorphic rock. Throughout the range, deep, steep-sided canyons cut into the mountains creating unstable rock debris along its steep slopes. These highly erosive slopes are source of sand, gravel, and other rock products which are important aggregates used in road and concrete constructions. The San Gabriels are also rich in mineral resources including gold, aluminum, copper, graphite, iron, clays, silver, titanium, tungsten, uranium, zirconium, beryllium, silica, slab rock, tungsten, feldspar, and oil and gas.[16]

The climate of the Los Angeles region is a Subtropical-Mediterranean type which is affected by marine influences and offshore winds that maintain mild temperatures year-round. The area is characterized by

Fig.16: The city of Los Angeles with the San Gabriel Mountains in the background.

[15]Pacific West Regional Office Park Planning and Environmental Compliance, National Park Service, *Draft San Gabriel Watershed and Mountains Special Resource Study*, report (2011), accessed June 12, 2013, http://parkplanning.nps.gov/projectHome.cfm?projectID=12203.

[16]Ibid.

Fig.17: Views of the San Gabriel Mountains in winter.

various microclimates unique to the topographical pockets- valleys, mountains, hills, and coastal areas - that comprise it. While the valley floor experiences hot and sunny summers and relatively cool winters, as the geography transitions into the hillsides and peaks of the San Gabriels, seasonal differences in temperature become more marked with very cold winters, warm summers, and significantly increased levels of precipitation.[17]

The dominant native plant communities of the San Gabriels are chaparral and costal sage scrub. At the turn of the century, the mountains were covered in white sage in the valleys and low hills, black sage on the mountains and streamsides with columbine, collinsia, verbena, zauschneria, wild rose, honeysuckle, lilies and wild buckwheat also greatly abundant. Today, native grasses are intermixed with nonnative species introduced from Europe, and coastal sage scrub has in particular been significantly reduced.[18] It is in fact one of the most threatened habitats in California.

The San Gabriels' lower north facing slopes are home to desert scrub communities that include species such as sagebrush, antelope bush, creosote bush, saltbush, rabbitbrush, cheesebush, winterfat, and burrobrush. Juniper and Joshua tree woodlands often intermix with this community. Coastal oak woodland communities are also present on north facing slopes. The range's highest peaks are home to alpine dwarf scrub communities composed of draba, Parish's alumroot, creambush,

[17]Harry P. Bailey, *The Climate of Southern California (*Berkeley: University of California Press.,1966).

[18]Ibid.

rock-cress, and species of buckwheat. This community interfaces with conifer, pine and oak stands. Mixed chaparral communities of chamise, silktassel, toyon, yerba-santa, California fremontia, scrub oak, chaparral oak, species of ceanothus and manzanita, coastal sage scrub, and sagebrush dominate the range.

Wildlife on the mountains is today still constituted primarily by native species. The San Gabriels are a refuge for large predators such as black bears, mountain lions, coyote, and bobcats. Other mammals include the migrating mule deer, mountain sheep, bighorn sheep, and jackrabbit. Riparian zones are home to many endangered fish and amphibians. Reptile and amphibian species are quite numerous and includes species such the San Gabriel Mountains slender salamander, western spadefoot toad, coast range newt, coast horned lizard, zebra-tailed lizard, and many more. The skies over the mountain range are home to numerous bird species including the great-horned owls, red-tailed hawk roost, jays, woodpeckers, and hummingbirds. Numerous species of special status reside in the region including the California condor, coastal California gnatcatcher, desert tortoise, mountain yellow-legged frog, red-legged frog, and the southwestern willow flycatcher.

Prior to the arrival of Spanish explorers in the area, the Los Angeles region had been occupied for at least twelve thousand years by indigenous groups. Various peoples migrated in and out of the Los Angeles basin and settled in both temporary and permanent villages both in the basin and nearby mountain canyons. The Tongva were the primary group inhabiting the region at the time of Spanish settlement. They are also known as Gabrielinos as they would become incorporated into Mission San Gabriel. Living as hunters and fisherman, they traded

Fig.18: Views of the San Gabriel Mountains in early springs.

Fig19: A diorama of Desert bighorn sheep (Ovis canadensis nelsoni)

extensively, cutting trails throughout the mountains to access the region's resources.[19] The San Gabriels were a prime hunting ground for deer, mountain sheep, and smaller mammals. Plants and seeds were also plentiful resources found within its canyons and hillsides. Some 155 aboriginal sites have been identified in the mountains that were likely temporary settlements, whereas permanent villages were usually established along streams and marshes. At the time of the first contact with the Spanish, it is estimated that the Tongva population exceeded five thousand.[20] Another indigenous group also present in the area were the Tataviam whose numbers are estimated to have reached no more than one thousand at the time of the first European contact. Their territory was centered in the San Fernando Valley and included the western end of the San Gabriels with Mount Gleason representing the highest point in their domain.[21] They are also known as the Fernandeños as they were incorporated into the San Fernando Mission.

Present-day southern California was claimed for the Spanish crown in 1542 by the explorer Juan Rodríguez Cabrillo. It was not until 1769, however, that Captain Gaspar de Portolà and the Franciscan missionary Juan Crespí reached the Los Angeles area and in 1771 that Father Junípero Serra directed the construction of the Misión San Gabriel Arcángel. It is believed that the timber used to build the mission was sourced in the San Gabriel Mountains. The Tongva and many other

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[19]Bernice Eastman Johnston, *California's Gabrielino Indians (*Los Angeles: Southwest Museum,1962).

[20]Ibid.

[21]John Robinson, *The San Gabriels: The Mountain Country from Soledad Canyon to Lytle Creek* (Arcadia, California: Big Santa Anita Historical Society, 1991).

local indigenous groups were incorporated into the mission. Its lands extended from its location along the Rio Hondo south to San Pedro and east to the Muscupaibe Range, totaling an extraordinary 1.5 million acres.[22] It served as the center not only for religious and community life, but also fueled the region's economic activity. The Spanish introduced livestock, new crops including the first citrus trees grown in the region, and established small towns and military posts throughout the valley. Irrigation water came from foothill canyons in the San Gabriels and the San Gabriel River while the native chaparral was used for grazing.

Following Mexico's independence from Spain in 1821, the Los Angeles region, like all of Alta California, was predominantly converted into large ranchos. Missions were secularized and as Californio families successfully petitioned the new Mexican government to grant them deeds to prime land, including former mission lands, the region again underwent a new transformation. Ranchos were established in the foothills and valleys below the San Gabriel while overland routes to the West Coast were explored and established, bringing waves of new settlers and fuelling a population growth.

During the mid-1880s agriculture and a growing meat industry that supplied the growing populations of northern cities brought a temporary economic boom to the valley. Further growth then resulted with the arrival of the railroad and the first surge in real estate in the 1880s. In 1887 alone, one hundred million dollars worth of real estate was sold in southern California and Los Angeles increased in size by five

[22]William F. King, *The San Gabriel Valley: Chronicle of an Abundant Land* (Chatsworth, CA: Windsor Publications, 1990).

Fig.20: Puma Hunter, Vermont Historical Society.

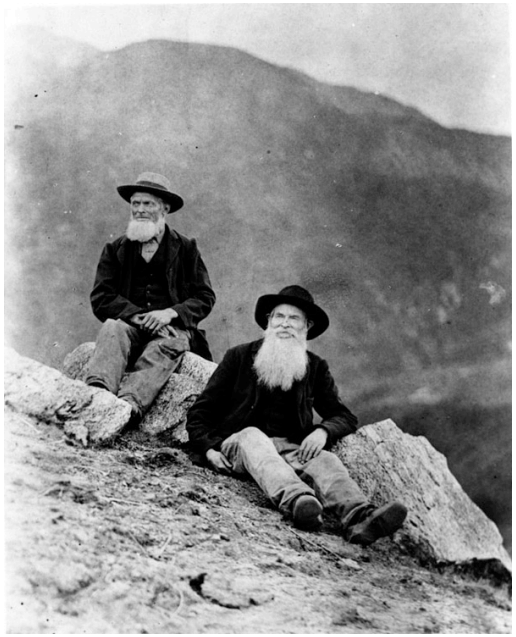


Fig.21: Owen Brown with his brother Jason Brown at Mt Wilson.

hundred percent.[23] With this growth also came a dramatic social and cultural change as Anglo-Americans for the first time began replacing Hispanic Californians.

Gold mining also contributed to the growth of the region. Francisco López discovered gold in the Placerita Canyon in 1842, prompting a rush for gold in the foothills of the San Gabriels. The town of Eldoradoville was established at the San Gabriel River's main fork in 1861, establishing the area's largest mining boomtown. At this time, logging operations accelerated and the agricultural industry continued to prosper with citrus and walnut being the dominant crops. The combination of mineral extraction, logging and agriculture began to raise concerns about the integrity of the region's resources, in particular the forests and mountain streams. In an 1886 State Board of Forestry report, California's first state forester, Abbot Kinney, called for the conservation of the Angeles Forest of the San Gabriels. The concern of local residents was further supported by the writings of John Muir who hiked in Eaton Canyon in 1877 and described the mountains in this way:[24]

> In the mountains of San Gabriel, overlooking the lowland vines and fruit groves, Mother Nature is most ruggedly, thornily savage. Not even in the Sierra have I ever made the acquaintance of mountains more rigidly inaccessible. The slopes are exceptionally steep and insecure to the foot of the explorer, however great his strength or

[23]Glenn S. Dumke, *The Boom of the Eighties in Southern California* (San Marino, CA: Huntington Library, 1944).

[24]John Muir, *Steep Trails* (1918), chapter 11.

> skill may be, but thorny chaparral constitutes their chief defense. With the exception of little park and garden spots not visible in comprehensive views, the entire surface is covered with it, from the highest peaks to the plain. It swoops into every hollow and swells over every ridge, gracefully complying with the varied topography, in shaggy, ungovernable exuberance, fairly dwarfing the utmost efforts of human culture out of sight and mind.

Similar concern for resource depletion and preservation of wild lands was echoed throughout the country and in 1891 the Forest Reserve Act was instituted, giving Congress authority to set aside public land. In the same year, the Los Angeles Chamber of Commerce appealed to have lands in the watersheds of Los Angeles, San Gabriel and other Sierra Range rivers protected. The San Gabriel Timberland Reserve became the first forest reserve to be created in California and the second in the country in 1892. These lands would come under management of the U.S. Forest Service, whose chief at the time was Gifford Pinchot, and would be renamed the Angeles National Forest by 1908. Throughout the twentieth century the forest of the San Gabriel Mountains has been managed by the Forest Service. Only in the last two years has national attention again turned to the region as the National Park Service (NPS) is today considering designating portions of the San Gabriel Watershed and the San Gabriel Mountains a national recreation area. The NPS completed a resource study in 2011 and submitted its draft study proposal to Congress in the spring of 2013.[25]

Fig.22: Scrublands of the Saint Gabriels.

[25]Pacific West Regional Office Park Planning and Environmental Compliance, Op. Cit.

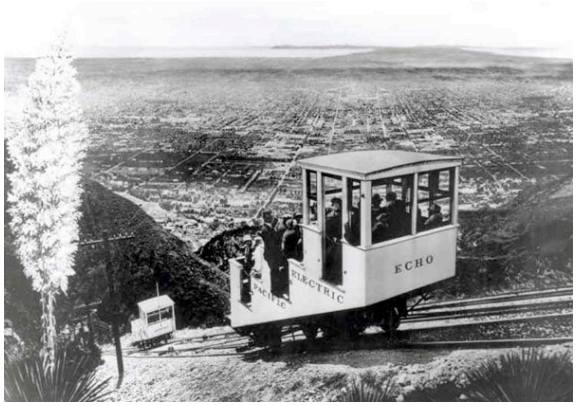


Fig.23: The Echo Mountain Railway transported passengers up the San Gabriel Mountains.

From a morphological standpoint the relationship between the Greater Los Angeles Area and the San Gabriel Mountains resembles the one between the Miami urban region and the Everglades. While it is true that the Santa Monica and the Santa Ana mountains add a layer of morphological complexity to the southern Californian urban territory, both Miami and Greater Los Angeles can be described as vast low-density urban territories that develop along the coast finding their counterpoint in equally vast wild areas that generate a continuous backdrop for the city. Nonetheless, such a backdrop assumes a much greater relevance in the Greater Los Angeles Area because of its specific orographic situation: the steep and high slopes of the San Gabriels and their peaks are always visible from the many downtowns of the urban region as well as from across the low-lying urban development, constituting possibly the only real element of unification for an urban territory otherwise too vast to be perceived as a whole.

The shared similarity between the Los Angeles and Miami case studies goes beyond the morphological aspect. Both urban wildernesses are the prime destination for city dwellers in search of wilderness: while easily within reach they are vast enough to disguise their proximity to suburbia. Such proximity is probably one of the most fascinating aspects of this case study. As in Miami, Phoenix, El Paso, and Las Vegas, an authentic manifestation of the original Northern American landscape finds itself positioned back to back with a quintessential manifestation of post-modern urbanity.

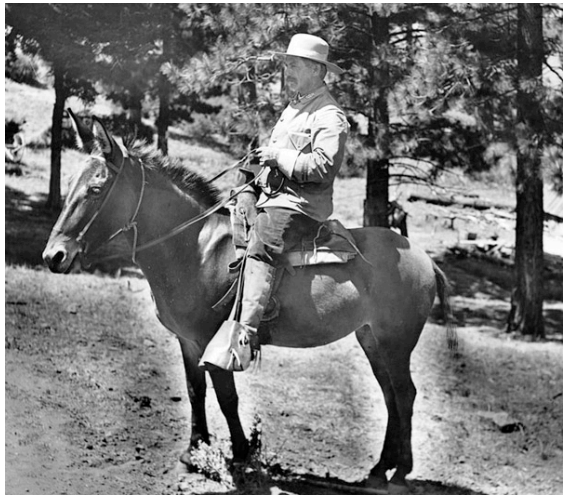
The city that more than anything else epitomizes the artificiality of contemporary life has a tremendous need for each and every attribute that can be found in the San Gabriels. The mountains offer the only real

opportunity to restore the right to wild nature for the burgeoning population of one of the largest urbanized areas of the world, mitigating what Richard Louv would define as the 'nature deficit disorder'[26] of its population. It is not by chance that the NPS is today striving to make the mountains a national recreation area fully aware that they will more and more play the role that Benton McKaye had dreamt for the Appalachians in relation to the Northeastern Urban Megaregion. Better than anyone else, Randolph Hester captured all of this reasoning in one playful and provocative phrase when he said that "every child in Los Angeles should have the right to risk being eaten by a mountain lion."[27]

3.3 The Tijuana River Estuary in San Diego and Tijuana

The San Diego and Tijuana urban region stretches along more than thirty miles (50 km) of the Pacific Coast, in the southernmost part of California and coastal Northern Baja California. It develops over the hills and mesas, canyons and gullies, and flood plains and lagoons that lay between the Pacific Shore to the west and the Colorado Desert to the east. The border between the United States and Mexico runs east to west bisecting the urbanized area south of the Tijuana River Estuary. Unlike the Mexican side of the conurbation, where dense *colonias* such as Rivera, Los Laureles, Mision de Sol, and Libertad press against the high metal fence and wall that separate the two countries, the communities of

Fig.23: Mounted San Gabriel Timberland reserve ranger, 1900.



[26]Richard Louv, *Last Child in the Woods: Saving Our Children From Nature-Deficit Disorder* (Chapel Hill: Algonquin Books of Chapel Hill, 2005).

[27]Randolph Hester, "Keynote Address" (Urban Nature CELA 2011, Los Angeles, April 2, 2011).

Fig.24: A sign warning about the presence of mountain lions in the San Gabriel Mountains.

the north side such as Imperial Beach, Nestor, San Ysidro, Ocean Crest, and Okay Mesa rarely extend to the border, leaving a strip of open-space that is interrupted only by two transnational 'Port of Entries' that connect the two sides.

This non-urbanized territory within the vast bi-national conurbation, composed of shrublands and wetlands, is a complex and contested landscape whose ecological value and narratives combined make it a relevant case to study in this survey. A vast cuneate patch of land pointing inland, three miles (5 km) wide along the coast and five miles (8 km) deep, it covers a surface area of roughly eight square miles (20 sq km). It is bordered by the Pacific Ocean to the west, by the national border to the south, and by the communities of Imperial Beach, Nestor, San Ysidro, Ocean Crest, Okay Mesa and the Navy Outlying Landing Field to the north. Its boundary is rectilinear and sharp on the west and south sides, jagged and blurred on the north side. The area, lying entirely on the U.S. half, is today managed as a series of parks and protected areas: the Border Field State Park, The International Park, The Tijuana River National Estuarine Research Reserve, and the Tijuana River County Open Space Preserve.

The area is characterized by a mediterranean climate of dry hot summers and cold wet winters. Annual precipitation ranges from year to year with an average of about nine inches (230 mm), most of which falls between November and March. Fronts off of the Pacific Ocean generate storms during the raining season. January, the wettest and coolest month of the year, is characterized by heavy fog rising from the ocean. In early spring, Santa Ana winds begin to pick up, brining the extreme hot dry weather infamous for its ability to spark regional fires.

The largest of the protected areas in this stretch of non-urbanized territory, the 2,293 acre Tijuana National Estuarine Research Reserve is located fifteen files (24 km) south of San Diego and adjacent to Tijuana. The protected lands are composed of distinct habitats of open tidal channels and mudflats, dunes, salt marshes, riparian habitats, a few small vernal pools, and the sensitive shrubland habitat of costal sage scrub found on the bluffs that run all along the border.[28] Coastal sage scrub, characterized by its low-growing drought-deciduous shrubs, is found within ten miles of the ocean.

The entire area is part of the Lower California Physiographic Province. The coastal sage scrub is a low scrubland plant community of the California chaparral and woodlands ecoregion, which is itself part of the Mediterranean forests, woodlands, and scrub biome. Located within the lower Tijuana Valley, a wide and flat region bordered by sleep-sloped terraces to the north and high mesas to the south, the key geological formations of the diverse Tijuana River estuarine zone include quaternary and recent alluvial and slopewash deposits that can reach a depth of 130 feet. The underlying sediment is composed of sandstone, shale, and limestones and recent sand deposits along the estuary's shoreward length. The region's characteristic mesas of sandstone and conglomerates surrounds the lower valley on three sides, to the north, east, and south. The highly erodible sandy loam soil covering the mesas contribute a large degree of downstream sedimentation that adds to the sedimentation load created by sands transported form the mudflats at

[28] *Tijuana River National Estuarine Research Reserve*, accessed on August 4, 2013, http://www.trnerr.org.

Fig.25: Downtown Los Angeles skyline, 2012.

Fig.26: The Tijuana River Estuary, on the U.S. side of the border. The city of Tijuana is in the upper left.

the mouth and lower sections of the estuary and the saline Chino silt loam found upstream from the flats. All combined, they are a major cause of marsh loss and represent a primary threat to the integrity and health of the estuarine ecosystem.[29] On the high-value real estate along the coastal bluffs, development has greatly encroached upon the shrublands - once the most common habitat in the San Diego area - leaving only fifteen percent of the region intact.[30] Throughout the world this is in fact one of the most endangered habitats.

The non-urbanized territory along the San Diego Tijuana border also encompasses two paleontological sites known for yielding important remains of well-preserved fossil marine vertebrates, some having been preserved as original shell material and others even retaining their colour: the San Diego formation and the unnamed Pleistocene terrace deposits.

The significant river for the Tijuana estuarine region is not unlike many rivers of southern California in that its annual streamflows vary considerably. The Tijuana River's average yearly discharge is of 29.1 cubic feet per second.[31] Two reservoirs, the Rodriguez Dam on the Rio de las Palmas, and the South Bay International Wastewater Treatment Plant (SBIWTP) all play a role in the regulation of its flow. Mixed tides flush the main river channel and northern channel twice each day, while

[29]TRNERR, "State of the Park Report for the Ecological Integrity City of San Diego, 1979"(U.S. Department of Commerce and California Coastal Commission, 1981).

[30]"Southern North America: Baja California Peninsula in Mexico," *World Wildlife*, accessed August 4, 2013 http://worldwildlife.org/ecoregions/na1201.

[31]TRNERR, Op.Cit.

heavy ocean surges often alter tidal exchange and channel circulation within the estuary. For decades a key problem has been sewage flow in the river for which periodic closures of some areas of the reserve have had to be implemented. The construction of the international treatment plant in 1999 has helped to ameliorate the situation, although its capacity is often exceeded during the rainy season, leading to the flow of raw sewage directly into the river and estuary. The Tijuana River's watershed covers 1,750 square miles (4,533 sq km), of which three-fourths lies in Mexico and includes the city of Tijuana.

Despite the negative impact of the large sedimentation load, the pollution of the river, and coastal development and urbanization, a large number of endemic plant and animal species are still found in the region. Each of the distinct habitats that overlap here is home to its own interdependent life forms, with variations resulting from the presence or absence of salt water, unique soil types, and changes in elevation that together determine the particular make-up of each micro-environment.

The endangered coastal sage scrub habitat, interspersed with estuarine salt marshes, dunes, tidal channels, and riparian habitats, is home to a variety of sage plants including the black sage, white sage, California sage, and Munz's sage. California buckwheat, the San Diego thorn mint, bush sunflower, toyon, and lemonade-berry are a few of the many other shrubs that make up this unique habitat. Along the tidal channels, cordgrass is present in large strands while many species of succulents including saltwort and pickleweed dominate the areas above the channels. At slightly higher elevations these plants begin to grow among the thick web of shoregrass that covers the terrain. Within the drier and most southern section of the scrubland ecoregion, Agave shawii, cereus,

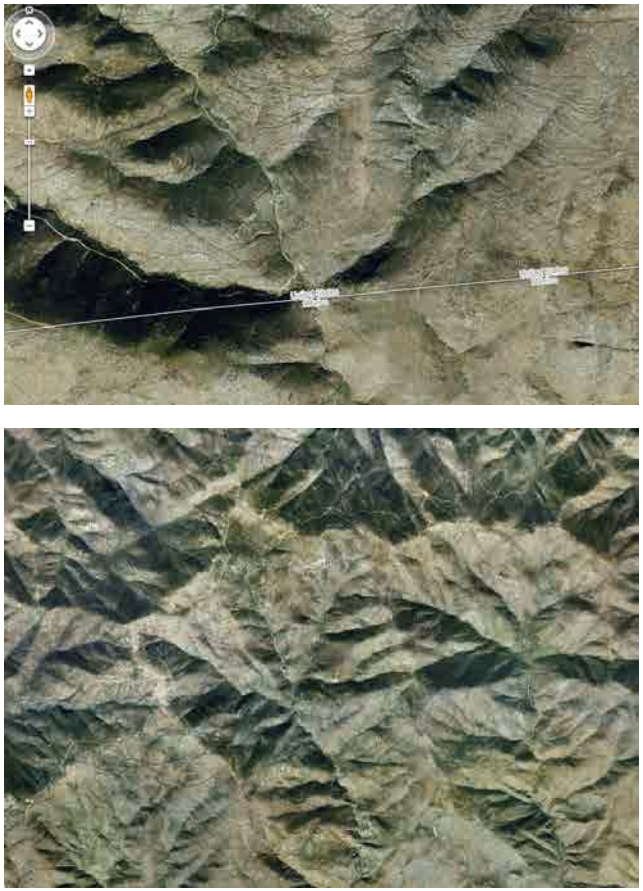


Fig.27-28: Aerial views of the Tijuana/San Diego border.

and the coastal cholla become the most dominant plant species. The coastal sage scrub is not unlike other chaparrals in being composed of many fire-adapted species that are quick to resprout and germinate after fires.

The particular composition of species within the varied habitats of the Tijuana River Estuary changes according to how distant each is from the mouth of the river. The coastal sage scrub is habitat for a number of endemic species including the coastal populations of the cactus wren, the San Diego horned lizard, the San Diego banded gecko, the San Diego pocket mouse, and the red-diamond rattlesnake.[32] The tidal creeks and channels support a population of fish representing at least twenty-nine species and nineteen families. Overall, the estuarine habitats support close to thirty species of reptiles and amphibians. The estuary is located along the Pacific Flyway, serving as a migratory and wintering habitat for numerous shorebirds and waterfowl. Of the more than 20 unique species of shorebirds recorded, the four most often seen are the willet, dowitcher, western sandpiper and marbled godwit.[33] There are also six threatened or endangered bird species frequently found in the area including the western snowy plover, the California brown pelican, the California gnatcatcher, the light-footed clapper rail, least Bell's vireo, and the California least tern. The mammal population is typical of shrubland and lowland habitats, dominated by small, burrowing herbivores including the California ground squirrel, rodents, and jack

[32]"Southern North America: Baja California Peninsula in Mexico," *World Wildlife*, accessed August 4, 2013 http://worldwildlife.org/ecoregions/na1201.

[33]J.B. Zedler and C.S. Nordby, *The Ecology of Tijuana Estuary, California: an estuarine profile,* U.S. Fish and Wildlife Services Biol. Rep. 85 (7.5), 104.

rabbits, including the San Diego black-tailed jackrabbit, which is a California species of special concern. Coyotes, racoons, bobcats, skunks, and the long-tailed weasel are other commonly sighted animals.[34]

The earliest settlers of what is now the Tijuana River Estuary were Paleo-Indian people called San Dieguito who lived in the area as early as 10,000 to 8,000 years ago during the Early Holocene period. With the change in climate over centuries, the once numerous tress and grasslands of the region receded, leaving drought-tolerant scrub and chaparral all over the valley's uplands and salt-tolerant species in the newly formed marshes. Some 1,300 years ago, in the Late Holocene, a new group called the Kumeyaay, which persists today, emerged and occupied the coastal region which had by this point in history developed into a landscape not too different from the one visible today. The resource-rich area along the ocean allowed the Kumeyaay to survive through fishing and hunting of small animals. During the Kumeyaay epoch, trade and communication among various indigenous peoples expanded, especially as some groups began to farm, so that by the end of the eighteenth century, approximately 16,000 to 20,000 Kumeyaay people inhabited the San Diego and Baja California regions.

The first Spanish explorer in the region was probably Juan Rodriguez Cabrillo, who on his route northward from Mexico in search of gold in 1542, likely sailed passed the Kumeyaay lands. However, it was not until 1602 that the Spaniard Sebastian Vizcaino officially discovered and named the San Diego Bay. In the years following, Spanish settlements and missions throughout California would begin to significantly impact

[34]TRNERR, Op. Cit.

Fig.29: Fence that divides Tijuana from Imperial Beach, south of San Diego. In Mexico, the fence has become a sort of cultural icon.

Fig.30: J Tra, 2006. A young girl peers through the United Sates/Mexico border wall at the Playas de Tijuana, Mexico.

the Kumeyaay not only through the introduction of disease and religious conversion, but also through land usurpation and the introduction of new horticultural practices including the cultivation of corn, oats, and beans and grazing of livestock[35] The Kumeyaay were not easily converted and in fact undertook the first major insurrection against the Spanish in California in 1775.

After Mexico won independence from the Spanish crown in 1821, the region of San Diego and Tijuana, like all of Alta California, was predominantly converted into large ranchos. Californio families successfully petitioned the new Mexican government to grant them deeds to prime land, including former missions, as recognition for their military service. One of the largest rancho grants in the Tijuana River Valley included a 26,000 acre deed granted to Santiago Argüello that would be named Rancho Tia Juana. In the aftermath of the Mexican-American War, the border separating the United States and Mexico would be drawn through the Tia Juana Rancho. The new frontier line would also be ceremoniously marked by a 15-foot tall obelisk of Italian marble. The Site became known officially as "Monument Mesa."

With the new laws enacted by the U.S. government, Californios were unable to maintain claim to their lands including the owners of the Tia Juana Rancho, part of whose land was now in the United States south of San Diego Bay, including the estuary. The rancho was relinquished and with time it, like most former ranchos, became farmland. The former

[35]"History," *Tijuana River National Estuarine Research Reserve*, accessed on August 4, 2013, http://www.trnerr.org trnerr.org/wp-content/uploads/.../hs_curriculum_HISTORY-chapter.pdf.

Tia Juana Rancho land now south of the border instead became a small settlement of ranch houses and trading stores that would eventually become the present-day city of Tijuana.

Over the decades Monument Mesa became a popular tourist destination and in the years of prohibition, Tijuana a haven for entertainment seekers. As in other parts of the country, the expansion of the railroad fuelled growth in the region, bringing speculators to the border who dreamed of building a "Monument City." By the end of the first World War, Tijuana had become a tourist magnet, catering almost entirely to southern-bound Americans who would call the train trip between San Diego and Tijuana the "Roadway to Hell" as the city across the border offered every indulgence imaginable.[36]

With regards to border control, the U.S. government first established a patrol in 1904 in response to the influx of Chinese labourers entering the country via Mexico. These measures were escalated even further during the years of the Mexican Revolution and again in the years of the Bolshevik Revolution in Russia which fuelled Congress to pass immigration restriction laws in 1921 and 1924. It was ironically also at this same time, however, that the prospering agricultural industry in the Central Valley and throughout California became even more dependent on Mexican labour.

The territory around the estuary would then be put to use for military purposes during the second World War. The border region all along the estuary and dunes became the training site for combat pilots. In the

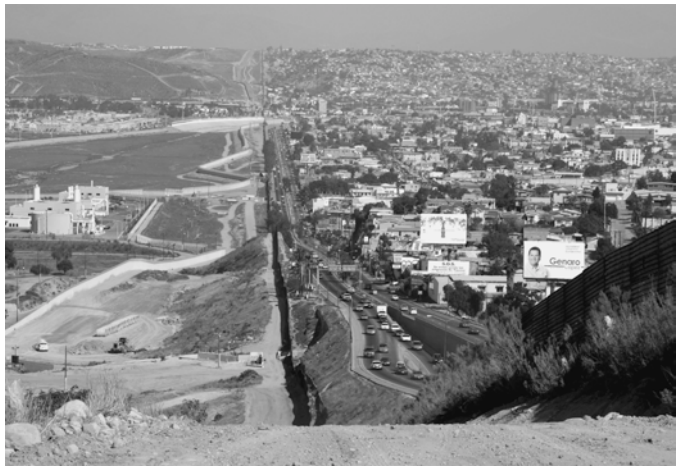


Fig.31: Andri Kyrychok, 2011. A small fence separates the densely populated Tijuana from the U.S.

Fig.32: Border wall graffiti.

[36]Ibid.

Fig.33: Border Field State Park, 2012. A view of the reserve looking north from Monument Mesa.

decades of the Cold War, the federal government and Navy purchased hundreds of acres for continued operations and infrastructure. As the Navy's activities were scaling down, in 1964 California voters approved the 1964 Bond Act to acquire navy owned-lands for a state park. A year later, the publication of biologist Raymond Dasmann's book entitled *The Destruction of California* sparked environmentalists and activists concerned about the pollution of the river valley and encroachment of development into action. Their work led to the creation of Border Field State Park in 1971. Then in 1974, the International Boundary Monument became a state and national historic landmark, protecting the southern flank of the estuary as well. In the decade following, legislation at the national level such as the Endangered Species Act and the Clean Water Act and state bills including the California Coastal Act would help local activists in their efforts which eventually led to the purchase of 500 acres from the Helix Land Corporation for close to eight million dollars, creating the Tijuana Slough National Wildlife Refuge which would become part of the U.S. Department of Commerce's National Estuarine Sanctuary Program a year after. In the last two decades, additional private holdings have been purchased forming the present-day Tijuana River National Estuarine Research Reserve which is managed by the National Oceanic and Atmospheric Administration. Other land is leased to the U.S. Fish and Wildlife Service for the Tijuana Slough National Wildlife Refuge, which together with the Border Highlands, Border Field State Park, Tijuana River Valley Regional Park, and the Tijuana River National Estuarine Research Reserve make up the stretch of non-urbanized land in the San Diego/Tijuana conurbation.

But the contemporary history of the estuary is much more than a story of ecological preservation. Until the mid-1990s, hundreds - and at times thousands - of undocumented migrants tried to cross the Tijuana River estuary every day. Even though considerably reduced by the patrolling of the border, desperate attempts are still made today. Over the decades, numerous trails have been cut through the thorny scrubs, precisely describing the trajectories of these perilous crossings and their consequent surveillance, forming a maze of pathways through the mesas and the floodplain.

This is precisely what makes the Tijuana River estuary different from all of the other case studies included in this survey. The term urban wilderness in this case does not only refer to the distinctive characters of an unanthropized landscape intended as a place of wild nature, but more notably to the fact that this landscape has been for thousands of people a place of exodus. When applied to the Tijuana River estuary the term wilderness evokes the deepest part of its own semantic substratum, the one that goes back to the pre-Romantic idea of wilderness as a place of discomfort. The narrative of the biblical exodus - comprised of a place to escape from, a promise land to reach, and the wilderness that divides them - in Tijuana and San Diego recurs in an incredibly compressed geographic space, yet it is no less powerful.

CHAPTER FOUR
URBAN WETLANDS

The miracle of light pours over the green and brown expanse of saw grass and of water, shining and slowly moving, the grass and water that is the meaning and the central fact of the Everglades. It is a river of grass.

Marjory Stoneman Douglas

4.1 Theodore Roosevelt Island in Washington D.C.

The core of the Washington D.C. metropolitan area sits at the confluence of the Potomac and Anacostia Rivers in the southern Mid-Atlantic Region. The centre of the capital city occupies a vast tract of land, loosely-triangular in shape, defined by the two rivers as they converge southward. The rest of the urban region spreads north and across the two rivers in all directions in numerous small urban and suburban poles, varied in size and density, that alternate with agricultural patches and recreational open spaces, and that are connected through a robust roadway system. Even if far from working with the logic of a twin city, the Washington metropolitan area expands up to the outskirts of the Baltimore metropolitan region, with which it shares several urban synergies. The baroque lay-out of the national capital is well-contained within the left bank of the Potomac and the right bank of the Anacostia. In a centric position within this vast centripetal urban system, the only island of the Potomac River within the District of Columbia is a small enclave of semi-wild land, protected and dedicated to Theodore Roosevelt as a memorial standing at the very core of the nation's capital city.

Fig.1: National Parks Service, Theodore Roosevelt Island.

On following page, Fig. 2-3: Forrest Stuart MacCormack, 2000. A view of Roosevelt Island; A view of Roosevelt Island from under the Theodore Roosevelt Memorial Bridge.

The Theodore Roosevelt Island is a cuneate, flat islet covered by wetlands and woodlands that faces the high-rise skyline of Rosslyn, Virginia of the river's west shore and the monumental buildings of Foggy Bottom of the river's east shore. Developing along a northwest-southeast axis, it has a surface area of approximately eighty-six acres and is roughly one kilometre long and half a kilometre wide, reaching maximum width south of Georgetown, near the conflux of Rock Creek.[1] Opposite the island shore a few creeks and channels flow into the Potomac River. In addition to the already mentioned Rock Creek, Little River flows from the western shore and Georgetown Channel and Tiber Creek from the eastern shore. Tiber Creek was a small watercourse that flowed through the National Mall before being channelized in the 1870s.[2] A small island named Little Island lies just off the southern tip of Theodore Roosevelt Island and is managed as a component of the larger island.

The Theodore Roosevelt island lies on the Atlantic Seaboard fall line, between the Northern Piedmont Plateau and the Middle Atlantic Coastal Plain as evidenced by its geologic stratification and the difference in soil between its rocky northwestern shores and sandy southeastern end. The island's geologic composition is characterized by the metamorphic micaceous schist in its interior, surrounded by

[1]National Park Service, U.S. Department of Interior, *Theodore Roosevelt Island*, by Historic American Landscapes Survey (2007), 1-2, accessed August 5, 2012, http://www.loc.gov/pictures/item/dc1044/.

[2]Cornelius Heine, "The Washington City Canal," *Records of the Columbia Historical Society* 53/56 (1953/1956): 1-27.

alluvium.[3] Over the course of the last two centuries, it is estimated that close to twenty acres of alluvial soil have been added to the island, mostly along the east side resulting from the build-up of deposits made by the slow moving Potomac River.[4] There are two slight relieves in the otherwise flat island occurring near the island's centre and just south of the centre, each reaching approximately forty-three feet (13 m) in height. The northeastern side of the island is steeper than the southwestern side, which slopes gradually to the alluvium.[5] The island's dominant ecological zones include a swamp that stretches across the entire eastern side of the island and encompasses the southwestern shore as well. Non-forested alluvial deposits along the shore are dominated by freshwater tidal marsh while deciduous forests cover the uplands and border the riparian shores and swamps.

Washington, D.C. is located in a humid subtropical climate zone that is typical of the inland Mid-Atlantic region. It experiences four distinct seasons with warm springs and autumns, cold winters that see an average of 15.5 inches (39 cm) of snowfall, and hot humid summers with frequent thunderstorms and occasional tornadoes and hurricanes. While infrequent, tropical storms and hurricanes can cause significant flooding on the island. More common, however, are the inundations

[3]National Park Service, *Theodore Roosevelt Island George Washington Memorial Parkway*, accessed August 2, 2012, http://www.nps.gov/cultural_landscapes/snp/600061.html.

[4]Historic American Landscapes Survey, Op. Cit., 114.

[5]Lindsey K. Thomas, *The Impact of Three Exotic Plant Species on a Potomac Island*, publication no. 13 (Washington, D.C.: National Park Service Scientific Monograph, 1980), 1-5, accessed August 2, 2012, http://www.nps.gov/history/history/online_books/science/13/chap1.html.

along low-lying sections of the island that occur several times each year as a result of flood waters flowing from the Appalachian Potomac. Adding to the island's shoreline conditions is the fact that while the section of the Potomac surrounding the island is still composed mainly of freshwater, it is subject to ocean tides.

The Potomac River valley was inhabited by several Algonquin-speaking indigenous tribes from pre-history through the time of the arrival of the first European explorers.[6] Fishers and farmers, their settlements spanned the region from Great Falls to the Chesapeake Bay. From the accounts of early Swiss and English explorers to the region and prehistoric sites excavated on the island in 1967, historians believe the Anacostin[7] people, who were part of the Powhatan confederacy, lived on the island.[8] The first records of the island itself come from a rare map of Virginia and Maryland published in 1673. On this map by Augustine Herman the island is called 'Anacostien lie'[9] perhaps in reference to the people inhabiting it. The name was adopted by other maps of the time, but then seemed to disappear for many years.

The first reported deed for the island dates to 1682 when the Second Lord of Baltimore, who possessed most of the colony of Maryland at the time, granted it to Captain Randolph Brandt as a form of payment

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[6]Historic American Landscapes Survey, Op. Cit., 4.

[7]Also known as the Anacostien and Anacostan.

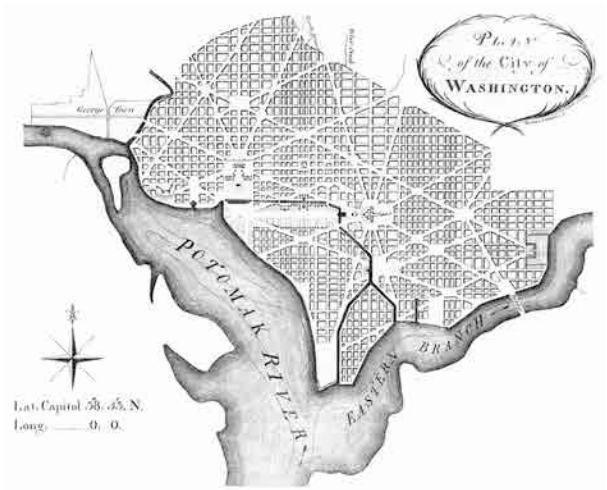
[8]Nan Netherton, "Delicate Beauty and Burly Majesty: The Story of Theodore Roosevelt Island," rev. draft (unpublished report, U.S. Dept. of the Interior, National Park Service, March 1980), 10.

[9]Thomas J. Scharf, *History of Maryland from the Colonial Period to the Present Day*, Vol. 1 (Hatboro, PA: Tradition Press), 1967, 42.

for his efforts in protecting colonists from Native American attacks. After Brandt's death, the island was left in the possession of his daughter and son-in-law who sold it to banker and businessman George Mason III in 1717.[10] The Mason Family owned the island until 1833, during which time the island began to be called Mason's Island. During his lifetime George Mason IV would be instrumental in the establishment of the Bill of Rights and is best remembered in this regard. He, however, also owned the Theodore Roosevelt Island after his father's death and established a ferry between the island's north shore and Georgetown, creating the only river crossing until a bridge was constructed in 1809. Mason's Ferry, as it became known, played an important role in the Revolutionary War.

The island's landscape was not greatly transformed until John Mason, George Mason IV's son, began converting it into a plantation and rural estate. He built a mansion and gardens on the southern end of the island which was used by his family during part of the year. Rows of crops including cotton and maize dominated the island's northern extreme while a vegetable garden, flower garden and fruit trees were planted near the Mason's mansion. At one point, John Mason also raised Merino sheep on the island. The accounts of visitors to the island also provide information on the native vegetation present in the early 1800s including: different species of oak, walnut, mulberry, poplar, locust, ash, willow, the papaw and spindle trees, poison oak, Virginia jessamine, several species of milkweeds, redbud, and sassafras tree. Such accounts also gave reports of animals present on the island at the time including: snapping turtle, painted tortoise, streaked tortoise, muskrat,

[10]Historic American Landscapes Survey, Op. Cit., 5-15.



On previous pages, Fig. 4-9: Theodore Roosevelt Island.

Fig. 10: Andrew Ellicot, The revised L'Enfant plan of the city of Washington, 1792. Engraving on Paper.

cat-bird, partridge, hummingbird, crow, and several other birds. At the time of these writings from 1811, it was noted that several species which had previously been recorded on the island were no longer present: deer, wild turkey, canvas-back duck, and wild goose.[11]

The Masons would leave the island by 1825 due to a bank foreclosure following several failed business ventures and investments although many accounts cite the cause of the family's departure as the construction of a causeway which created stagnating water and mosquito infestation. The island then passed from hand to hand until the time of the Civil War when Union troops stationed there.[12] In the years following the Emancipation Proclamation, a humanitarian group called The Association of Friends would centre its work in assisting newly freed-people around Mason's Island, establishing a camp there that served as an employment depot and refuge camp until the summer of 1865. It then went through a period of absentee ownership and varied, temporary uses. By the turn of the century, the island, referred to as Analostan Island, had become overgrown and weathered. Many potential projects were proposed in the first decade of the twentieth century, including one to convert it into an amusement park modelled after New York's Coney Island.[13] These plans were not carried out and instead the Washington Gas Light Company purchased the island in 1913 with the intent of constructing a new gas plant there. After nearly

[11]Ibid.

[12]National Park Service, *Theodore Roosevelt Island George Washington Memorial Parkway*, accessed August 2, 2012, http://www.nps.gov/cultural_landscapes/snp/600061.html.

[13]Historic American Landscapes Survey, Op. Cit., 46.

two decades of ownership no such plant or facility had been built and it was left in a new state of abandon, occupied perhaps by the occasional squatter.

In 1931, The Roosevelt Memorial Association, renamed the Theodore Roosevelt Association in 1953, purchased the island from the gas company. The association chose it as the site for a living memorial in honour of former President Roosevelt to be dedicated as a nature preserve. It gave the island to the federal government in 1932 and less than a year later its name was officially changed by President Herbert Hoover to take on Roosevelt's name. The National Park Service would ultimately gain authority over it in 1933. The Olmsted Brothers and architect John Russell Pope would be hired to convert the island to a planned wilderness to be conserved as closely as possible to its natural state. The long-term plan of Frederick Law Olmsted, Jr. was the establishment of a climax forest; in following with this plan, only native species were acceptable and the Mason mansion and buildings had to be removed. The Civilian Conservation Corps were involved in clearing most non-native vegetation and planting of native hardwood trees and shrubs which numbered upwards of thirty-five thousand. The Olmsted plan was carried out and efforts made to recreate the 'natural' environment of the island. Nevertheless, projects on the island also included the construction of the Theodore Roosevelt Memorial Bridge, opened in 1964, and the erection of a statue in memory of Theodore Roosevelt, completed in 1967. Since the late 1960s, the National Park Service has managed the island as a national memorial and has attempted to maintain its presumed former appearance, controlling the spread of invasive species, English ivy in particular.

Fig. 11: 19th Century photograph of the Mason house on Theodore Roosevelt Island, National Park Service.

While Olmsted's reforestation project called for the removal of exotic species - in particular the aggressively invasive English ivy and Japanese honeysuckle - today these species continue to impede the growth of other species and their growth continues to be controlled allowing for a more varied vegetation on the island. The island is covered by a mixed deciduous forest that borders the many marshes found throughout the island's perimeter and swamp of the eastern half. The deciduous trees of the bottomland marshes and swamp include the box elder, silver maple, river birch, white ash, ash, sycamore, basket oak, willow, bald cypress, and elm. The area is also abundant in deciduous shrubs including alder, buttonbush, silky cornel, and elder, and herbaceous plants including the mallow, water iris, cattail, forget-me-not, squaw weed, and numerous ferns. A large part of the alluvial forest grows on hummocks which are not inundated in the annual floods, other parts occur in orographic depressions, inundated annually, sometimes daily by the tides. The upland forest is composed primarily of American hornbeam, sycamore, black cherry, white oak, river birch, sassafras, American elder and spicebush. The rest of the island counts with numerous other trees including both black oak, flowering dogwood, persimmon, sweetgum, tulip poplar, Osage orange, mulberry, plane, locust, red cedar, hemlock, pine, and American holly. The thick understory and groundcover of the island also includes shrubs such as downy Pinxterbloom, spicebush, coarlberry, European cranberry bush, mountain laurel, trumpet vines, and as already mentioned English ivy.[14] The eighty-six acres of rich vegetation and distinct ecoregions create numerous habitats for a great variety of birds, for rabbits, squirrels, muskrats, opossums, red and gray foxes, turtles, and ducks. Some of the most common bird species include

[14]Historic American Landscapes Survey, Op. Cit., 118-123.

the hairy woodpecker, pileated woodpecker, downy woodpecker, red-bellied woodpecker, American robin, swamp sparrow, song sparrow, osprey, tufted titmouse, Carolina chickadee, Carolina wren, Northern cardinal, and the white-breasted nuthatch. Duck species include the mallard and wood duck, while the great blue heron and Canada goose are also commonly sighted.[15]

Using the criteria we have defined while generating a taxonomy for this study, the Theodore Roosevelt Island can easily be compared to Vancouver's Stanley Park: both are enclaves of semi-wild land at the very core of the metropolitan region. Yet the reasons that make both cases very relevant are quite distinct. The Theodore Roosevelt Island is very small in surface area and much more difficult to access. These characteristics combined with the fact that the city indeed has a monumental system of public open spaces that almost exhaustively captivate the attention and the interest of both city dwellers and visitors makes the island, unlike Stanley Park which is the pride of every Vancouverite, a secret known to few. Yet, we believe that it deserves an equally important place in this survey. We find that the Theodore Roosevelt Island and the relationship it establishes with the city of Washington D.C. incarnates many of the core reflections that underlie this research. In European urban history riverine islands more often than not represent the very kernel from which urbanity grew: their defendability and accessibility to fluvial infrastructure made them the most preferable point of departure for any development with urban ambitions. As the city expanded far beyond the shores of the river by which the islands stood, those islands remained the focus of the physical

On th e previous page: Fig.12: Marsh and adjacent forest on Theodore Roosevelt Island, National Park Service.

Fig.13: Theodore Roosevelt Island in late autumn, 2010.

[15]"Birds of Theodore Roosevelt Island." *INaturalist.org*, accessed August 6, 2013.

Fig.14: Theodore Roosevelt Island, 2010.

structure of the city and the very root of its foundational myth. Built and re-built more and more often than any other part of the city, before becoming a crystallised *permanence* conserved in memory of the city's grandiose past, they have always and still represent quintessential urbanity, and therefore a resounding antonym of the world *wilderness.* The Insula Tiberina in Rome and Île de la Cité in Paris speak for all. Despite the constant inspiration European capitals have been for the design and the construction of Washington D.C. from L'Enfant's early sketches and on, the Theodore Roosevelt Island is one of the most beautiful expressions of the distinctiveness of the American capital and of the American identity. On the island that sits at the very heart of the nation's capital there stands neither a classic temple nor a gothic cathedral, but a forest.

4.2 New York's Hackensack Meadowlands

The New York Metropolitan region develops by the mouth of the Hudson River, on a vast natural harbour along the northern Mid-Atlantic Shore. Its very core, the island of Manhattan, stretches for ten miles (16 km) north to south, running along the final stretch of the river, surrounded to the west by the New Jersey shore, to the east and to the south by the four other boroughs of the city: Brooklyn, Queens, the Bronx and Staten Island. The Hackensack Meadowlands are a large system of wetlands that spread out on the New Jersey shore behind the the urbanized coast, parallel to Manhattan and roughly equal in size and shape to it.[16]

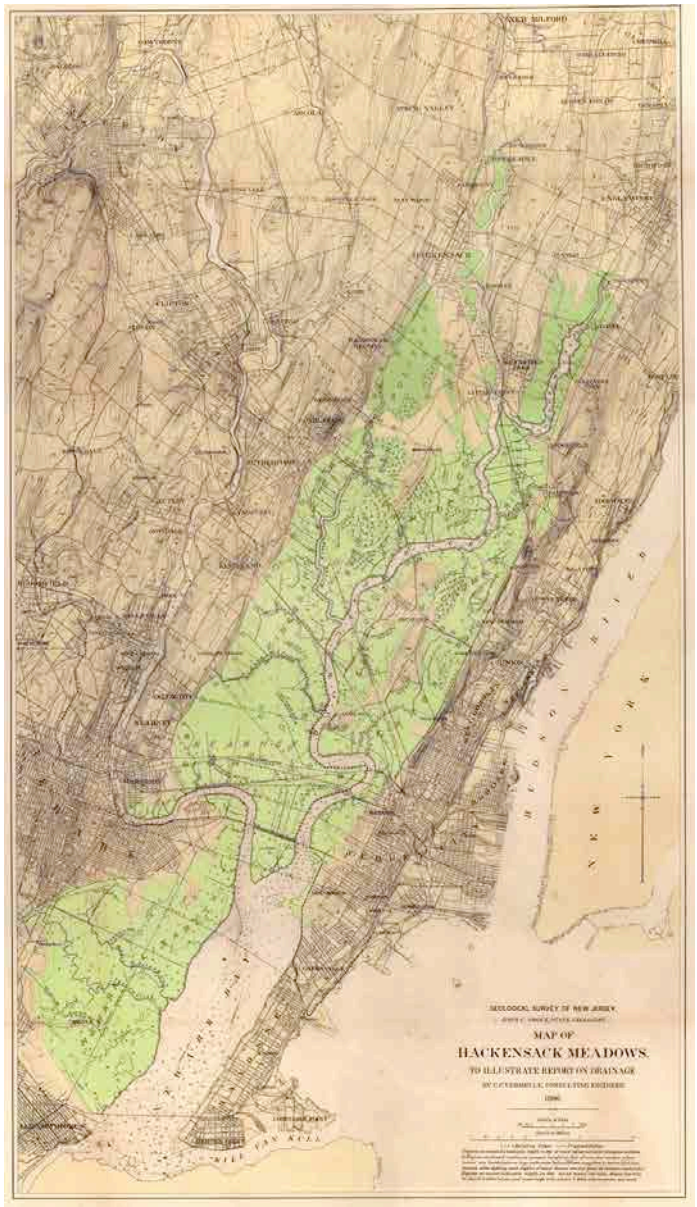
[16]Surface Area of Manhattan - 33.8 square miles; Surface Area of Hackensack Meadowlands - 32 square miles.

The Meadowlands comprise an area that spread across the estuaries of the Hackensack and the Passaic, two minor rivers that run in parallel before flowing into a small enclosed inlet, the Newark Bay. The Bay is crisscrossed by the Hackensack's meandering tributaries including Sawmill Creek, Berrys Creek, and Overpeck Creek. Several municipalities revolves around the area: Kearny, Jersey City, North Arlington, Secaucus, Lyndhurst, Rutherford, East Rutherford, Carlstadt, North Bergen, Moonachie, Ridgefield, and Little Ferry. The Meadowlands are a system of highly contaminated tidal and non-tidal salt marshes, forested and not forested uplands, dotted with landfills, both active sanitary landfills and former open dumps. Bedrock underlying the Meadowlands is composed of shale and sandstone. The wetlands are elevated from zero to approximately three meters above sea level while bedrock hills and landfills rise from to thirty to fifty metres. The area is cut by interstates and highways, railroads, pipelines, and dikes, and surrounded by dense industrial, commercial, and residential development.[17]

This extremely degraded ecosystem is nonetheless a refuge for biodiversity within the New York city metropolitan region, persisting in defiance of freeway junctions, landfills, and other uncountable sources of disturbance stemming from the urban environment. It has a high rate of marsh-plant productivity, attracts a very large population of birds and fishes, and is a very relevant place of study of urban ornithology and ichthyology, as well as for the study of urban wetlands in general.

Fig.15: Theodore Roosevelt Island National Memorial in Theodore Roosevelt Island National Park.

[17]Erik Kiviat, "The Hackensack Meadowlands: History, Ecology, and Restoration of a Degraded Urban Wetland," *Urban Habitats* 2, no. 2 (2004): 1-2. http://www.urbanhabitats.org/v02n01/introduction.html.



Furthermore, city dwellers in the New York urban region are increasingly using the Meadowlands for recreation and nature tourism.[18] The boundary of the Hackensack Meadowlands, as defined by the 1968 Hackensack Meadowlands Development Act, encompassed close to thirty-two square miles. Today roughly half of this surface area is dry upland, resulting in an area of true wetlands of thirteen square miles.[19]

Before European contact, the Meadowlands were a large system of tidal, brackish, and freshwater wetlands. They stretched across both sides of the lower Hackensack River, bordered sections of the lower Passaic, and constituted the western edge of Newark Bay. Human presence in the Meadowlands dates back some ten thousand years. Various indigenous groups over the centuries hunted and gathered resources in the area rich in seashell, fish, fowl, and mammals. The Delaware Indians inhabited the region when the first European settlers arrived, living in small communities throughout the states of New Jersey, Delaware, and eastern Pennsylvania.[20]

European contact began in the early seventeenth century when Henry Hudson sailed through Newark Bay and claimed the land for the Dutch, calling it New Netherlands.[21] The arrival of Europeans caused dramatic changes; Dutch and later British settlers were not only more aggressive

[18]Ibid.

[19]New Jersey Meadowlands Commission, *New Jersey Meadowlands Commission Master Plan*, 2002, 1.

[20]Carolione D. Emerson and Harvey Kidder, *New Amsterdam : Old Holland in the New World* (Champaign: Garrard, 1967), 23.

[21]Jaap Jacobs, *The Colongy of New Netherland: A Dutch Settlement in Seventeenth-Century America* (Ithaca: Cornell University Press, 2009), 19.

in the extraction of natural resources, but also set into place development projects that led to the alteration of water flow, land making, and sewage and hazardous waste contamination of the wetlands. Very early into the establishment of their settlements, Europeans used the wetlands, much as the Delaware and other indigenous groups had for centuries, for the extraction of food sources like fish, oysters, fowl and small mammals. They soon also began harvesting salt hay to feed and bed livestock. Hay was harvested in the fall using pitchforks and old style scythes as the soft marshes did not lend themselves to the use of machinery. The settlers that founded the city of Newark also introduced the practice of dividing the Meadowlands into long, narrow strips of land, tracing ditches to identify property boundaries.[22] This practice was common from the mid-seventeenth century to the early twentieth century.

Engineering operations caused a rapid alteration in the area's hydrology, decreasing the flow of freshwater and increasing the presence of saltwater in the area. Small dams were built as early as the arrival of European settlers and continued through the 1830s with the construction of Morris Canal. At the end of the nineteenth century larger dams were built along the upper Passaic River, creating large reservoirs. At the time cities like Newark and Jersey City also started supplying their municipal water needs by pumping the Passaic River. All of these changes accelerated the effects of the rise in sea level experienced for thousands of years along the Atlantic coast. While the

[22]Stephen Marshall, "The Meadowlands Before the Commission: Three Centuries of Human Use and Alteration of the Newark and Hackensack Meadows," *Urban Habitats* 2, no. 2 (2004): 7 -15. http://www.urbanhabitats.org/v02n01/introduction.html.

On previous page, Fig.16: Historic Map of Hackensack Meadows, 1896.

Fig. 17: Panorama of the New Jersey Meadowlands with Manhattan in the distance, 2011.

water flowing in to Newark Bay had once been fresh enough for cattle consumption, by the 1930s the Meadowlands were brackish wetlands and the extensive forests of cedar once covering parts of the land were no longer able to grow as a result of the dramatically increased salinity levels.[23]

Dredging also played an important role in the reshaping of the Meadowlands. As early as the late 1880s, the U.S. Army Corps of Engineers dredged a two hundred foot-wide and ten foot-deep channel along the lower Passaic. Similar projects were undertaken in the Hackensack River beginning in the 1900s. Regarded as invaluable and useless land, with the growing populations of cities in New Jersey and the expansion of New York City, large-scale land-reclamation projects were readily implemented in the Meadowlands. Examples include the Swartwout Family's initial project in the 1820s to develop farmlands between the lower Hackensack and the Passaic Rivers. Although the farms proved unsuccessful, this same area would again be diked by Spencer B. Driggs and Samuel Pike in the late 1860s. Adding further impetus to such activity were the reports given by state geologists at the turn of the century that recommended land reclamation in the Meadowlands as they were considered a nuisance and detrimental to the public health of the region.[24]

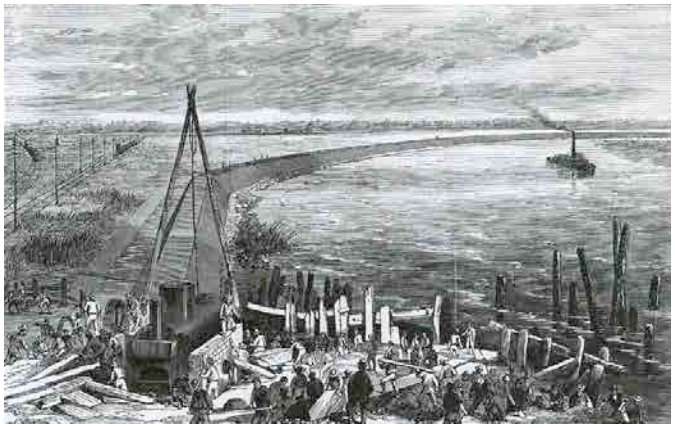
The rapid growth of cities around the wetlands not only propelled government and private businesses into dredging and diking projects,

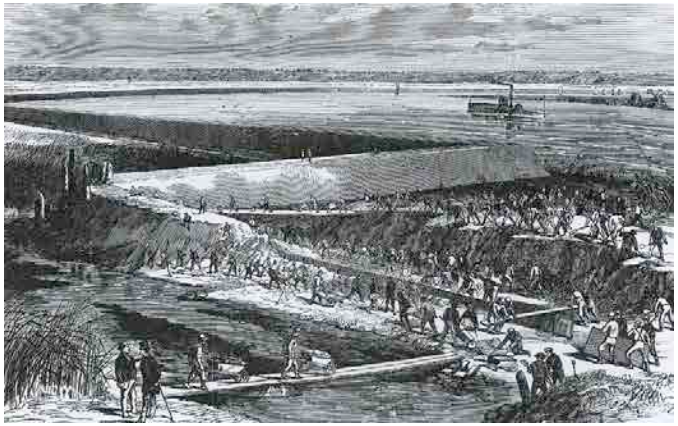
[23]Ibid.

[24]Ibid.

but also created an unprecedented amount of garbage in the region.[25] As early as the late 1880s, the southern end of the Meadowlands was already severely affected by the sewage and industrial wastes being poured into the Passaic River. The cities along the river joined together to construct a sewer line that fed into Newark Bay which resulted in a cleaner river but more polluted bay. With the dredging of the Hackensack River, more of these polluted waters began to infiltrate it as well. Beginning in 1906, New York City garbage began to be mixed with clean fill and used in projects to create new upland in the Meadowlands. In four decades up until the late 1960s, half of the surface are of the Meadowlands north of Newark Bay were filled in.[26] Decades later garbage was introduced in the area not only as new land fill but simply dumped there, initially in open dumps and later in sanitary landfills. A major source of refuse came from private and commercial companies which stopped being serviced by the municipal garbage service in 1957 and consequently hired private garbage collectors who illegally dumped on the Meadowlands.

While the land continued to be greatly polluted, other large-scale development proposal were also introduced in the years following the construction of the New Jersey Turnpike. In 1960, the Meadowlands Regional Development Agency was formed to oversee and foster the further development of the wetlands. These efforts were followed by the Hackensack Meadowland Development Act of 1968 and the New Jersey





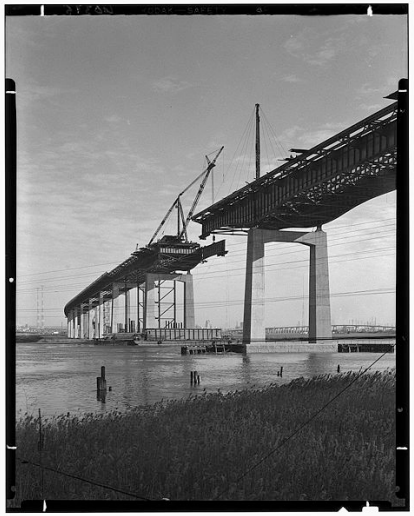
On previous page, Fig.18: Melissa Farrow, the Meadowlands pre- September 11th, 2001.

Fig. 19-20: Frank Leslie's Illustrated Newspaper, 1867. Reclamation of Lower Hackensack Meadows (1&2)

[25]Susan Strasser, *Waste and Want: A social History of Trash* (New York: Metropolitan Books, 1999).

[26]Meadows Reclamation Commission, *Report of the Meadows Reclamation Commission*, 1930.

Fig. 21: Hackensack Run Bridge under construction in 1951.



Sports Authority Act of 1969. However, by 1972 with the passage of the Clean Water Act, and a changing national attitude toward environmental protection, these development projects were put on hold. Shortly thereafter in 1975, the State of New Jersey designated Sawmill Creek as a Wildlife Management Area and a new era in the history of the Meadowlands ensued. In the decades since, much attention has been focused on the management and protection of the Meadowlands.

Beginning in 2000, the New Jersey Field Office of the U.S. Fish and Wildlife Service initiated a series of meetings to bring stakeholders together on the future of the wetlands. The Hackensack Meadowlands Development Commission was renamed the New Jersey Meadowlands Commission in 2001 and restated its purpose to focus on restoration and land acquisition. A Meadowlands Symposium was hosted in 2003 in sponsorship between the U.S. Fish and Wildlife Service and U.S. Army Corps of Engineers that brought over two hundred researches and policy specialists together to discuss the management of the region. Today many preservation, habitat restoration, and development proposals continue to be developed.

A long history of degradation and disruption have reduced the wetlands tremendously and greatly altered their soils, vegetation and wildlife. Today, the Hackensack Meadowlands provide habitat to a moderate diversity of mammals, reptiles, amphibians, fish and birds, which remain perhaps are the most abundant and diverse. Twenty-two mammal species including seventeen native species have been reported in the Meadowlands. These includes shrews, moles, bats and rodents that are common species of wetland and upland habitats; a few to mention include the eastern cottontail, white-footed mouse, meadow vole,

common muskrat, Norway rat, and meadow jumping mouse. Over two hundred and sixty bird species have been reported in the Meadowlands, of which five are non native. There is a great diversity of resident, migratory, breeding and wintering birds. State-listed species of special status include: twelve species of hawks and owls, seven species of songbirds, four species of heron, four Charadriiformes, two rallids, and a species of grebe, comorant, hummingbird and woodpecker. Reptiles and amphibians include fifteen species of snakes, six species of turtles, thirteen species of frogs and thirteen species of salamanders. Over eighty species of fish have been reported in the Hackensack River and the ponds and small creeks of the marshes. The Meadowlands also have a moderately diverse flora with approximately four hundred and twenty vascular plant species, over two hundred types of phyloplankton and occasional mosses. Some of the native plants found in the Meadowlands that are rare in northeastern New Jersey include: five-angled field doddler, beardtongue, starry campion, Virginia mountain mint, pale corydalis, and post oak. Invasive plants represent a major concern in the wetlands as species such as common reed and mugwort cover thousands of acres. Other abundant nonnative species worth mentioning include: white mulberry, tree-of-heaven, princess tree, Himalayan blackberry, Japanese knotweed, and purple loosestrife.[27]

For its geographic situation, unlike most of our case studies, the Meadowlands of New York are not an urban *emergence*, quite the contrary, they are a perfect example of what we defined as an *immergence*:

[27]Erik Kiviat and Kristi MacDonald, "Biodiversity Patterns and Conservation in the Hackensack Meadowlands, New Jersey," *Urban Habitats* 2, no. 2 (2004): 31-36, http://www.urbanhabitats.org/v02n01/introduction.html.

Fig. 22: George Aronson, 2006. Egret gathering at sunrise at a tidal flat adjacent to the Hackensack River in New Jersey.

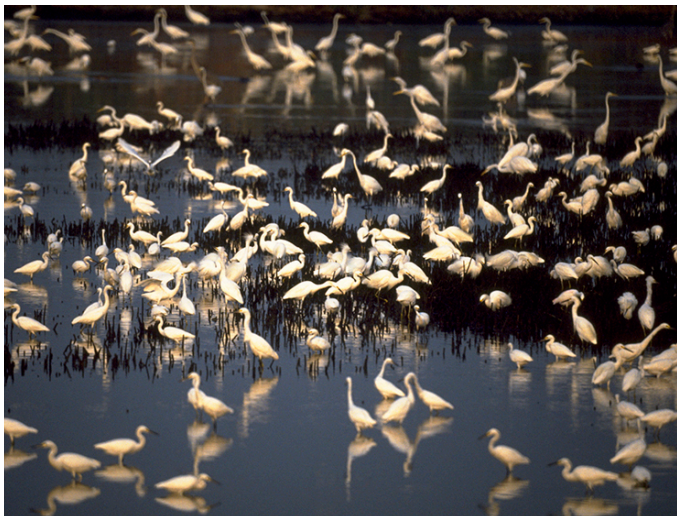


Fig. 23: View of New York skyline in distance from Hackensack Meadowlands.

a negative space, whose form and shape is defined by the surrounding urban development and not the other way round. Such configuration within the form of the metropolitan region, together with the animosity toward peri-urban wetland systems present up until recent times, made them much more vulnerable to urban encroachment once the technology to build on their unfirm soil was developed. Once an enclave of semi-wild land, the Hackensack Meadowlands are now so fragmented that we prefer referring to them as a system of wild vest pockets, just as we did for our case study in Detroit. In spite of recent development, the meadowlands remain a wild counterpart to the island of Manhattan which it resembles in both surface area and shape. If we described a similar relation between Stanley Park and the Canadian city's downtown, this case study is radically different: regardless of the efforts in recent years for the preservation of the wetlands, their ecosystem has been much more strongly connected to, and therefore damaged by, the development of the city.

Yet, the Meadowlands' incredible history should not be simplistically looked upon as the story of a struggle between urban development and 'nature.' The resilience of the ecologies that have been present since before New York City's founding in the face of the severe pollution and constant disturbances they experienced is not the only noteworthy aspect of the wetlands' story. Even more notable and inspiring for the reflections we are trying to develop in this research is the existence of the surprisingly diverse spontaneous ecologies that thrive *because of* the severe pollution and constant disturbances and that we have no right to say are less worthy of existing. As a matter of fact, at present in the natural system of the Meadowlands, the transformations made in the name of preservation overlap and intertwine so deeply with those that

represent a perpetuation of the attitude of disdain this marshy soil was subject to that they become indecipherable from them. Preservation's efforts move in the direction of restoring the evocative landscape that preceded New York City's establishment and the integrity and diversity of its native ecosystem, while admirably attempting to ward off anthropogenic influences on the land. In other words - using the definitions of this study - it strives for the *wilderness*, *wildness*, and *self-willedness* of the place. Yet in the last three centuries the place has been subject to so many factors of local and global anthropogenic change that we have a very hard time believing that it is now possible to revert this historical process without engaging the greatest human disruption of all. Studying the Meadowlands and their story and discussing its future makes us focus on the elusive reality of our relationship with our environment: preserving or re-establishing its 'pure naturalness', even if it remains one of our most profound aspirations, is impossible. The only choice we are really left with is deciding how to care for it.

> Sometimes, I sit on the top of Snake Hill until dusk, and I spread out my maps and marvel. I marvel that I am in the middle of a thirty-two-square-mile wilderness...that is five miles from the Empire State Building and a little bit bigger than Manhattan.[28]

Fig. 25: Brandon Keim, 2011. Meadowlands in New Jersey.

[28]Robert Sullivan, *The Meadowlands*: *Wilderness Adventures at the Edge of a City* (New York: Anchor Books, 1999), 18.

Fig. 26: An aerial photo of the Hackensack Meadowlands.

4.3 The Everglades of Miami

The Miami metropolitan area[29] stretches across more than 120 miles (200km) over the Eastern Coastal Ridge, a gentle rise in elevation in the otherwise flat Atlantic coast of Florida on the southernmost end, just above the Tropic of Cancer. Constituted by a continuous and virtually endless succession of low-density residential communities that loosely gravitate toward retail centres and a few poles of urban concentration, it encompasses more than six thousand square miles of surface and is home to five and and half million inhabitants, making it the most populous metro region in the Southern United States.[30] Continuing to spread not only northward and southward, but also westward, the area varies in width from five to twenty miles (8 to 32 km). Despite the natural hostility toward settlement in a territory with such hydrogeological features, urban development largely surpasses the limits of the plain on which the city of Miami initially stood, spreading deeply into a region of subtropical wetlands of immense expansion, intricateness, richness, and relevance as a refuge for the planet's biodiversity: the Everglades.

[29]The area is also often referred to as the South Florida Metropolitan Area or as The Gold Coast and is officially designated as the Miami -Fort Lauderdale-Pompano Beach, Florida Metropolitan Statistical Area of the "metropolitan and micropolitan statistical areas" defined by the Office of Management and Budget.

[30]"Population Estimates," United States Census Bureau People and Households, July 1, 2009, accessed April 28, 2010, http://www.census.gov/popest/.

Occupying the southern third of the peninsula between the shores of the Okeechobee Lake and the Florida Bay, spanning from Miami's limits to the western coast of the peninsula, the region of the Everglades is fifty miles (80 km) wide and one hundred miles (160 km) long. The boundary between the urban development and the wetland is generally filtered by a strip of cultivated land, nonetheless in some sections the division is sharp and narrow with only a peripheral road to separate the two. The largest subtropical wilderness in the United States, refuge to rare and endangered species, the Everglades provide the Miami metropolitan region with a backdrop so unique as to make it different from any other coastal city in the world

The Everglades have a subtropical monsoon climate influenced by the Gulf Stream, with hot, humid and very wet summers and short, warm and relatively drier winters.[31] The combination of the warm and wet climate, and the distinctive geologic features of the region are principal causes of the vast marshland system. In the wet season, the area is frequently hit by convective thunderstorms generated by the evaporation of water from the wetland itself. Fires produced by the frequent thunderstorms of the wet season are an important element in the determination of ecological patterns in the region. Despite their frequency, the growth of fires is controlled by wetland water and precipitation.

While the superficial soil throughout the Everglades is either peat or marl the floor is a flat shelf of limestone laid at sea level, perforated by

Fig. 27: South Florida satellite image.

[31] "Subtropical Monsoon Climate," *Koppen Climate Classification,* accessed Aug 20, 2011. www.elmhurst.edu/~richs/EC/101/KoppenClimateClassification.pdf.

Fig. 28: Satelite image of the Florida Peninsula with yellow arrows indicating the position of the Lake Whales Ridge.

springs and sinkholes and embedded with ooids, fossil bryozoans and minute shells, remnants of the region's marine geological past. These incrustations are able to make the stone very porous and permeable and thus capable of storing, and at some point, releasing water. Five different geologic formations make up the shelf: the Tamiami Formation, Caloosahatchee Formation, Anastasia Formation, Miami Limestone, and the Fort Thompson Formation.[32] Each has a different degree of density and therefore porosity and permeability. Although the region appears to be perfectly flat, there are some slight variations in elevation with a system of plateaus and valleys that rise or fall only a few centimetres, but that however generate considerable variation in water distribution and therefore in the region's ecological patterns.[33] The perforated and porous limestone shelf affects the hydroperiod of the basin, in other words the length of time that an area within the region stays flooded throughout the year.[34] Water is clearly the dominant force and substance of the Everglades: it shapes not only the land and the land cover but also the wild life of the region. The tropical rainfall of the wet season discharges over the vast and shallow lake situated north of the wetland system, Lake Okeechobee, overflowing it and forming a wide slow-moving sheetflow[35]over the limestone shelf that flows toward the Florida Bay. The limestone shelf is slightly angled: the vertical

[32]Michael Grunwald, *The Swamp: The Everglades, Florida, and the Politics of Paradise* (New York: Simon and Shuster Paperbacks, 2006).

[33] Thomas E. Lodge, *The Everglades Handbook. Understanding the Ecosystem* (Boca Raton, FL: CRC Press, 2005), 38.

[34]David McCally, *The Everglades: An Environmental History* (Gainesville, FL: University Press of Florida, 1999), 12.

[35]This is the term with which we refer to the slow movement of a broad, shallow body of fresh/brackish water.

gradient from Lake Okeechobee to the Florida Bay is about two inches (5.1 cm) per mile, creating an almost 60 mile (97 km) wide 'river of grass'[36] that travels about half a mile (0.8 km) per day. Water moves so slowly that it is typically stored from one wet season to the following in the porous, permeable limestone substratum.

The area recognized as the Everglades is a meshwork of marshes and prairies of almost 4,000 square miles (10,000 sq km) in size.[37] It is a complex system of interdependent ecosystems, whose boundaries overlap and become imperceptible. These ecozones and ecotones shift, expand and shrink, die and resuscitate within years or decades. The Everglade's most iconic landscape are the sawgrass marshes made of sawgrass prairies and sloughs. Spreading across a corridor 100 miles (160 km) long and 62 miles (100 km) wide, from Okeechobee Lake to the Florida Bay, it is often referred to as the "true Everglades" or "the Glades".[38] Sawgrass prairies thrive in sheetflow water, where the hydroperiod is nine months or longer,[39] unless unusually severe floods impede oxygen from reaching their roots or fire interrupts their growth. Where sawgrass stands are dense, few competitor plants survive, and even wildlife here is not abundant, being perhaps the reason why alligators choose these locations for nesting.[40] Where stands are not as

Fig. 29-30: Isabelle, Puaut, Everglades deer stands in the River of Grass.

Fig. 31: National Parks Service, 2004. Florida panther at night.

[36]Marjory Stoneman Douglas coined this nickname for the Everglades in 1947.

[37]Lodge, Op. Cit.

[38]Jean Craighead George, *Everglades Wildguide*. (Washington, D.C.: National Park Service, 1972).

[39]Susan Jewell, *Exploring Wild South Florida: A Guide to Finding the Natural Areas and Wildlife of the Everglades and Florida Keys* (Sarasota, FL: Pineapple Press, 1993), 46.

[40]Ibid.

Fig. 32: Peggy Greb, 2003. Old World Climbing Fern (Lygodium Microphyllum).

Fig. 33: Jeff Ripple, Big Cypress Swamp.

dense, periphyton supports larval insects and amphibians, which in turn attract birds, fish, and reptiles. Sloughs lays in between sawgrass prairies. Deeper and with a longer hydroperiod than sawgrass marshes, they sometimes remain flooded all year long for several years in a row.[41] Turtles, alligators, snakes, and fish thrive here, feeding on aquatic invertebrates.[42] Submerged and floating vegetation also grow well in the sloughs and species such as bladderwort, waterlily, and spatterdock can be frequently spotted. Sawgrass prairies and sloughs are punctuated with hardwood hammocks. Ranging in surface area between a half to five hectares, hardwood hammocks stand above the sawgrass prairies and sloughs or pinelands, elevated on limestone plateaus that rise above the surrounding peat. Hammocks are composed of a mixture of temperate tropical hardwood trees: southern live oak, gumbo limbo, royal palm, and bustic.[43] Sharp saw palmettos also flourish near the base, making the hammocks intricate enough to form ideal habitats for small mammals, reptiles and amphibians. Water in sloughs flows around the islands, creating moats and protecting trees from fires although the combination of wind and lightning and other weather forces limit the height of the hammocks that on average grow no more than sixty feet (18 m).[44]

The landcover over the driest areas of the Everglades is generally pineland with scattered stands of South Florida slash pine. Situated in

[41]Lodge, Op. Cit, 31.

[42]George, Op. Cit. p.13.

[43]Marjory S. Douglas, *The Everglades: River of Grass (*Atlanta: R. Bemis Publishing, 1947), 48.

[44]George, Op. Cit., 31.

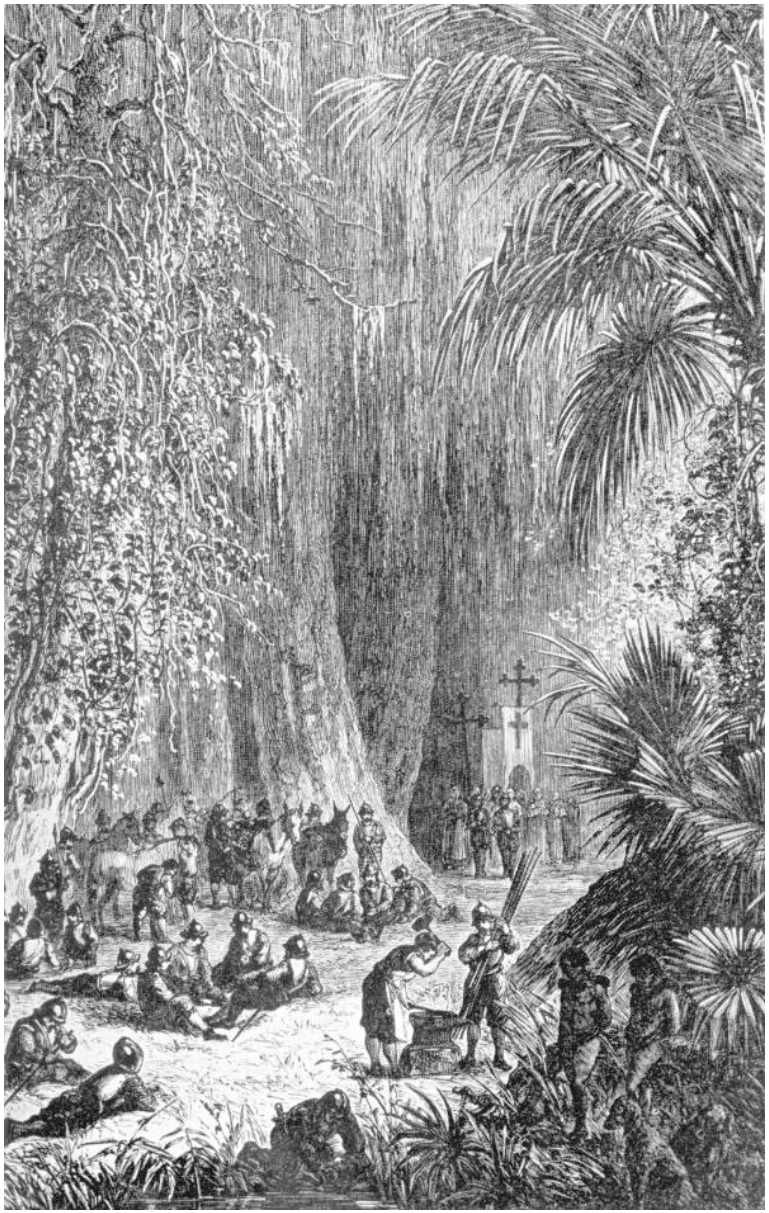
the highest areas they have a short or null hydroperiod even if they might have flooded solution holes and puddles for several weeks at a time. To maintain themselves and resist being overtaken by hardwood hammocks, pineland communities depend on periodic fires. Trees develop several ways to both promote and resist fire, while understory shrubs are comprised of fire-resistant species like the saw palmetto, cabbage palm, and West Indian lilac and several species of fire resistant herbs.[45]

Although sawgrass, sloughs and hammocks create the most iconic landscapes of the Everglades, the tallest and oldest trees in the region are cypresses. With roots adapted to grow underwater for months at time, some are as old as 500 years in the Big Cypress Swamp of the western Everglades. In addition, mangrove forests can be found in the transition zone where fresh water from Lake Okeechobee mixes with salt water from the Gulf of Mexico at the Florida Bay. Many bird, fish and invertebrates thrive in the mangrove ecosystem.

The early history of European-Americans in the Everglades was marked by conflict with the Seminole Indians, a heterogenous tribe comprised mostly of the Lower Creek Indians who had conquered and incorporated the various tribes inhabiting the Florida Peninsula. Three wars were fought against the Seminoles in the period between 1817 and 1858. The wars brought European-Americans in contact with the wetlands, arguably among the most hostile territories of the American

Fig. 34: U.S. Marines searching for Seminole Indians among the mangroves during the Florida War -1835-1842. Defense Dept. Photo (Marine Corps).

[45]"Land and Resource Management Projects," U.S. Geological Survey, accessed June 20, 2011, http://sofia.usgs.gov/publications/reports/doi-science-plan/managefire.html.



wilderness, for the first time. The descriptions written by a military doctor in his memoir spoke of a "most hideous region to live in, a perfect paradise for Indians, alligators, serpents, frogs, and every other kind of loathsome reptile."[46] It was in fact during the second Seminole War that an expedition produced the first written account of the area.[47] Nonetheless, despite the fact that Florida had been the first area of the present-day United States to be colonized by European-Americans, by the end of the nineteenth century, when no frontier was left in the country, the Everglades remained among the very few areas still unexplored. As the explorer Hugh Willoughby would put it, "we have a tract of land one hundred and thirty miles long and seventy miles wide that is as much unknown to the white man as the heart of Africa."[48] In 1897, Willoughby organized an expedition and canoed the Everglades for eight days, paddling from the mouth of the Harney River to its confluence with the Miami River.

Despite the paucity of knowledge of the territory, in accordance with the common attitude of the time toward wetlands, European-Americans in Florida intended to drain them and to repurpose them for agricultural use. Records outlining plans to drain the Everglades date as far back as 1837.[49] Nonetheless the first reclaiming operation did not begin until 1881, when Hamilton Disston, a Pennsylvania real estate

[46]Grunwald, Op. Cit, 42.

[47]Charlton W. Tebeau, *Man in the Everglades: 2000 Years of Human History in the Everglades National Park* (Coral Gables: University of Miami Press, 1968).

[48]Lamar L. Stephan, "Geographic Role of the Everglades in the Early History of Florida," *The Scientific Monthly* 55, no.6 (1942): 515–526.

[49]J.E. Dovell, "The Everglades Before Reclamation," *The Florida Historical Quarterly* 26, no. 1 (1947): pp. 1–44.

developer and industrialist, purchased an area of 16,000 square kilometres from the State of Florida - an area corresponding to half the surface area of Catalonia - making it what is reportedly the largest tract of land ever bought by a single private citizen.[50] After the purchase, Disston immediately began canalizing the area that is today the municipality of St. Cloud. Although draining operations did not go well, from the beginning the purchase spurred the arrival of new settlers and tourists and boosted the real estate market, doubling property values in the area.[51] At the same time, the oil tycoon Henry Flagler began purchasing land and building rail lines along the east coast of Florida, as far south as Palm Beach in 1893. In 1894, Napoleon Bonaparte Broward ran for governor on a platform that included plans to drain that abominable 'pestilence-ridden swamp,' fulfilling the promise quickly once elected. He continued to promote the reclaiming of land up until his death fifteen years later. In the same years Flagler continued the railroad construction financing the creation of citrus groves and luxury hotels along the way. At that point, the area experienced a tremendous boom: the young city of Miami became the destination of choice for the most wealthy tourists, and the real estate market flourished. Nonetheless, the drained land did not offer good agricultural results. While real estate sellers advertised that new farmers could make a living off the land in a matter of eight weeks after purchase, this amount of time was in fact often barely sufficient to clear the land. Sawgrass prairie burning, undertaken by recently-settled farmers attempting to clear the land, unearthed the unusual characteristics of the soil. The peat comprising

On previous page, Fig. 35: 1500s, Hernando Desoto in the Florida wilderness, engraving.

Fig. 36: Example of Calusa shell mounds in the Everglades.

[50]Frederick Davis, "The Disston Land Purchase," *The Florida Historical Quarterly* 17, no. 3 (1939): 201–211.

[51]Ibid.

Fig. 37: Alligator hunting in Florida, 1870. Robert N. Dennis collection of stereoscopic views.

the superficial soil of the Everglades burned continuously, demonstrating its potential as a fuel source rather than as agricultural soil. Furthermore as farmers attempted to plough the land they realized that animals and tractors were unable to do the job without 'miring in the muck'.[52] When the muck would eventually dry, it turned into a fine black powder, often creating dust storms and when plants did grow - while initially lush - they would suddenly die without apparent cause or reason.[53] As the population in Florida increased, the wild land behind the drained areas became hunting grounds. At first, alligators, otters, and racoon were the most valued prey for their skins and furs. Soon after, however, as an ounce of exotic plumage for millinery became more valuable than an ounce of gold, the Everglades became a prime destination for plume hunting. Hunters could collect plumes from up to one hundred water birds on a good day. Their plumage would become aigrettes of wealthy women in cities such as Havana, New York, Paris, London, and Milan.[54] As prohibition started, the Everglades also became a refuge for illegal rum-runners, who found it easy to hide in the wilderness, protected by the vastness of the land that made law enforcement nearly impossible.[55] When it was understood that copper and other trace elements were needed to make the soil cultivable, sugarcane became the most common crop of Southern Florida, and the entire area experienced a second, larger economic boom.[56] In 1925, local Miami newspapers published

[52]McCally, Op. Cit., 146.

[53]Douglas, Op. Cit., 318.

[54]McCally, Op. Cit., 117.

[55]Douglas, Op. Cit., 330.

[56]Dovell, Op. Cit.

editions weighing over six pounds (3 kg), most of which were filled with real estate advertisements.[57]

After two catastrophic hurricanes in 1926 and in 1928 breached the levees of Lake Okeechobee, killing thousands of people, the federal government began focusing on flood control rather than on drainage. In 1930 the construction of a 62 mile long (100 km) dyke began, together with construction of a canal to divert the course of the water in case the lake reached dangerous water levels again, in a unprecedented operation that cost twenty million dollars.[58]

However, while solving the problem of inundation, the dyke generated other dramatic environmental consequences. The combined effects of a drought in the 1930s and the dyke's impedition of water, left the Everglades almost completely parched. As a result a large quantity of peat turned into dust and salt water infiltrated into Miami wells. In addition, a series of extraordinary fires, the largest occurring in 1939, threatened to reach the city of Miami. Dried land also generated the proliferation of a bacteria present in much smaller amounts in wetter soils that favoured the desegregation of the soil.

In the same years a movement for the protection and preservation of the Everglades began and slowly grew. The idea to establish a protected area was proposed for the first time in 1928 by the Everglades Tropical National Park Association. Six years later the petition reached the U.S. Congress and legislation was approved in the spring of 1934. It took an

Fig. 38: Stephan Lamar, Map of the Everglades in 1856.

[57]Grunwald, Op. Cit., 179.

[58] tephan, Op. Cit.

Fig. 39: Photograph of Charlie Cypress from the Seminole tribe, in the Everglades in 1900.

additional thirteen years to acquire the land and to define the park's boundaries which was finally dedicated in 1947. In the same year a former editor from The Miami Herald and freelance writer named Marjory Stoneman Douglas released her first book entitled *The Everglades: River of Grass*, producing what would became the classic on nature writing and environmental advocacy.[59] Thanks in great part to this writing, the Everglades were for the first time recognized and looked upon as a river rather than as a stagnant swamp. In the famous final chapter, Stoneman Douglas announced that the Everglades were slowing dying and outlined the importance of their survival: "the wealth of south Florida, but even more important, the meaning and significance of south Florida lies in the black muck of the Glades." [60]

Immediately after the dedication of the park, two hurricanes and a long wet season caused an approximate loss of sixty million dollars in agricultural interests.[61] Subsequently the U.S. Congress approved the Central and Southern Florida Project for Flood Control and Other Purposes (C&SF). The C&SF constructed hundreds of pumping stations and close to 2,000 kilometres of canals dividing the Everglades into water conservation areas to be pumped according to seasonal and annual water levels.

Prompted by the diffusion of domestic air conditioning, the decades of the 1950s and 1960s saw an extraordinary population growth: it was estimated that 1,000 people moved to Miami every week and the South

[59]Douglas, Op. Cit.

[60]Douglas, Op. Cit.

[61]Grunwald, Op. Cit.

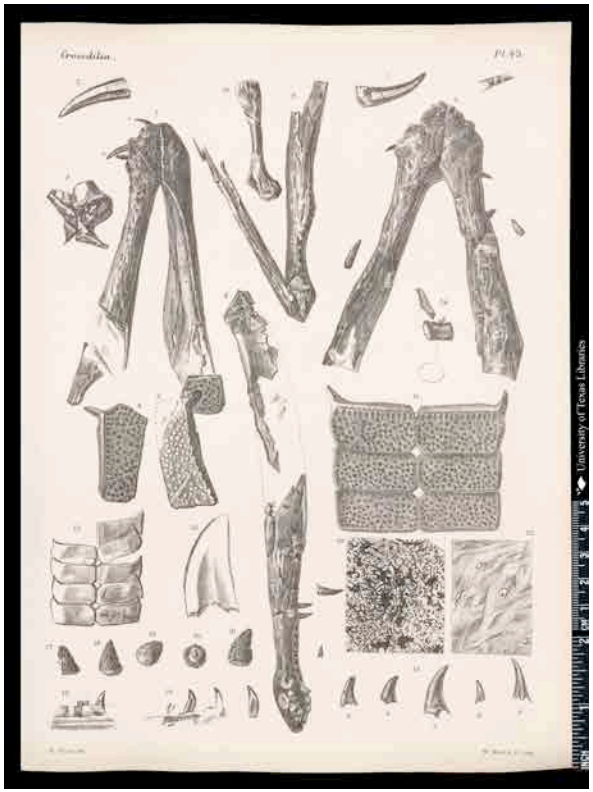
Florida region's population grew four times as quickly as the rest of the country. [62] Most of the water demand for this growing urban development was supplied from the Everglades.

In the decades following, the introduction of fertilizers, nitrogen and phosphorous from soil decay, and plans for large-scale development such as the proposed construction of a new Miami International Airport just miles north of the Everglades National Park, further threatened the integrity of the wetland ecosystem and called into question the protection of the Everglades. The draining, flood control, agriculture and general anthropogenic change led to such phenomena as phosphorus and mercury contamination of vegetation and wildlife and consequent algal bloom, vegetation and wildlife migration, and exotic species invasion. As of today, the high levels of phosphorus and mercury make otherwise edible fish inedible, the proliferation of cattail impede alligator nesting, and up to ninety percent of waterfowl and wading bird populations have disappeared. In addition, the Florida panther is highly endangered, while almost thirty percent of fish, reptile, bird, and mammal species found in the Everglades are exotic.[63]

As the degradation of the ecosystem proceeds, some of the consequences severely affect the vast environment of the entire Southern Florida urbanized region. Ironically, a city that counts with more than 59 inches (1500 mm) of annual precipitation is now facing a situation of water scarcity, with water quality being a grave problem as well. Looking at the relationship between the community and the

[62]Ibid.

[63]Ibid.



On previous page, Fig. 40-42: Jerry Cutler, 2008, oil on linen. Mangroves.

Fig. 43: Crocodilian fossil reptiles.

wetlands, it is interesting however to remember that efforts to restore the Everglades to their pre-drainage condition date as early as 1983 when then Governor Bob Graham initiated a 'Save Our Everglades' campaign. Graham announced that by the year 2000 the Everglades would be restored as closely as possible to their pre-drainage state, prompting initiatives in this directions. Far from coming close to realization, 2000 is in fact the year in which another initiative was introduced for the remediation of more than one hundred years of care-free and disastrous transformation: The Comprehensive Everglades Restoration Plan (CERP). Through this plan, the State of Florida (via the South Florida Water Management District) and the U.S. Army Corps of Engineers are undertaking various projects to help ensure the proper quantity, quality, timing, and distribution of waters to the Everglades and all of South Florida. The Plan was approved under the Water Resources Development Act (WRDA) of 2000. It includes more than sixty distinct interventions, that will take more than thirty years to construct. The goal of CERP is to capture fresh water that now flows unused to the Atlantic Ocean and the Gulf of Mexico and to redirect it to areas that need it most. Most of this water will be used for environmental restoration, in an attempt to revive a dying ecosystem. The remaining water will be used to enhance water supplies for the South Florida economy.

More than any other case study, Miami is dependent upon its wilderness. Any activity that perturbs the wetlands' wild natural system has repercussions on the urban system and its resources. The city has learned this through a succession of colossal mistakes, each of which, like a biblical curse, has caused disastrous calamities. The most baffling aspect of the story is that the initial floundering ignited a self-amplifying

process that is causing a constantly increasing need for more and more manipulation of the land: at first the interventions enacted to subdue the wild environment caused unforeseeable reactions, then the interventions enacted to mitigate such reactions caused other equally unexpected and detrimental consequences that spurred even further action. As a result of this, decade after decade, the human factor in the Everglades' infinitely complex system has exponentially increased. While conceived and devised to put an end to this chain reaction and to dial back to the equilibrium that preceded European-American settlement, it is hard not to see in the CERP the ultimate reaction in the chain, the greatest manipulation of all. The attempt to restore the pre-drainage conditions of the wetlands is one of the prime examples of the paradox of wilderness preservation. Given the complexity of the natural system, restoration entails the maximum expression of western techno-science and the deployment of our greatest *gestell* over the land, and therefore the exhaustive annihilation of its *self-willedness*. In other words, while developed to reestablish the wetlands 'naturalness,' the CERP make them de facto a complex artifice orchestrated by man. As troubling as this idea can be, the interdependency between the urban region and the wetlands does not leave room or time for hesitation: the life of the city depends on the continuous protraction of what once were spontaneous natural processes - a daunting *contrapasso* to pay for the hubris of the first settlers.

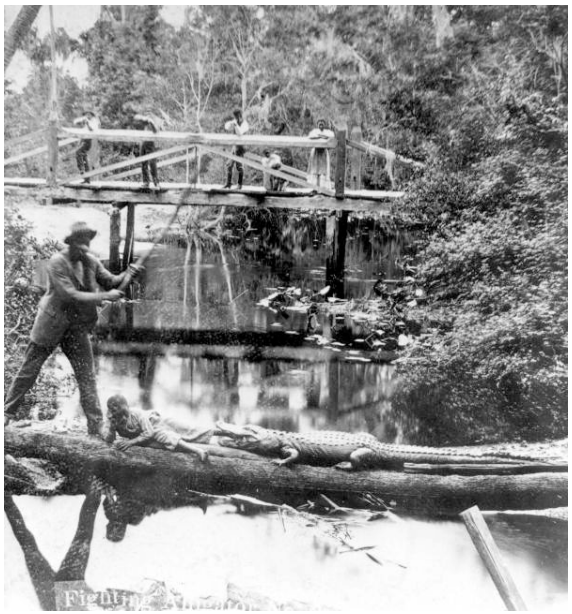


Fig. 44: Alligator hunting party, 1899.

Fig. 45: Staged alligator attack, early twentieth century.

Chapter Five
URBAN DESERTS

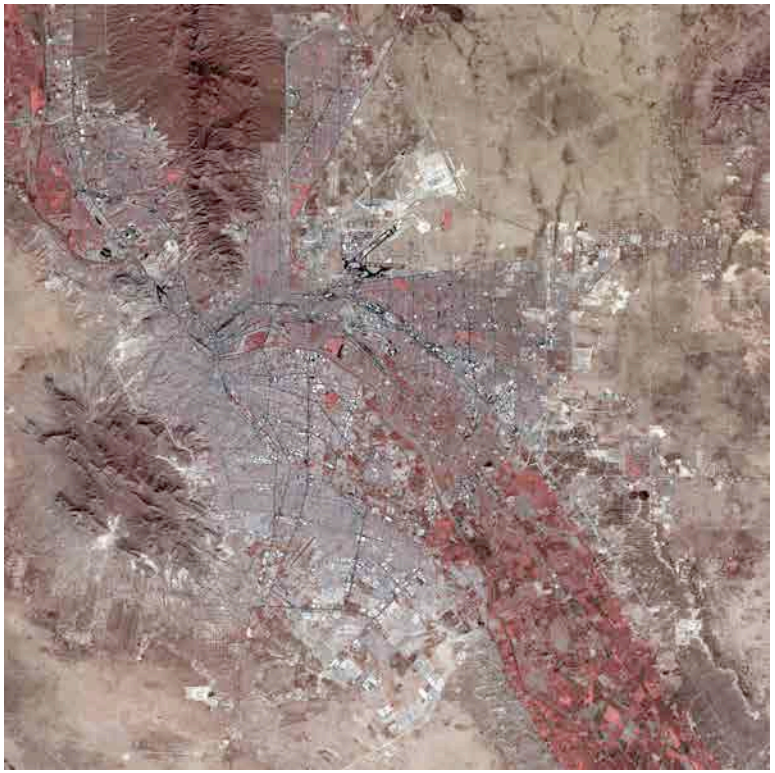
A giant thirst is a great joy when quenched in time.

Edward Abbey

5.1 The Franklin Mountains of El Paso / Ciudad Juárez

The binational urban area of El Paso and Ciudad Juárez straddles over a bend of the Rio Grande by El Paso del Norte, an ample chasm in the southernmost spurs of the Rocky Mountains, in the eastern central part of the Chihuahuan Desert. The national border runs along the river dividing the United States state of Texas from the Mexican state of Chihuahua. Ciudad Juárez, developing on the concave south shore of the river, embraces central El Paso, which develops on the convex north shore. Laying side by side, each is structured around its own set of grids, differing in orientation and density. On the north side, a high ridge of barren rock wedges into the bend, pressing toward downtown El Paso and the border, rising high over the city.

Representing the southernmost relevant peaks of the Rocky Mountains, the Franklins are a twenty-five mile (40km) long and three mile (5 km) wide range running north to south and stretching from the New Mexico-Texas state line to El Paso. To the south they tower over the downtown of the Texan city, to the east and to the west, its western and eastern neighbourhoods. The suburban developments that stretch along the southeastern, the southern, and southwestern slopes of the range generate jagged boundaries, while northeastern and northwestern



On previous page, Fig. 1: Northern edge of the sprawl in Phoenix with the Central Arizona Project Canal separating the sprawl from the wilderness.

Fig. 2: Satellite image of El Paso and Ciudad Juárez.

developments are orderly contained by a rectilinear north-south road, generating a sharp and strait divide between the city and the wild land. To the north, the mountain range merges with the open undeveloped desert plain. The area constitutes the land of Franklin Mountain State Park, administered by the Texas Parks and Wildlife. With its almost 25,000 acres, Franklin Mountains State Park is the largest urban park in the continental United States, containing an entire Chihuahuan Desert mountain range, all within the city limits of El Paso.

The area belongs to the Mexican Highland section of the Basin and Range physiographic province. It is characterized by a hot desert climate with hot and dry summers and mild and dry winters. Rainfall averages less than one inch (25 mm) per year, much of which occurs between mid summer through September.[1] During the summer months, in fact, southerly and southeasterly winds carry moisture from the ocean into the region, that combined with strong daytime heating, causes thunderstorms, some severe enough to produce flash flooding and hail. The mountains rise 3,280 feet (1,000m) over the high and flat terrain of the city. North Franklin Mountain is the range's highest peak, reaching an elevation of 7,192 feet (2,192 m) above sea level. The peak is visible from over 62 miles (100 km) in all directions. Together with the notable red-clay formation known as the Thunderbird, Northern Franklin Mountain is the most relevant physiographic feature of the range. Landforms range from craggy peaks and shaded canyon to talus slopes and lowland bajadas and dry rocky foothills.

[1]"El Paso Climate," *U.S. Climate Data*, accessed July 23, 2012, http://www.usclimatedata.com/climate.php?location=USTX0413.

The Franklins are tilted fault-block mountains, as are many found in the Basin and Range physiographic region of the United States. This type of formation forms when adjacent vertical faults fracture a section of the earth's crust, creating upward thrusts of landmass between the faults that tilt sharply under tremendous tectonic force. The resulting diagonal rock layers are visible on the mountains' eastern slopes.[2] The Franklins expose some of the oldest rocks on the planet. Precambrian rock is found in several areas within the park. Although most Franklin Mountain rock is sedimentary, igneous rock is visible in some areas as well, for example, red granite borders much of the Transmountain Road Park.

Pictograms, mortar pits, and Folsom points found at Hueco Tanks, thirty-two miles northeast of El Paso, confirm the presence of early cultures in the area as far back as twelve thousand years.[3] For centuries, native settlers lived in the plains by the mountains as maize farmers. A Spanish expedition through the Pass of the North in 1581 marked the beginning of European-American history in the area. A colonizing expedition led by Juan de Oñate followed less than twenty years later. In a ceremony held near present-day San Elizari on April 30, 1598, Oñate claimed possession of all of the territory drained by the Rio Grande, formally beginning Spanish occupation. At this time the Manso, the Suma, and Jumano people and roaming Mescalero Apache inhabited the area. Conquistadores immediately incorporated these local peoples

Fig. 3: 1886 map of El Paso. North western view of the city.

[2]"Franklin Mountains State Park," *Texas Parks and Wildlife*, accessed July 23, 2012, http://www.tpwd.state.tx.us/state-parks/franklin-mountains.

[3]For more information of Hueco Tank see: http: //www.tpwd.state.tx.us/state-parks/hueco-tanks.

Fig. 4: 1847 Map of Mexico at the time of the Mexican - American War.

into the Mestizo culture, together with migrants from central Mexico, prisoners from Comanchería, and *genízaros* of various ethnic groups. By 1659 Fray García de San Francisco had founded Nuestra Señora de Guadalupe Mission, today the oldest structure in Ciudad Juárez and in the entire El Paso area. Additional Spanish colonists and members of the Tigua tribe settled near the pass, seeking refuge there after fleeing from the Pueblo revolt of 1680. In that same year the small village of El Paso became the base from which Spain governed the whole of the New Mexico territory. Several wars between the settlers and the Apache and Comanche Indians took place as the tribes put up a strong resistance to European-American settlement along the northern bank of the Rio Grande. The Spanish relied on the river itself and the *médanos*, the sand dunes of the south bank, together with the forts of Paso del Norte and El Real de San Lorenzo, to defend against Apache warriors who for years continued to defend their land crossing the river and advancing deep into the New Mexican territory.

At the time, the Hispanic military and civilian population and the community of Spanish friars and their Amerindian wards successfully ranched, and cultivated the land, sustaining vineyards and fruit trees. Through policies of gift giving they were able to stabilize relationships with the Apaches and Comanches so that when Mexico won independence from Spain in 1821, the area had a well established population centred around agriculture. In 1824 with the passage of the Mexican Constitution, part of what is today El Paso became part of the new state of Chihuahua and the southernmost extreme of the New Mexico territory.

El Paso remained the largest settlement in the New Mexico territory until the land was ceded to the United States in 1848.[4] Under the Treaty of Guadalupe Hidalgo, the boundary between the two nations was established at the Rio Grande. Fuelled by the gold rush in California, by the end of 1849, five new settlements were founded north of the river. One of these was established on the former ranch of Juan Maria Ponce de León and would be renamed El Paso in 1859 by the pioneer Anson Mills. Much confusion around the name existed in the decades following, nevertheless, by the end of the 1880s, El Paso del Norte was renamed Ciudad Juárez, making the Texan town the sole bearer of the name.[5]

The Franklin Mountains were most likely named after Benjamin Franklin Coons, a merchant born in St. Louis, Missouri in 1826. Between 1846 and 1848 he led wagon trains to Santa Fe, establishing himself in El Paso Del Norte in 1848. In 1849, he purchased ranch property from Juan María Ponce de León which he then leased to the United States government that established the first military post in the area there. Although originally known as Coons Ranch, locals began calling it Franklin and the name persisted even as the town of El Paso, which developed around it, grew.

From 1910-1915 the northeastern slope of the North Franklin Mountain was mined for tin, being the only tin mine in operation in the United

[4]Leon C. Metz, *El Paso Chronicles: A Record of Historical Events in El Paso, Texas.* (El Paso: Mangan Press, 1993).

[5]W. H. Timmons, *El Paso: A Borderlands History* (El Paso: Texas Western Press, 1990).

Fig. 5: Camping (military) on the border, near El Paso, Texas, General Pershing's punitive expedition of 1916.

States, although its short history was marked by economic failure. In the decades following, El Paso's growth pushed the city around the mountains so much, that in the early 1920s when Scenic Drive - the road that follows the rim of the Franklin Mountains - was being constructed, the mountains were described as being the 'geographical centre of the city.'[6] With the creation of the road and the growth of an automobile-owning middle class, the mountains began to be visited by many residents of El Paso and community efforts to protect the Franklins began as early as 1925. However, it was not until 1978 that a group of environmentalists formed the Wilderness Park Coalition (now the Franklin Mountains Wilderness Coalition) to advocate for the protection of the land against proposed development. A year later, in great part due to the efforts of the coalition, the Texas legislature enacted a law that directed the Texas Parks and Wildlife Department to acquire the Franklin Mountains for a state park.[7] Today, the park is the largest urban park in the continental United States, covering close to 25,000 acres, and is administered by the Texas Parks and Wildlife Department, which oversees wildlife diversity and habitat conservation programs, environmental degradation prevention and recreation usage on the park lands.

The ecoregion of the Chihuahuan Desert is considered to be one of the most biologically diverse deserts in the world both for its species richness and its endemism. In the lowlands, desert grass, wild flowers, and bushes

[7]Robert W. Miles, "Franklin Mountains State Park" Handbook of Texas Online, accessed July 18, 2012, http://www.tshaonline.org/handbook/online/articles/gkf04.

such as the New Mexico locust, Mormon tea, crucifixion thorn, ocotillo, honey mesquite, acacia, four-wing saltbush, Mexican Poppies, and desert willow grow in drainages and dominate the landscape together with several narrowleaf and broadleaf yuccas, cacti such as prickly pears, hedgehogs, and chollas, and succulents like sotol and agaves parryi and thorny lechuguilla. Several native species have been supplanted by creosote bush which is also very widespread. The mountain slopes are the only known location in Texas in which a number of species can be found including the six foot tall Southwest barrel cactus, which is typical of the Sonoran desert.[8] Cooler peaks and moister canyons instead support communities that are more similar to those found in the southern Rockies, such as Gambel's oak and juniper.

Although located completely within the city limits of El Paso, the park abounds with mammals, birds, and reptiles. Among the mammals, one can easily find coyotes, encounter mule deer, grey foxes, jackrabbits, desert cottontail rabbits, opossum, skunks, badgers, raccoons, and several other rodents, and the occasional solitary cougar or black bear. The Mexican Wolf, once abundant, has been extirpated. The skies above the Franklins are home to golden eagles, several species of hawks, the occasional falcon, various hummingbirds that are summer residents from Mexico, and come night, a variety of bats and owls. The signature desert ground-dwelling roadrunner is also frequently seen. Among the reptiles we might mention the horned lizard, the non-poisonous glossy snake and the poisonous black-tail and banded rock rattlers, small but extremely venomous species that in Texas occur only in the far western

Fig. 6: Residential area of El Paso, Texas 1912.

[8]"Franklin Mountains State Park," *Texas Parks and Wildlife*, accessed July 23, 2012, http://www.tpwd.state.tx.us/state-parks/franklin-mountains.

Fig. 7: Female Bornean Whip Scorpion (Thelyphonus Houser)

corner of the state. Common insects of the mountains include tarantulas, scorpions, centipedes and occasionally vinegaroon. [9]

This vast urban *wilderness wedge* shares many of the morphological characteristics of the Tualatin Mountains in Portland, and the South Mountains in Phoenix yet the formal structure of the metropolis it contributed in shaping is absolutely unique. While Phoenix has been described in this study as the dialogue between an extensive urban fabric and its mountains, and the form of the Portland urban area is made of three elements - the city itself, the Tualatins, and the Columbia/ Willamette River system - the formal structure of Ciudad Juárez / El Paso is constituted by its far-reaching urban tissue, the Franklins, the Rio Grande, and - most notably - the shearing divide of the border. Downtown El Paso is literally compressed between the mountains and the *frontera*. As a consequence, the city north of the border developed primarily northward on either side of the mountains, resulting in an unusual disconnection between two halves of the city.

The crucial morphological value of the mountains and the border fully translates into semantics: the city finds its historic meaning in being *the passage* at the south end of the great Rockies and its present meaning in being - again - a passage for the dysfunctionally anisotropic flux of people and goods between the United States and Mexico. In the overlap of this morphologic and semantic value, the Franklins and the *frontera* define themselves as a powerful *permanence* - the first existing from the beginning of the city's history, the latter since the end of the Mexican-

[9]Ibid.

American War - and both are destined to remain the defining elements of their whole urban system.

Overlooking the city and casting its shadow on it, the mountains recall the many sedimented narratives of this stretch of the Chihuahuan Desert, the ones of the indigenous peoples of North America; the ones of the Spanish *conquistadores*, *misioneros* and *rancheros*; the ones of the early years of the Mexican Republic; and finally, the ones of the Mexican-American War and the early state of Texas. These stratified memories embedded in the mountainous landscape, far from pertaining to a story that has come to an end, are what can perhaps better than anything else put into perspective the dramatic present of this binational conurbation. The chronicle of violence and death Juárez has protagonized within the present history of Western cities, while never fully comprehensible, might be read as the last anticlimactic page in the story of the intertwined destinies of those who converged on *el paso* of the Rio Grande.

5.2 The South Mountains of Phoenix

The Phoenix metropolitan region spreads out on the high and flat terrain of the Salt River Valley, in the northern stretches of the Sonoran Desert of the Southwest region. Several spurs of barren mountains surround the city, two of which penetrate the confines of the urbanized area: the North Mountain and its minor peaks emerge as desert islands in the sea of suburban development on the north side, the South Mountains, stretching northeast to southwest, penetrate the suburban developments of South Phoenix, overlooking the downtown that rises on the other side of the river.

Fig. 8: William Jardin, 1839, Mexican Wolf.

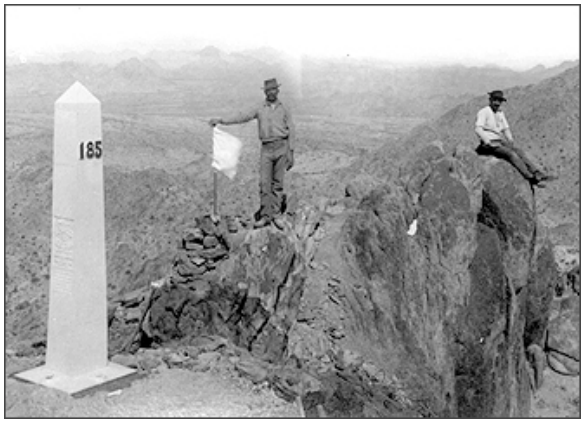


Fig. 9: This monument was erected as part of a resurvey of monuments by commissioners J.W. Barlow (US) and Jacobo Blanco (Mexico) that was completed in 1896.

Fig. 10: 1894, A southeast view of Monument No. 258, situated between the western boundaries of the United States and Mexico.

Rising over the confluence of the Salt and the Gila Rivers, 11.2 miles (18 km) long and 3.1 miles (5 km) wide, the South Mountains are bordered by Central City to the North, and by suburban communities such as Guadalupe and Raintree to the east, Ahwatukee to the south, and Laveen to the west.[10] The boundary between the undeveloped land and the suburban developments is often rectilinear and sharp but in some cases more blurred. The mountains are a formation of barren rocks from which the surrounding cityscape is more than clearly visible.

The area is included in the physiographic section of the Sonoran Desert, within the Basin and Range Province of the Intermontane Plateaus physiographic section. The mountains stretch along the transition between two of the desert subregions, each of which has distinctive physiographic and ecological features: the Low Colorado River Valley and the Arizona Upland. The first is hotter and drier and develops north and west; the second, relatively wetter and more humid, develops south and east. The area is strongly characterized by the extreme climate of the subtropical desert: temperatures at the foot of the mountains exceeds 100°F (38°C) about 110 days out of the year, often surpassing 110 °F (43°C) during the summer. Precipitation is very scarce throughout the year, but the influx of monsoonal moisture, which generally begins in early July and lasts until mid-September, raises humidity levels and can cause heavy localized precipitation. Winter months are very mild, with daily high temperatures ranging from 55°F

[10]Arthur Stiles and Samuel M. Schein, "Nestedness of Remnant Sonoran Desert Plant Communities in Metropolitan Phoenix, Arizona," *Ecology* 89, no. 9 (2008): 2473-2481.

to the upper 70's°F, and low temperatures only occasionally dip below 40°F.[11] At higher altitudes, summers are slightly cooler and winters colder.

The South Mountains consists of three mountain ranges, the Ma Ha Tauk, the Gila, and the Guadalupe. The formation ranges in altitude from 1148 ft. to 2690 ft. (350 m to 820 m) with major peaks including Mount Suppoa which is the highest peak at 2690 ft (820 m), Maricopa Peak, and Goat Hill. It is a metamorphic core complex, resulting from the movement of the North America tectonic plates from southwest to northeast and northeast to southwest. Metamorphic core complexes are unique formations found in the North American Cordillera. Their basic structure consists of a metamorphic basement terrane and an unmetamorphosed cover with a decollement in between. The resulting rock formation is characterized by lamination planes, that give it the appearance of being stretched. The South Mountains are the highest among the mountains that were produced by these tectonic forces in the area, others having been covered up by the silt that forms the flat terrain on which the city of Phoenix rests. It is believed that perhaps fifteen peaks lay underneath the land in the same orientation as the South Mountains, about one kilometre in height and at a distance of approximately one kilometre from peak to peak.[12] The mountains have a characteristic rounded dome shape. Their geologic composition

Fig. 11: View of the South Mountains in the distance.

[11]"Climatology of Heat in the Southwest," *National Weather Service,* accessed July 18, 2012, http://www.weather.gov/heatsouthwest.

[12]Gordon Lister and Gregory Davis, "The origin of metamorphic core complexes and detachment faults formed during Tertiary continental extension in the northern Colorado River region," *Journal of Structural Geology* 11, no. 1/2 (1989): 65-94.

Fig. 12: Aerial photo of Phoenix, Arizona

consists of the coarse-grained rocks granite and gneiss and infiltrations of alluvial soils. This soil is composed of mixed grain with secondary calcification, known locally as caliche.

Both archaeologic studies and the collective memory of the Pima People tell us that the Hohokam peoples had inhabited the region from the first to the the fifteenth century. Researchers believe this culture was centred precisely around the middle Gila River and lower Salt River drainages, in what is known as the Phoenix basin. In the period between 600 to 1450 C.E., the Hohokam constructed one of the largest and most sophisticated irrigation networks built in the era preceding industrial technology. By the beginning of the thirteenth century, stretches of canals estimated to total seven hundred miles in length fed green corridors running out from the Gila and Salt Rivers. Converting the arid terrain into a fertile region, they cultivated cotton, tobacco, maize, beans and squash and harvested a vast assortment of wild plants. The remains of these ancient canals now lie beneath present day Phoenix.[13] The Hohokam's reliance on canal irrigation provided the basis for the aggregation of scattered populations into stable urban centres. The petroglyphs found in the recesses of the South Mountains are believed to have been created by the Hohokam or by their descendants the Pima or Akimel O'otham people who are considered to be their direct descendants. Their settlements were concentrated on the Gila River at the time of the first exchange with Europeans. Initially, the Akimel O'otham were not contacted extensively by European explorers in the area. They were first visited by Father Kino of Spain in 1694 and

[13]Bruce Masse, "Prehistoric Irrigation Systems in the Salt River Valley, Arizona," *Science* 214, no. 23 (1981): 408-415.

continued to have limited contact even with Mexican settlers nearly a century later. Despite the limited contact, they were not immune to the influences the European presence on the continent brought including disease, livestock, metal and new cultigens including wheat.

By the end of the Mexican-American War in 1848 most of their land became part of the United States as the New Mexico Territory, including the South Mountains. In the decades following, the region would see the rise of several mining towns including Wickenburg which was established in 1863. The U.S Army established Fort McDowell on the Verde River in 1865 and Hispanic workers serving it would soon establish a camp near the Salt River in 1866, creating the first non-native settlement in the region. The city of Phoenix was established around the ancient canals of the Hohokam by early settlers led predominantly by Jack Swilling, a Confederate veteran of the American Civil War, who settled in the region in the 1860s seeking to prosper by cultivating crops in the valley. As small communities developed and coalesced in and around the canals, the town of Phoenix grew and was officially recognized in 1865. It become an important trade centre as the railroads reached it beginning in the 1880s and was incorporated as a city in 1881.

What is today the South Mountain Park/Preserve - the largest municipal park in the country comprising more than 16,000 acres - was originally called Phoenix Mountain Park. Its founding dates to 1924 when the city of Phoenix bought 13,000 acres from the federal government for $17,000. In the years of the Great Depression, the Civilian Conservation Corps (C.C.C.) program created as part of the economic measures of the New Deal, played a critical role in the transformation of

Fig. 13: 1885, A birds eye view of Phoenix.

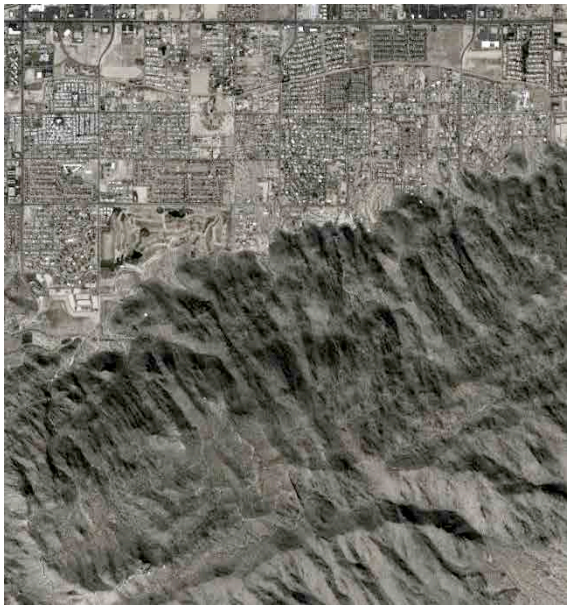


Fig. 14: Interface between the South Mountain Village suburb and South Mountains.

the mountains into an accessible desert preserve. Very little had been done within the domains of the park since its creation until the establishment of two C.C.C. camps there in October 1935 and March 1936.[14] The program's project plan included construction of hiking and horse trails, roads, erosion control, implementation of guardrails, landscaping and rock excavation. In the early 1960s a group of concerned residents of Phoenix, including Dorothy B. Gilbert who would champion the community movement, began contacting city officials and encouraging residents to voice support for the protection of South Mountain lands within the city's limits. As the city grew, and suburban development expanded, these citizens feared development would penetrate into the mountain region surrounding Squaw Peak Park and North Mountain Park, that along with the South Mountain Preserve/Park belong to the Phoenix Mountain Preserve system today. In 1970, the Phoenix Mountains Preservation Council (PMPC) was founded, formalizing these efforts to "set aside the Phoenix Mountains as a unique wilderness park."[15] In 1972, a plan to preserve 9,711 acres in the mountains was put forward and a 125-member Phoenix Mountains Preservation Commission created to recommend ways of implementing this plan. The commission's recommendations were for private lands within the preserve to be purchased with local bond funds to be augmented by Federal Revenue Sharing funds and city revenues. Largely through the PMPC's efforts, over the following two decades the Arizona State Constitution was amended to include parks and open

[14]Neil Maher, *Nature's Neal Deal: The Civilian Conservation Corps and the Roots of the American Environmental Movement* (New York, Oxford University Press, Inc.: 2008).

[15] "History," *Phoenix Mountains Preservation Council, Inc*, accessed August 1, 2012, http://phoenixmountains.org/about_us.html.

space as eligible for bonding and a number of bonds were issued allowing for the purchase of these lands. Over the last four decades, the city has continued to purchase land and the South Mountain Preserve has today expanded to nearly 17,000 acres. As Phoenix continues to grow development plans continue to come into conflict with the PMPC and preservation efforts. Currently the city is holding public hearings on the Arizona Department of Transportation's plan to increase the South Mountain Freeway which would cut through three ridges at the southwest end of South Mountain. Two of these ridges are part of the South Mountain Preserve, while the third is privately owned.

The Sonoran Desert defines not only a physiographic region but also a ecoregion[16] with the South Mountains occupying its northeastern part. Despite the harsh climatic conditions, life is very present on the mountains, and becomes abundant in the rare wet years. The mountains provide a habitat for more than 300 plant species, some of which are unique and endemic plants of the northern Sonoran Desert. Trees grow only in drainages and bajadas and they include species such as elephant tree, palo verde and ironwood. Bushes found in the area include brittlebush, ocotillo, and creosote. Among the cacti, the most prevalent are organ pipe, engelman, hedgehog and the saguaro, possibly the most iconic species of the American Southwest. Common wildflowers in the park include janusia vine, desert lavender, desert senna, twinberry, angel trumpet, San Felipe marigold, Mexican poppy, golden-eye, blue dicks, desert tobacco, desert poinsettia, and fagonia. Mammals in the area include coyotes, javelinas, and jackrabbits while

[16]The Sonoran Desert is a Level III Ecoregion of North America. See: http://www.epa.gov/wed/pages/ecoregions/na_eco.htm.

Fig. 15: Ross D Franklin, 2012. Large dust storms like this one are common occurrences in Phoenix.

reptile species include desert tortoises, geckos, rattlesnakes, and the infernal, venomous Gila monsters. A notably large population of chuckwalla lizards is also present on the mountains, with a reported density on average of 65 chuckwallas per hectare.[17] Among bird species we might mention the state bird of Arizona, the cactus wren, Gambel's quail which is found almost exclusively in the southwestern United States, the signature desert roadrunner, hawks, rock wren, verdin, house finch, Anna's hummingbird, black-throated sparrow, curve-billed thrashe, mourning dove, gila woodpecker, and the gilded flicker.[18]

When compared to the other case studies presented in this research, we are immediately drawn to make a comparison between Phoenix's South Mountain preserve and Portland's Tualatin Mountains. In the first place, it is striking to notice how much these two urban wilds resemble each other from the perspective of urban morphology. Both are mountainous spurs that penetrate into the urban core, putting it in direct connection with the greater wilderness of the region and they are therefore illustrative examples of urban *wilderness wedges*. While it is true that the South Mountain preserve is roughly three times bigger than Forest Park, the size of the two metropolitan areas also follows this ratio, making the relationship each wilderness establishes with the urban system as a whole very similar.

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[17]M.A. Kwiatkowski and Sullivan B.K. "Mating system structure and population density in a polygynous lizard, Sauromalus obesus," *Behavioral Ecology* 13 no.2 (2002): 201-208.

[18]Thomas F. Daniel and Mary L. Butterwick, "Flora of the South Mountains of south-central Arizona," *Desert Plants* 10, no 3 (1992): 99-119.

There are also other relevant similarities. In both, the wild ecosystem maintains a high degree of integrity and diversity. Furthermore, and most notably, despite their proximity to the cities' downtowns and the minimal infrastructure that cuts across their surfaces, both these relatively undisturbed tracts of land are remnants of the landscape encountered by European-Americans at the time of their early settlement. This is why perhaps management of each attempts to follow similar goals. The Tualatins and the South Mountains are preserved in a fashion similar to that employed for larger wild parks in non-urban settings: their pre-European-settlement conditions are conserved or restored in an attempt to protect their *wilderness* and their *wildness*, with the hope that these efforts do not conflict with each other, allowing for as much *self-willedness* as is possible without causing detrimental effects for the first two.

All of these shared characters and characteristics make their major difference even more apparent. Both the Tualatins and South Mountains capture the very essence of the wild environments of the regions in which they find themselves. Yet, these two essences stand at opposite ends of the spectrum of the wild American landscape. The first is the quintessential misty impenetrable forest, the second the arid untraversable desert.

Another relevant point to consider is the boundary of this urban wilderness. The satellite pictures that show the way in which the suburban fabric and the preserve come into contact are emblematic images that informed some of the underlying reflections of the entire study. The endless motif of the suburbia americana with its undulating streets punctuated by cul-de-sacs, the obsessive repetition of houses in

On previous page, Fig. 16: Edward S Curtis, 1907, Maricopa Saguaro Gatherers.

On previous pages, Fig. 17: Edward S Curtis, 1907, Maricopa Saguaro Gatherers. Three Maricopa women with baskets on their heads, standing by Saguaro cacti.

Fig. 18: A shot of Jean Harlow at the Saguaro National Monument in Tucson, Arizona, from the 1933 film Bombshell.

Fig. 19: The Gila Monster is a species of venomous lizard that is native to the southwestern U.S.

parade with their bright blue kidney-shaped swimming pools, and the starkly barren ground of the desert, here stand side by side, each revealing the very meaning of the other through their utter contrast. This game of visual contrasts does not work only on the fine-grain scale, the entire city is in fact plastered over the vast backdrop of the mountains. For these last two reasons as much as for the ones so far described, through the lense of this research, the Phoenix metropolitan region as a whole can be looked upon as the dialogue between a desert city and its wilderness, as two beautifully contrasting voices of a counterpoint, one made of an iconic manifestation of suburban America, the other made of an equally iconic crystallized fragment of the great outdoors of the Southwest.

5.3 Red Rock Canyon in Las Vegas

The Las Vegas metropolitan area spreads across the Las Vegas Valley, a low plateau in the central Mojave Desert that lays east of the Spring Mountains and west of Lake Mead, the vast reservoir bound in by the Hoover Dam on the Colorado River. The city develops over the orthogonal grid of the Public Land Survey System over which runs a superimposed system of freeways organized around two cardinal axes and an annular belt-way. Las Vegas Boulevard, whose central segment is known as 'The Strip', cuts the urbanized area north to south acting as the main city axis. Peaking between towering buildings of florescent lights, the Spring Mountains tower overhead like a majestic backdrop. Perhaps the most spectacular views and rock formations along the range can be found in the stretches making up Red Rock Canyon that extend from its southeast extremity, west of the perimeter of the Las Vegas suburban development that abruptly ends only a few miles away. The

Red Rock Canyon National Conservation Area is itself situated seventeen miles west of the Las Vegas Boulevard.

The area is strongly characterized by the extreme subtropical desert climate of the Mojave Desert. The average number of days of sunshine per year is 300 with more than 3,800 hours of sunshine annually. The summer months of June through September are severely hot and dry, with average daytime highs from 94 to 104 °F (34 to 40 °C). Humidity is very low, often under 10%. Winters are of short duration and the season is generally mild, with daytime highs near 60 °F (10 °C) and nighttime lows around 40 °F (0 °C) at the foot of the mountain. The mountains accumulate snow during the winter while it rarely snows in the valley itself. Annual precipitation averages 4.5 in (110 mm), with 29 rain days out of the year. Most precipitation falls during the winter, but March, the wettest month of the year, has on average only 3.6 days of precipitation.

The Spring Mountains were named for the many springs that traverse its slopes and ridges. Over one-hundred springs were surveyed throughout the range in 1995 and 1997, most of which are ephemeral in nature.[19] The mountains divide the Amargosa River Basin into two valleys, the Pahrump Valley, and the Las Vegas Valley, which drains into the Colorado River. The Las Vegas Valley is included in the physiographic section of the Great Basin Section, within the Basin and Range Province of the Intermontane Plateaus physiographic section. It is a geologically complex basin whose formations range in age from 1.7

[19]Entrix, Inc., *Characterization of the Spring Mountains National Recreation Area, Landscape Analysis*., report (USDA Forest Service, 2008), chapter 1.

On previous page, Fig. 20: Robert Body, 2013. Piestewa Peak Summit Trail in Phoenix Arizona.

On previous page, Fig. 21: The saguaro (Carnegiea gigantea) cactus, Red Rock Canyon.

Fig. 22:The saguaro (Carnegiea gigantea) cactus in the Las Vegas Valley.

billion-year-old crystalline basement rock to sediments dating to the Holocene epoch. The Spring Mountains lie on the valley's western side and consist primarily of Paleozoic miogeoclinal carbonate rocks occurring in thrust sheets. The mountains mark the eastern boundary of the fold-thrust belt that extends from Mexico to Alaska that was formed when the Farallon tectonic plate moved beneath the North American tectonic plate. [20] The mountains' eastern slopes fall within the 197,000 acres that comprise the Red Rock Canyon National Conservation Area. The canyon itself contains more than forty springs, in addition to many natural catchment basins known as tinajas.

The canyon's cliffs are made of Aztec Sandstone, approximately 180 to 190 million years in age. Comprised of lithified sand dunes, the formation is characterized by cross-bedding resulting from shifting wind directions over its long history. The characteristic red and orange hues of its outcrops are created by deposits of iron oxide.[21] Conglomerates made of smaller rocks, containing quartz, sandstone, basalt and fragments of fossils, are visible throughout the formation. The succession of peaks and notches unwinding along a curved trajectory within the canyon make up the notable Keystone Thrust Fault which displays the layering of grey Paleozoic limestone over red Jurassic sandstone, testament to the tectonic activity of some 65 million years ago that thrust the older limestone over the younger sandstone. This limestone cap served to protect the sandstone from erosion for millennia. While the fold-thrust

[20]National Ground Water Association, *Hydrogeology and Geology of the Las Vegas Valley Field Trip Guide Book*, report (Southern Nevada Water Authority, 1998).

[21]"Geology," *Red Rock Canyon Interpretive Association*, accessed July 1, 2012, http://www.redrockcanyonlv.org/geology.html.

belt extends across the continent, it is most clearly visible within Red Rock Canyon and is recognized around the world as one of the best examples of a thrust fault. The highest peak in the canyon is LaMadre Mountain rising to 8,154 ft. (2,485 m). The LaMadre Mountain Wilderness Area extends into Red Rock Canyon and is characterized by rugged deep canyons, draws, summits, and ridges.

It is believed that as many as six different Native American cultures may have inhabited or used Red Rock Canyon. The presence of springs and catchment basins allowed for a dependable presence of plant and animal life within the otherwise barren desert that attracted nomadic peoples such as the Southern Paiute and the older Desert Culture Native Americans. While roaming the large expanses of southern Nevada, the canyon served as a critical stopping ground during seasonal migrations. Traces of other cultures such as the Anasazi Indians have also been found in the canyon. It is believed that these and other river valley people traded with residents of Red Rock Canyon or at least visited the area, perhaps in search of plant and animal types unique to the higher altitude. [22]

In 1829, a scout named Rafael Rivera became the first European-American to visit the Las Vegas Valley, naming it for the meadows of wild grasses he discovered there. In the years following, other settlers explored the area and began establishing footholds there. In 1844, a group of scouts led by John C. Fremont visited the area under orders from the United States Army Corps of Engineers. Their writings on the

Fig. 23: Derrick Bostrom, 2009. Phoenix Mountain Preserve.

Fig. 24: Phoenix skyline. 2013.

[22]R. L. Holt, *Beneath These Red Cliffs: An Ethnohistory of the Utah Paiutes* (Albuquerque, NM: University of New Mexico Press, 1992).

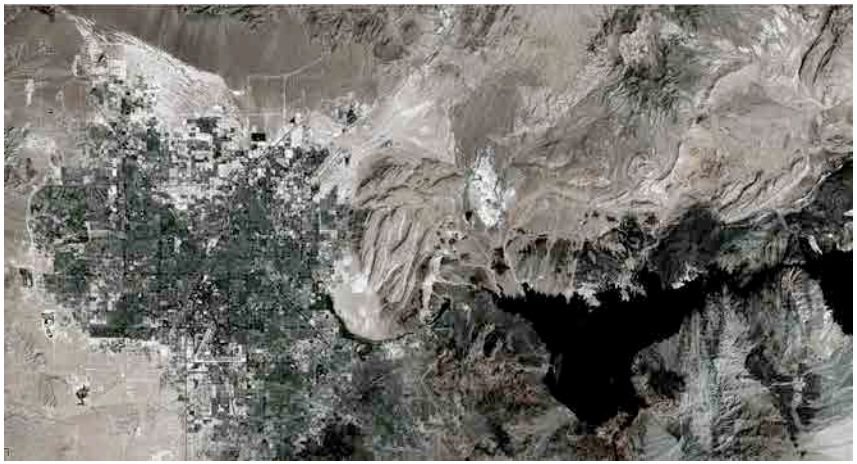


Fig. 25: Satellite photograph of Las Vegas, Nevada.

discovery of several springs would later lure many more settlers to the region, however the area remained unoccupied by Americans except for traders and travellers for many decades. In 1855, members of the Mormon Church built a fort in the valley as a halfway point between Salt Lake City and Los Angeles to serve as a depository of supplies. Although they soon after abandoned the fort, it would be occupied by different people in the years following and would help establish settlements in the area that would eventually become the city of Las Vegas. [23]

In the late 1800's with the discovery of minerals and precious metals in the area and with the passage of the State Land Act of 1885 which offered parcels of land at $1.25 per acre, the first large influx of settlers began. Over the next twenty years farming and mining became the dominant industries in the region. Red Rock Canyon was itself a mining site and later a quarry that provided building material for the growing urban centres of Los Angeles, San Francisco, and early Las Vegas. In 1876, James Wilson found Sand Stone Ranch within the canyon. Sandstone Quarry was in operation there from 1905 to 1912. The next big population boom came with the construction of Hoover Dam which began in 1931. The, now, city of Las Vegas saw its population grow from 5,000 to 25,000. Most of those newly arrived were men seeking work and they constituted the large market for the entertainment industry that would soon surge. With the Nevada state legislature's decision to legalize gambling in 1931, the city soon became one of the largest gambling centres in the country. Since then, the history of Las Vegas has been one

[23]Eugene P. Moehring, and Michael S. Green, *Las Vegas: A Centennial History* (Reno: University of Nevada Press, 2005).

dominated by the growth of the entertainment industry. In the same year that the Hoover Dam opened in 1936, Red Rock Canyon became part of the Desert Game Range (today known as the Desert National Wildlife Refuge). As the city grew in size and population, residents and local officials became concerned about maintaining a 'natural' area which could be accessible to Las Vegans. In the early 1960s members of the local Sierra Club chapter and the Nevada Outdoor Recreation Association and local officials began considering possible demarcations for a protected land area. Over the following years the Bureau of Land Management (BLM) and the Bureau of Outdoor Recreation (now part of the National Park Service) worked to set aside over 60,000 acres of the canyon which was officially dedicated as the Red Rock Canyon Recreation Lands in 1967. Over the next three decades continued community and legislative efforts led to the designation by Congress in 1990 of Red Rock as Nevada's first national conservation area and in 1994, a public law was signed which more than doubled the size of the Red Rock Canyon National Conservation Area.[24]

Throughout the twentieth century, the population of Las Vegas and Clark County grew tremendously, resulting in rapid development of both residential and commercial areas throughout the Las Vegas Valley. The city has seen its casino and gambling enterprises evolve from the early 'Mafia/Rat Pack' years to the present day mega-resort era that centres around the Las Vegas Strip.

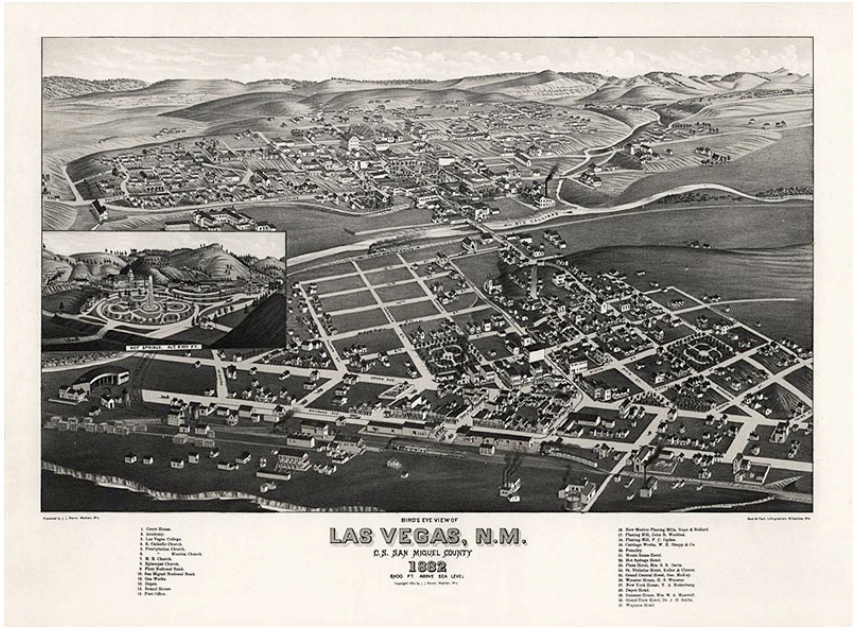


Fig. 26: J.J. Stoner, 1882, Birds eye view of Las Vegas, New Mexico.

[24]"Red Rock Canyon National Conservation Area Collection," in Special Collections (Las Vegas: UNLV Libraries, 2006), accessed August 20, 2012, http://www.library.unlv.edu/speccol/index.html.

Fig. 27-28: Red Rock Canyon, Las Vegas.

The growth and proximity of Las Vegas to Red Rock Canyon is a critical consideration the Bureau of Land Management that administers the area must address regularly. In 2001, a new management plan was created to replace the original master plan of 1976. While the population of Las Vegas was just over 371,000 in 1976, it was projected to reach two million by the year 2005. This growth saw the expansion of suburban communities to lands immediately adjacent to the national conservation area's boundaries. The Bureau of Land Management has had to reassess its administration of the lands taking into account the increased number of visitors to the area annually and the changing nature of activities and use carried out in the canyons including for example technical rock climbing and mountain biking that were relatively insignificant decades before.

While only a short distance from the roar of downtown Las Vegas and despite the harsh desert climate of the Mojave Basin, the narrow canyons of Red Rock shelter a wealth of wildlife, including more than forty-five mammal species. Spotted throughout the region are the antelope ground squirrel, bighorn sheep, foxes, bobcats, mountain lions and mule deer. Wild horses and burros are protected under the authority of the BLM and are easily seen in distinct parts of the canyon. Burros often congregate near Bonnie Springs, surviving the dry desert conditions by finding the natural springs and waterholes hidden throughout the canyon. Wild horses are often seen at the extreme northern end of the canyon at Cold Creek or at the extreme southern end near the dirt road exiting the canyon. In addition, the canyon is home to over one-hundred bird species as well as thirty reptiles and amphibians including Cooper's hawk, white-crowned sparrow, chukar, spotted towhee, sagebrush lizard, red-spotted toad, chorus frog, western fence lizard, and the red racer snake. Of the

hundreds of plant species that dot the canyon, we might mention the Nevada state flower, the sagebrush, the yerba santa, yerba mansa, wild rhubarb, mesquite honey, jimson weed, globe mallow, fishhook nipple cactus, desert marigold, desert larkspur, apache plume, creosote bush, agave, alfalfa, Mojave yucca, pencil cholla, joshua tree, hedgehog cactus, beavertail cactus, and the Asian Sahara mustard.

From a morphological perspective, together with our case studies in Los Angeles and Miami, Red Rock Canyon is a prime example of what we have defined as an urban wilderness *backdrop*, its boundary being as sharp as the ones in the California and Florida metropolises. Just like Los Angeles and Miami, and like the two other case studies of this chapter, the Las Vegas metropolitan region is not an example of the topologic inversion between urban development and wild land, the discussion of which set the premises for this study. On the contrary, Las Vegas still exemplifies the early urban history of Northern America: *the one of cities in the wilderness*. The city of Las Vegas and the Mojave Desert still maintain the topological relationship the city and the wilderness have had up until recent urban revolutions: despite the low density of its suburbs, a well-defined and relatively compact urban fabric is completely surrounded by wild land. Such a formal structure - with high-rises along the cardinal axes and lower-density residential areas around it sharply confined within the city limits - together with the meanings attached to the city and the Mojave Desert around it, make it in fact a post-modern epitome of the Northern American urban condition of old. The city of lights and mundane excesses rises amidst the darkness and silence of the desert.

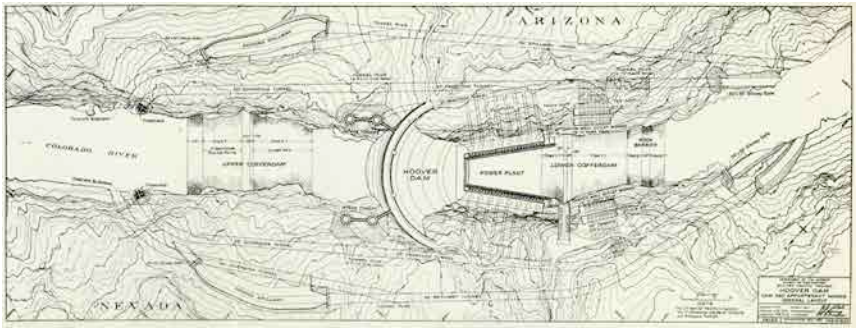
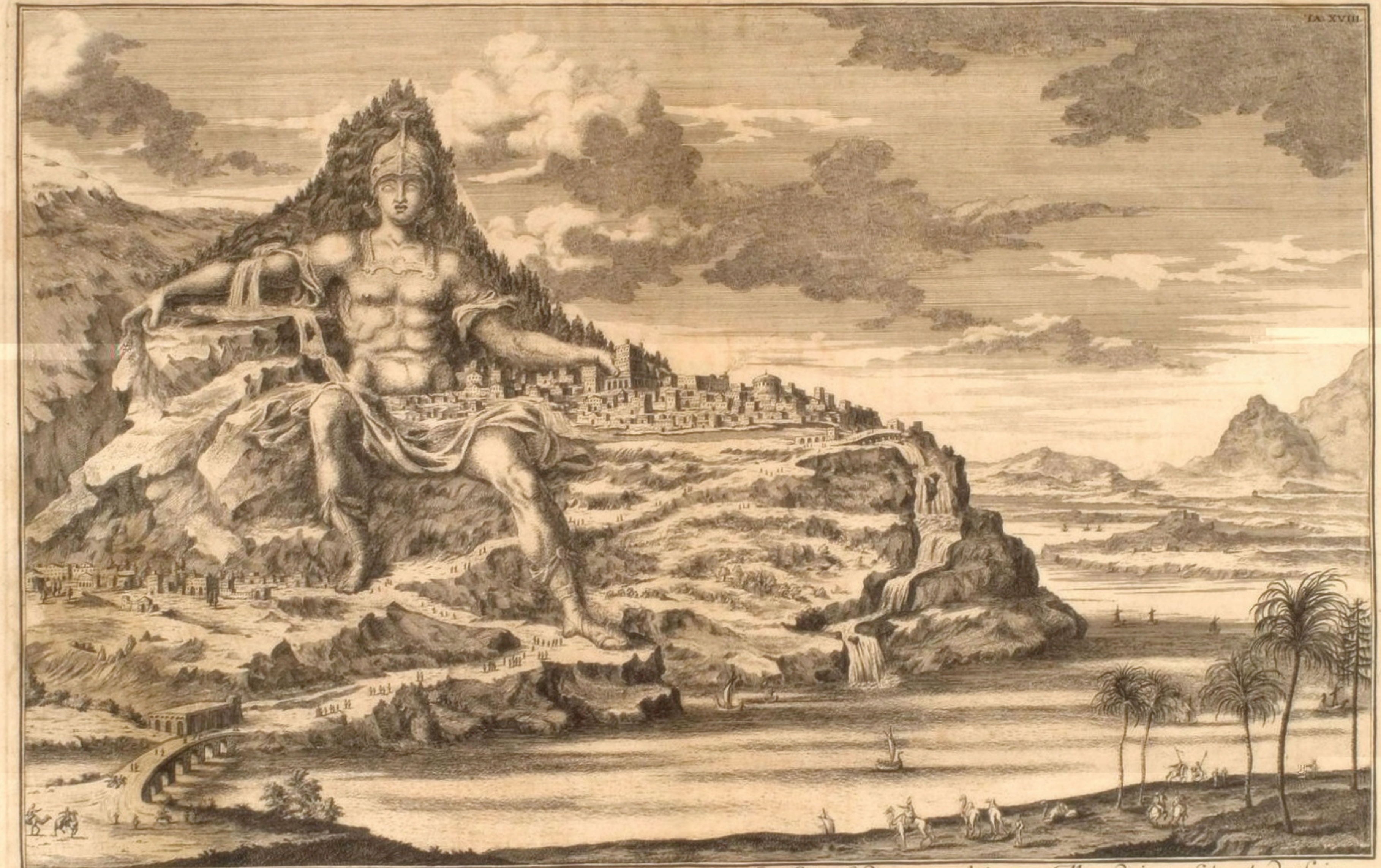


Fig. 29: 1930, Hoover Dam architectural plans.

TA. XVIII.



Der Macedonische Berg Athos in Gestalt eines Riesen, wie der Dinocrates, des Großen Alexanders Architect, solchen Baü angegeben. *Vitruv: Præfat: L.2. Strabo: L.13.*

I.B.F.v.E. del.

C.P.S.C.M.

Le Colosse du mont Athos en Macedoine selon le dessein qu'en forma Dinocrate Architecte du grand Alexandre.

Vitruv: Præfat: L.2: Strabo: L.13.

EPILOGUE
URBAN WILDERNESS REMNANTS AS PRIMARY ELEMENTS OF THE METROPOLITAN ARCHIPELAGOS

Going to the mountains is going home.
John Muir

The comparative look we have hereby proposed, although incomplete, largely demonstrates what at the beginning of this study was only a hypothesis. While varying in scale and form, dominant landscape and physiographic features, environmental and cultural history, integrity of the ecosystem and present state of management, all Northern American *urban wilderness remnants*[1] share two salient characteristics.

In first instance, irrespective of being *enclaves, wedges, corridors, backdrops* or *vest pockets*[2] of wilderness, they all play a fundamental role in the formal structure of new urban systems. As the current urban revolution further and further propels the topological inversion of the *city/non city* binomial, these fragments of wildland entangled in urban growth, contribute more than anything else in structuring the new form of the city. They generate foci, axes, and boundaries around, along, and across which the urban tissue forms and organizes itself. Such ability to structure urban form does not only work per se: in many cases, especially when they coincide with geographical *emergences,*[3] their physiographic features strongly influence the visual perception of the urban system as a whole. A forested hilltop can be a landmark that is able to restore a sense of geographical belonging to a suburban fabric that because of its vastness and repetitiveness has become a virtually a-geographical space. An undeveloped river shore can break the continuity of the urban tissue and, while constituting a divider between the two sides, create unique viewpoints that allow for a visualization of the city and therefore the creation of a structured and hierarchized image of it in the minds of its citizens. A mountainous backdrop can provide an entire urban region a definitive orientation, constantly defining the cardinal points as one navigates through its expanses. This is clearly arguable having considered the role the forest of the northern Coal Peninsula plays in Vancouver, that which the Tualatin Mountains play in Portland, the Mississippi River shores in the Twin Cities, and the San Gabriel Mountains in the Los Angeles metropolitan region, as well as for each and every other case study we considered. The otherwise virtually formless urban

[1] See Part I, 3.1.

[2] See Part I, 3.2.

[3] See Part I, 3.2.

territories, whose only primary morphological feature are the high-density downtown nuclei dispersed in a homogenous and isotropic suburban tissue, find in the urban wilderness remnants their most relevant morphologic characters, and in these characters, an inherent meaning.

In second instance, all urban *wilderness remnants* possess extraordinary cultural significance. This is arguable for each and every one of our case studies: Stanley Park in Vancouver, the forest of Bainbridge Island overlooking Seattle, and Forest Park in Portland are vivid embodiments of the primeval, wild forested landscape of the American Northwest and of all of the meanings attached to it. The South Mountain Preserve in Phoenix, Franklin Mountains State Park in El Paso/Ciudad Juarez, and Red Rock Canyon in Las Vegas are equally vivid embodiments of the primeval, wild desert landscape of the American Southwest. The San Gabriel Mountains of coastal southern California, the Mississippi River shore between Minneapolis and Saint Paul, and the Everglades of Miami are also prime embodiments of three other dominant landscapes of the *Great American Wilderness*. The remaining case studies, while maybe less paradigmatic, all nevertheless evoke one or more of the many acceptations that the word wilderness possesses in Northern American culture. All of these embodiments take place in the most unexpected setting: within the very grip of the metropolis; because of this proximity, by contrast, the values embedded in wilderness are further magnified. Because of the profound *semantic substratum*[4] attached to the idea of wilderness and the great evocative power of any place able to recall such substratum, every fragment of wilderness that remains in the city becomes a *semantic reservoir*; a place where the meanings that Northern American culture has attributed to nature manifest within an otherwise all-encompassing urbanity; an island of intense placeness that emerges in the endless stretch of sprawling development.

Because of these distinctive morphological and semantic values, every urban wilderness remnant within the dispersed and polynucleated regional urban systems of contemporary Northern America assume a role that strongly resembles the one played by the main public places within the dense, mono-centric, enclosed cities that characterized urbanity prior to the topological mutation of the last century. Interested in taking this analogy further, we found it instrumental to go back to and borrow from some of the terms and the ideas Rossi developed in his theories. His writings,[5] culmination of the urban studies that proceeded the aforementioned topological mutation and the consequent research on territorial urban systems initiated by Gottman[6] and

[4] See Part I, 1.1, 1.2, and 1.3.

[5] Aldo Rossi, *L'architettura della città* (Milano: Città StudEdizioni, 1995).

[6] Jean Gottmann, *Megalopolis: The urbanized northeastern seaboard of the United States* (New York: The Twentieth Century Fund, 1961).

Gregotti,[7] among others, precisely address those *fatti urbani*[8] (urban facts) that concentrate both morphological and semantic relevance: *i monumenti*, the monuments. Because of the noteworthy inherent capability these places have to persist in their *locus* throughout long and often tumultuous historic cycles and the radical transformation of their urban contexts, Rossi also refers to these distinctive urban facts as *le permanenze*, 'the permanences.' One of the great contributions of Rossi's theories is the discussion of the very role of urban permanences in every city. Permanences are the very foci of urbanity, the heart of the city around which the urban fabric (in Rossi's language often referred to as *la residenza*) coalesces and organizes itself and upon which it looks to find its own meaning, its own raison d'être - acting therefore as *primary elements* of the city. Urban wilderness remnants of today's urban territories can certainly be seen as *permanences* for their fortuitous ability to resist urban transformations, for the collective memories there sedimented and for the narratives such memories evoke, providing an identity and unique sense of place to the communities that inhabit the city. This is what we see in urban wilderness remnants: they are primary elements of the Northern American territorial urban systems of today, the great monuments of contemporary Northern American urban regions, attributing to *monument* the richest, deepest and most far-reaching meaning of the word.

The use of the word *monument* to describe a *fatto geografico*[9] (geographic fact) is indeed not a novel one, especially so in Northern American culture. The policy of designating an iconic fragment of the wild American landscape as a *National Monument* goes back to Theodore Roosevelt's *Antiquity Act* of 1908. This striking choice of the term, made in that very moment in the history of the United States, is certainly no coincidence and might be one of the most beautiful and profound contributions Roosevelt made in defining the modern cultural meaning of wild nature.[10] His actions responded at once to two pressing needs of the culture of his time: the need to fully complete the process of defining a truly American culture with autonomy from European culture and history, and the need to protect the vanishing American wilderness and to institutionalize the cultural values attributed to it by the American people with increasing enthusiasm since the first half of the nineteenth century.

It is interesting to notice that, while coining the term *national monument* to describe and legislate in name of some of the most iconic fragments of the Northern American wild landscape, Roosevelt was also giving shape to yet another paradox among the many that plague contemporary environmental

[7] Vittorio Gregotti, *Il territorio dell'architettura* (Milano: Feltrinelli, 1966).

[8] Rossi, Op. Cit.

[9] Carlos Marti Aris, *La Cimbra y el Arco* (Madrid: Fundación Caja de Arquitectos, 2004).

[10] Nash, Op. Cit.

philosophy: the *Act* protects specific places in virtue of a cultural value that derives from their intrinsic lack of culture. Unlike traditional monuments that are places of unique stratification and concentration of cultural traces, many of the national monuments are designated as such precisely because they are still *untrammelled* by cultural traces. This paradox becomes even more evident for wilderness remnants in the city: they are urban places valued and preserved precisely because they have remained untouched by urbanity. Yet, the paradoxical condition of these distinctive urban facts should not keep us from realizing their immense significance for the urban condition of tomorrow, indeed not only in Northern America.

It is long since the necessity for wilderness that American culture experienced in response to specific historic and geographic circumstances and consequently theorized and expounded in a collective creed has become relevant far beyond the shores of the North American continent. Even if many languages, as we have seen, do not even have a specific word to describe wilderness, the transformation of global territorial patterns of development of the last century has led all communities of urban regions to regard every remnant of wilderness and every opportunity for the 'practice of the wild'[11] with the highest value. To us, embracing the ineluctable topological mutation of urbanity discussed in the introduction of this study means embracing and cherishing a new urbanity made of a warp of urban, suburban, and rurban fabric as we know it and a woof of wild remnants, that far from being residual elements destined to be wiped away by further development, provide the entire urban system with structure and meaning; places we purposely step back from, aware that urbanity and the human culture that generated it will become meaningless when all-encompassing.

[11] Gary Snyder, *The practice of the wild: Essays (*Washington, DC: Shoemaker & Hoard, 2003).

Appendix A
Los estudios americanos de Lewis Mumford

Después de publicar su primer libro en el año 1922, un *excursus* sobre las utopías urbanas a lo largo de la historia, el erudito neoyorquino se dedicará a un extenso estudio sobre la cultura norte-americana. El resultado de esta investigación se puede apreciar en tres ensayos editados entre el ano 1924 y 1931: Sticks & Stones, The Golden Day, y Brown Decades. Siguiendo la orientación interdisciplinaria propia de toda su producción critica, Mumford se aventura en la búsqueda del los elementos más auténticos de la arquitectura, de la literatura y del arte de su joven nación. Se define un complejo conjunto de valores que representan la esencia más positiva y novedosa de la cultura norteamericana de la cual se reivindica la autonomía, logrando - quizás por primera vez - franquearla de su subordinación a la tradición europea. Los temas tocados por el ultimo capitulo de esta trilogía, Brown Decades, se conocen fuera del ambiente académico estadounidense y inglés gracias a las distintas traducciones que se han realizado, mientras que los primeros dos, Sticks & Stones y The Golden Day quedan todavía casi inexplorados al fin de aprovechar sus aportaciones a los estudios sobre la arquitectura.

Los temas tratados en Sticks & Stones se proponen al lector a través de una sugerente visión: la breve historia de Estados Unidos reproduce el proceso de desarrollo cultural que ha vivido Europa. En los tres siglos que trascurren desde el asentamiento de los primeros colonos en los valles del New England hasta la segunda década del siglo XX, se repiten las etapas históricas que el viejo continente vivió a partir del alto medioevo hasta la revolución industrial. Tradición medieval, renacimiento, clasicismo e industrialización dejan de ser concretas épocas de la historia para convertirse en las distintas fases de un ciclo que estructura el proceso de civilización del nuevo mundo. Si esta visión cíclica de la historia parece influenciada por el pensamiento filosófico positivista y historicista del siglo XIX y especialmente por las teorías de su precursor Vico, radicalmente distinto es el valor que Mumford atribuye al medioevo respecto al filosofo napolitano: si por Vico el Medioevo es la *barbarie ritornata* o sea el estadio mas bajo de la evolución de una civilidad, en Sticks & Stones, Mumford ya esboza su visión idealizada de la Edad Media como época di civilización armónica que se convertirá en un tema central de su famoso ensayo del 1938 The Culture Of The Cities. Mumford se sirve de las teorías positivistas describiendo la historia de la arquitectura norteamericana como una sucesión de fases de un proceso, pero niega que este proceso genere una evolución. La ilusión positivista de una correspondencia entre progreso técnico y progreso civil ya está desvelada.

Precisamente, la parte del ensayo dedicada a la fase medieval es la que sugiere mas reflexiones. En la comparación planteada por el autor entre la historia europea y la historia norteamericana, a la edad media corresponde la época de la fundación de las aldeas del New England. En el proceso de asentamiento de

los colonos se produce un retorno al año cero de la arquitectura: el enfrentamiento entre una comunidad y un territorio virgen, un espacio a-histórico donde es ausente cualquier signo de antropización. Sin embargo ese espacio no es una tabula rasa; aunque intonso, su geografía le provee estructura y forma. Mumford describe con detalle estas aldeas y los elementos que las componen, resaltando los factores que influyen sobre la forma urbana y que generan las variaciones del *tipus* de sus edificios. Si en esta situación se reproduce algo que ya ha pasado en una época lejana de la civilidad Europea, hay un elemento realmente novedoso: la naturaleza se presenta al hombre con una dimensión, cabría decir con una escala, y una potencia que no pueden compararse ni con aquellas propias de la Europa antes de las grandes deforestaciones y transformaciones del territorio generadas por los poblados a lo largo de los siglos. Esto aporta un valor añadido a la aventura americana convirtiéndola e una experiencia inédita.

De las muchas aportaciones presentes en el ensayo dos resaltan especialmente: dos conceptos, hace décadas universalmente asumidos aparecen aquí por primera vez, la relectura del texto hoy se hace relevante para estudiar la génesis de estas dos ideas en la critica y en el debate sobre la arquitectura. En Sticks & Stones los edificios siempre son considerados en relación a sus entorno urbano o en el contexto del paisaje rural en que se insertan, nunca como entidades ensimismadas. El edificio es considerado como un elemento de un sistema complejo inalienable de las relaciones que con dicho sistema establece. Este método de acercamiento al análisis de la arquitectura encuentra su maduración en las teorías sobre la ciudad desarrolladas en los años sesenta de siglo pasado, protagonizadas por las consideraciones presentes en los escritos de Rossi. El segundo concepto que en Sticks & Stones aparece por primera vez tiene que ver con la lograda autonomía de la cultura norteamericana respecto a la cultura Europea. El ensayo es un intento de generar un panorama de 360 grados sobre la historia de la arquitectura de la joven nación. El mismo Mumford en la introducción a la edición del 1957 subraya el valor de tal intento, precisando que se trata del primer estudio que se plantea ese fin. Cuando el libro fue publicado por primera vez en el año 1924 ninguna historia completa había sido escrita, y entre las publicaciones que habían abordado porciones parciales del tema, ninguna se había ocupado del la escuela de Chicago, cuya actividad se situaba entonces en el pasado recién. Aunque no exhaustivo el texto consigue su objetivo dando al tema tratado coherencia e independencia. Al tratar el tema se definen su marco y sus limites, aportando un estudio que será complementario con aquel que el mismo autor desarrollará sobre la literatura norteamericana en su siguiente publicación - The Golden Day: A Study in American Literatura and Culture del año 1926.

Appendix B
THE VILLAGE & THE WILDERNESS

1. El Report de la NYS Commission of Housing and Regional Planning

En el año 1924 la New York State Commission of Housing and Regional Planning aborda una investigación sobre los recursos geográficos, económicos y sociales del territorio del estado de Nueva York. El resultado de la investigación es un informe que será entregado a las autoridades políticas de la administración en 1926. El informe consta de una recopilatoria de datos, un análisis y la consiguiente propuesta para el planeamiento futuro. El documento se propone como estudio preliminar para desarrollar un nuevo Plan Regional.

En su primera parte, el Report describe el ambiente físico de la región, definido el "escenario inmutable de todas las etapas del desarrollo". Se delinea la estructura del territorio como un armazón de colinas escavado por un sistema de valles en forma de L. La cadena de las Adirondacks en el norte, la de las Catskills en el sureste, el altiplano de Allegheny en el suroeste. El sistema de valles se extiende desde el lago Erie, a lo largo del lago Ontario, hasta el centro de la región; a partir de ahí, el segundo brazo de la L sigue el curso del rió Hudson y alcanza la costa del océano en la en extremidad sureste del estado. Se precisa, a través de un mapeo, la variación de los climas, la distribución de la vegetación, las propiedades de los suelos y su vocación productiva. En las zonas de colinas se encuentran las áreas forestales más densas, que mantienen el equilibrio hidrogeológico y permiten proporcionar los abastecimientos de madera. En los valles se encuentran los terrenos más fértiles para la agricultura y mas ricos para la extracción minera.

A continuación, el Report reconstruye el proceso de asentamiento de los poblados. Se divide la breve historia del estado en tres etapas: la primera que va de los primeros desembarques de pioneros y peregrinos hasta el 1840, la segunda de 1840 a 1880 y la tercera de 1880 hasta los años de redacción del documento.

En la primera etapa, la copiosa presencia de animales salvajes y la penetrabilidad del territorio en correspondencia del sistema de valles favorece el comercio de pieles. Será la actividad productiva principal en los primeros años. El centro de este comercio es el pueblo de Albany, cruce entre las rutas que aprovechan las vaguadas. En las siguientes decadas, los recursos naturales del territorio más explotado serán sus bosques tupidos. Como el trappeur, el lumberman se mueve en los valles: las vías fluviales son el medio de transporte de su mercancía. La construcción de los lumbercamp y de los molinos-sierra, los sawmill, determinan la posición de los primeros asentamientos. Tras de los lumberman otros pioneros aprovecharán las deforestaciones para establecer granjas

autosuficientes. En los últimos años de la primera fase, los colonos proveen a la construcción de una red de canales que conectan el territorio con la ciudad de Nueva York. El Erie Canal es completado en 1825 y constituye la espina dorsal del sistema: ninguna porción de tierra arable dista más de 20 millas de uno de sus ramos. Mientras que las granjas se difunden en el territorio, se provee a la construcción de pequeños centros industriales: muelas para el trigo y maquinas para hilar la lana.

En la segunda etapa, sigue la ocupación de la tierra para los cultivos y al mismo tiempo empieza el desarrollo de los centros urbanos. Las actividades relacionadas con la explotación de la madera y de las pieles declinan progresivamente. Dos nuevas tecnologías son empleadas por primera vez. La construcción de líneas ferroviarias permite el comercio de productos entre las comunidades rurales y la comunidad urbana. El empleo de maquinas de vapor favorece concentración de las industrias en la capital. Se pasa de un sistema de unidades productivas difusas e independientes a un sistema unidades productivas difusas y dependientes del centro industrial del Nueva York. Se registra un crecimiento record de la población de esta ciudad: al final de la segunda fase los habitantes de Nueva York corresponden al 34% del total del estado.

En la tercera etapa, las unidades productivas difusas e independientes colapsan definitivamente. La gran ciudad es el organismo dominante, alimentado por las provisiones de cultivos especializados. Esta fase es marcada por el constante abandono de los terrenos agrícolas. La mayoría de la población se concentra en los centros urbanos de los valles: Buffallo, Rochester, Syracuse, Albany y sobretodo Nueva York. Ahora sus habitantes corresponden a un 54% del total: al rededor de 6 millones de personas. Surgen y se agravan los problemas relacionados con la excesiva extensión y densidad de la ciudad: sobrecargas en las infraestructuras publicas, reacción a cadena entre incremento de los valores raíces y uso intensivo del territorio.

Después haber evaluado las principales “fuerzas” derivadas de la innovación técnica que han moldeado el desarrollo hasta entonces - la maquina de vapor y la ferrovía, el Report se concentra en hallar las fuerzas incipientes que moldearan el desarrollo futuro. Dos nuevas tecnologías son consideradas como los agentes más influyentes: las líneas de transporte de energía eléctrica de alta tensión y el automóvil. Estas innovaciones tendrán importantes aplicaciones prácticas: las líneas de alta tensión permitirán el transporte capilar en el territorio de energía, el automóvil y la nueva red de carreteras facilitaran el transporte de materias primas, productos acabados y personas. Las líneas de alta tensión anularán la necesidad de proximidad geográfica entre establecimientos productivos o habitables y estaciones de producción de energía. El automóvil y la nueva red de carreteras anularán la necesidad de proximidad geográfica entre establecimientos habitables y establecimientos productivos.

Los miembros de la Commission están convencidos de que si se consiguiera controlar y pilotar las aplicaciones de estas innovaciones, se podría conseguir invertir el proceso de concentración urbana, eliminando sus consecuencias negativas. Se considera que un Plan Regional sea la herramienta mas adecuada para emplear a propio favor el impulso de las nuevas tecnologías y empujar un desarrollo futuro que solucione los problemas del presente.

El Report se concluye con una propuesta que se plantea como esbozo futuro del Plan Regional. Se apunta a incentivar el proceso espontáneo e inexorable desencadenado en los primeros años favoreciendo el uso intensivo del suelo en el los valles, considerados más adecuados a la mayoría de los establecimientos habitables y productivos. Sin embargo, la planificación contrastará el excesivo crecimiento de las ciudades, propiciando la descentralización. Según el modelo auspiciado, los valles serán ocupados por una red de pequeños centros urbanos, áreas rurales y centros de producción industrial. En los valles, además, se desplegarán las nuevas vías de comunicación complementando las preexistentes y conectando los elementos del conjunto a través de una red jerarquizada y variada: canales y ríos navegables, ferrocarriles, carreteras y viaductos, caminos. Las colinas se preservarán frente al riesgo de una ocupación intensa fomentada por las aplicaciones de las nuevas tecnologías. Las highlands, islas emergentes entre valle y valle, se convertirán en grandes reservas verdes. Estas áreas tendrán tres roles de tipo distinto: mantener el equilibrio hidrogeológico del territorio, proveer madera gracias a una explotación sostenible y, en última estancia, ofrecer a los habitantes de los valles la posibilidad de un contacto con grandes espacios naturales.

La ordenación del territorio propuesta en el Informe, se compone por lo tanto de cuatro elementos. Tres de ellos situados en las lowlands y uno ocupando la entera extensión de las highlands: en las “tierras bajas” los centros urbanos, las áreas de explotación y transformación de los recursos naturales y las infraestructuras; en la “tierras altas“ espacios naturales dedicados al recreo. Detectamos tras este modelo el pensamiento de Lewis Mumford. En el ensayo Las Décadas Oscuras, Mumford ofrece una definición de territorio antropizado como sistema formado por cuatro elementos primarios cuyo nombre es elegido a través sugerentes figuras retóricas: el puente, el jardín, el campo arado y la ciudad. Según una interpretación desarrollada en recientes estudios, las metáforas tras estas 4 palabras se refieren respectivamente a las infraestructuras, los espacios habitables en el ambiente natural, los espacios dedicados a la explotación/transformación de los recursos naturales y los espacios habitables construidos. Vemos en la propuesta del Report la voluntad de aplicar a un territorio concreto un modelo basado sobre la composición de estos 4 elementos primarios: ciudades, conectadas mediante puentes, pautadas por campos arados, y grandes jardines que recubren la superficie de las colinas.

Antes de seguir, es interesante detenerse para una consideración sobre el rol de estos jardines. Nuestra hipótesis es que ofrecen algo más que espacios para el ocio: la NYSHRP commission intuye que para los miembros de las comunidades que se han asentado después de siglos de incesantes exploraciones, es

imprescindible disponer de una porción de wilderness. Definimos con Wilderness la condición primigenia del ambiente natural que protagoniza la experiencia de los colonos de Norteamérica. El Report propone salvaguardar zonas donde todavía es posible vivir esa condición y convertirlas en elementos del sistema del territorio antropizado.

Llegados a este punto surge el interés de remontarse al origen de las ideas que subyacen en el estudio desarrollado por la commission. Como es sabido, entre sus miembros Mumford recubre un papel importante, garantizando fundamento teorico a su trabajo. Si revisamos la cronología de las obras literarias del eminente neoyorquino, resaltan dos ensayos escritos durante los años en los cuales el grupo se reúne: Sticks & Stones, publicado en el 1924 y The Golden day, publicado en el 1926. Se retiene que estos escritos alimenten el espíritu del colectivo y planteen algunas reflexiones centrales para la redacción del documento. Además se consideran estudios fundamentales para la comprensión de la cultura norteamericana y de los objetos culturales que ha producido.

2. Los Estudios Americanos del joven Mumford

Después de publicar su primer libro en el año 1922, un excursus sobre las utopías urbanas a lo largo de la historia, Mumford se dedicará a un extenso estudio sobre la cultura norte-americana. El resultado de esta investigación se puede apreciar en tres ensayos editados entre el ano 1924 y 1931: Sticks & Stones, The Golden Day, y Brown Decades. Siguiendo la orientación interdisciplinaria propia de toda su producción critica, Mumford se aventura en la búsqueda del los elementos más auténticos de la arquitectura, la literatura y el arte de su joven nación. Se define un complejo conjunto de valores que representan la esencia más positiva y novedosa de la cultura norteamericana, de la cual se revindica la autonomía, logrando franquearla de su subordinación a la tradición europea. Los temas tocados por el ultimo capitulo de esta trilogía, Brown Decades, se conocen fuera del ambiente académico estadounidense e inglés gracias a las traducciones que se han realizado. Los primeros dos, Sticks & Stones y The Golden Day restan todavía casi inexplorados, a la espera de desarrollar su potencial aportación a los estudios sobre la arquitectura.

3. Sticks & Stones. A Study of American architecture and civilization

El asentamiento paulatino de los colonos anglosajones en el New England empieza en 1620. En noviembre, 102 personas desembarcan de un buque en una península llana y arenosa de la costa atlántica. Se trata de los miembros de la congregación puritana de los Padres Peregrinos, que han dejado sus hogares en

Inglaterra y han emprendido un éxodo en búsqueda de una nueva tierra donde establecerse. Se produce un retorno al año cero de la arquitectura: el enfrentamiento entre una comunidad y un territorio virgen.

Según el autor, la comunidad todavía conserva las instituciones económicas, religiosas y sociales de la Edad Media norte europea y las técnicas que utiliza para construir sus establecimientos son la máxima expresión de la prolongación de la tradición medieval. En cambio, el entorno físico en que se desarrolla el asentamiento es un espacio a-histórico donde está ausente cualquier signo de antropización. Sin embargo ese espacio no es una tabula rasa; aunque intonso, su geografía le provee estructura y forma. Si en esta situación se reproduce algo que ya ha pasado en una lejana época de la civilidad Europea, hay un elemento realmente novedoso: la naturaleza se presenta al hombre con una dimensión, con una escala, y una potencia que no pueden compararse ni siquiera con aquellas propias de la Europa antes de las grandes deforestaciones y transformaciones del territorio generadas a lo largo de los siglos. Cabría hablar, entonces, de transposición de antiguos sistemas de asentamiento a un nuevo contexto geográfico.

En los años siguientes, otras embarcaciones alcanzan la costa atlántica, llevando otros peregrinos al Nuevo Mundo. La comunidad explora progresivamente el interior y, al cabo de cien años, en la región se ha formado una red de poblaciones y pequeñas ciudades. Mumford dedica la primera parte de su ensayo a describir con detalle estas poblaciones y los elementos que las componen, resaltando los factores que influyen sobre la forma urbana y que generan las variaciones del tipo de sus edificios. A continuación se describe el contenido de este apartado añadiendo datos recabados a través de una pequeña investigación.

El acto de fundación de una población consistía en sentar los cimientos de la meetinghouse. Si la orografía lo permitía, para esta construcción se escogía una posición elevada. Todos los hombres de la comunidad participaban en la operación. Mumford la compara con el ritual de fundación de la ciudad helénica: la erección de un altar. La meetinghouse era un edificio dedicado principalmente al culto: se utilizaba para celebrar las funciones dominicales y otras ceremonias religiosas que marcaban el calendario del trabajo rural. También se prestaba a otros usos: ahí los colonos se reunían en asamblea para debatir temas importantes y se refugiaban en caso de emergencia. Se trataba de un aula en planta rectangular, de proporción ligeramente alargada, con una cubierta a dos aguas; el acceso se colocaba en uno de los lados menores. En el interior se disponían largos bancos de madera transversalmente respecto al eje longitudinal y un pulpito en la extremidad opuesta a la entrada. En algunos casos, galerías a lo largo de los laterales y sobre la entrada, permitían disponer ulteriores asientos sin incrementar la distancia entre auditores y celebrante. Aberturas rectangulares en las mismas paredes laterales permitían la entrada de luz y la ventilación. En muchas comunidades hombres y mujeres se sentaban separados, a menudo en estos casos, la fachada principal se caracterizaba por la

presencia de dos puertas contiguas, para dividir el flujo de los dos grupos. En los ejemplos mas desarrollados aparece una torre de base cuadrada adosada a la fachada principal. Donde la presencia de los nativos americanos podía causar peligro, la meetinghouse asumía las características de una construcción fortificada, dotada de un propio arsenal.

El emplazamiento de la meetinghouse definía el centro del conjunto. En frente, se dejaba despejado un solar de forma circular u oblonga donde crecía libremente el césped: el Village Green. Este espacio asumía el papel de era y de plaza al mismo tiempo. Detrás, en otra zona de prado se establecía el cementerio. A lado se construía la casa del pastor y de su familia: la Parsonage. A lo largo del perímetro del Village Green, se trazaba una calle desde la cual se irradiaban otras vías que conducían a las viviendas de las familias. Cerca de este núcleo, a menudo, se construía una escuela primaria. En las calles principales se plantaban olmos. La población estaba normalmente cercada por una empalizada que marcaba sus confines. El principio fundamental que determinaba la posición de las casas era el de la distribución de la tierra entre los miembros de la comunidad: la división ecuánime en parcelas de propiedad y la creación de campos comunales. En el caso de un asentamiento en proximidad de un río, la calle principal se desplegaba paralela a la ribera y parcelas muy alargadas se estrechaban desde la calzada hasta el agua. La casa y las otras construcciones necesarias para el trabajo rural se situaban hacia la calle, y la tierra arable quedaba detrás, protegida entre la zona construida del solar y la barrera del río. La corriente del río se aprovechaba para producir energía a través de un molino. La orientación de la vivienda respondía a la necesidad de defenderse de los vientos dominantes y ganar la mejor captación solar.

Las técnicas constructivas no variaban según el programa del edificio: viviendas, graneros, molinos y la meeting-house se realizaban con los mismos procedimientos. En la emergencia de los primeros inviernos, se construyo con pocas y rudimentales herramientas: entramados de elementos lineales de juncos o cañas, rebocados con una masa plástica de arcilla, constituían los muros de uno espacio rectangular pavimentado con tierra batida. Este espacio se cubría con otro entramado, abrigado con una capa de terrones y una de balas de filamentos de paja o ramas de arbustos. La cubierta estaba sostenida por pilares recabados de troncos de árboles. Con el pasar de las décadas se difundió la técnica constructiva de la logcabin: se levantaban los muros por superposición de elementos lineales horizontales: semi-troncos de árboles adultos de fusto recto y pocos nudos. La estabilidad de la estructura se lograba gracias al encuentro en las esquinas: las extremidades de los troncos se embarbillaban entre ellas. Se rellenaban las juntas entre tronco y tronco con pequeñas piedras, ramos y masa de arcilla. Un reboco interior podía mejorar las prestaciones térmicas del edificio. Ulterior innovación del sistema es el empleo de clapboard: duelas de sección trapezoidal dispuestas horizontalmente, formando un revestimiento, superpuestas parcialmente para garantizar estanqueidad y favorecer el desagüe. Esta técnica se empleaba combinada con el sistema de la log-house en la cara exterior y/o interior de los muros y se empleará con el sistema estructural del ballon frame a partir de su difusión.

Cuando añadir otras parcelas incrementaba excesivamente la distancia entre la tierra arable y el centro de la población, impidiendo a los campesinos atender fácilmente a sus deberes civiles y religiosos, el establecimiento generaba otro germen de aldea más allá en el territorio, desplazando los límites de la civilización hacia el oeste. Desde su origen, por lo tanto, el asentamiento del los poblados del New England instaura un sistema policéntrico: una red de poblaciones rodeadas por campos arados, separadas por espacios naturales vírgenes conectados entre si a través de carreteras y caminos.

Es fácil encontrar correspondencias entre este sistema de ocupación del territorio y el sistema de ordenación del territorio propuesto en el Report. Su configuración compleja es considerablemente semejante con aquella que se propone en el Informe a través de la composición de los cuatro elementos básicos del territorio antropizado. Con este análisis de las formas del asentamiento, de la pequeña hasta la grande escala, Mumford parece individuar el modelo arquetípico del establecimiento humano en Norteamérica. Un modelo que ha permitido una relación equilibrada y proficua entre comunidad y territorio, cuya autonomía respecto los modelos precedentes está garantizada por el inédito contexto geográfico. Es probable que este modelo haya sido una referencia central para el estudioso en el momento de ofrecer sus aportaciones a la redacción del informe.

4. The Golden Day. A study on American Literature and Culture

Dos años después de publicar "Sticks & Stones", Mumford completa otra obra con la cual consigue ampliar el marco de la investigación emprendida. Si con el primer ensayo se ha propuesto definir algunos rastros de la cultura norteamericana a través de la historia de su arquitectura, con el segundo persigue el mismo fin escribiendo la historia de su literatura. En "The Golden Day" Mumford no aborda directamente el tema escogido y, en su dos primeros capítulos, trata el tema de la cultura norteamericana de manera independiente de sus objetos culturales. Este apartado del libro, entonces, representa una introducción a ambos ensayos, a la maduración de la cual, Mumford llega solo después la publicación del primero.

Mumford individua a los personajes de la génesis de la civilización norteamericana: hombres y mujeres en éxodo. Personas que no encuentran su lugar en la sociedad del viejo continente y deciden atravesar el océano y volver a empezar la propia vida en una nueva tierra. Dos comparsas de la sociedad europea huyen al otro lado del mar y se convierten en los protagonistas de esta historia: the pilgrim, el protestante peregrino y the rambler - el hombre desalojado y errático que pronto se convertirá en el pionero.

The Pilgrim busca en Norteamérica una tierra que no haya sido adulterada por la corrupción moral de la sociedad europea, para construir una nueva comunidad basada en los valores de su fe. Al nuevo continente, trae con sigo la tradición de la vida medieval rural del norte europea. Como Mumford había ya precisado en Sticks & Stones, las comunidades de puritanos conservan sus propias instituciones sociales y económicas. Además trae con sigo las Sagradas Escrituras con la convicción de que la jerarquía eclesiástica europea no es necesaria para interpretar su contenido. Es interesante como la lectura del viejo testamento adquiere grande importancia en la religiosidad de las nuevas comunidades. Los peregrinos comparten con el pueblo hebraico – que se relata en la Torah – el esfuerzo de una vida de éxodo y la fe en la atribución de la tierra para vivir como signo de la benevolencia divina. "They believe in the Promise Land."

El pionero ha sido comúnmente considerado como un producto del medioambiente norteamericano, Mumford dice que, más bien, hay que considerarlo como un producto del pensamiento europeo en el medioambiente norteamericano. El explica que, para descifrar el comportamiento de los pioneros, no se deberá estudiar meramente sus relaciones con los nativos, con las trading companies y las land's policies, habrá que entender algunos rasgos específicos del pensamiento europeo del finales siglo XVIII. Se refiere al Romanticismo y, mas acotadamente, al rol que este atribuye al ambiente natural. En el Romanticismo, la naturaleza salvaje es el gran escenario donde se desarrolla el drama de la vida; y más que cualquier otra institución social o entidad trascendente, es el único referente con el cual se podrá enfrentar el individuo. Se citan la poética de Blake y Wordsworth pero sobretodo algunas de las ideas de Rousseau, definido como el padre del movimiento romántico de retorno a la naturaleza. Según el filósofo de Ginebra, "la naturaleza podía sustituir las instituciones existentes, las convenciones, las costumbres y la historia. (…) Su prescripción era simple: retornar a la naturaleza, rechazar la sociedad, gozar de la soledad; (…) ver la eternidad en un grano de arena, el paraíso en una flor salvaje". Pronto estos principios se difunden en la conciencia colectiva europea. A estas alturas de siglo XVIII el territorio del viejo continente ya ha perdido su virginidad, ninguna porción del paisaje puede ocultar las huellas de la actividad humana, el ambiente denota un grado de antropizacion que resta intensidad al sueño de Rousseau. En cambio América todavía puede cumplir el deseo de una naturaleza primordial a la que volver la propia mirada. A otro lado del océano el Romanticismo encuentra lo que busca.

En síntesis, el viaje al otro lado del océano, ha producido una ruptura en la continuidad del proceso histórico, que, en un primer momento, impide a quien lo ha emprendido de disponer de valores propios. Los elementos que se han conservado de la cultura europea no son suficientes por si mismos para proveer una identidad al pueblo Norteamericano; en cambio, estos elementos en el nuevo contexto geográfico sí. Los colonos, huérfanos de una propia historia se han sumido en la Naturaleza indómita que los rodea y se han lanzado a la aventura norteamericana: han afrontado la exploración de un territorio virgen, salvaje, ilimitado, cuya escala y potencia superan la de cualquier otro hábitat natural conocido por hombre occidental; han encontrado en la relación que han sabido

establecer con ese ambiente natural, gracias a la cultura romántica, sus valor mas grande. La aventura norteamericana, entonces, ha sido suficientemente extraordinaria para desarrollar un proceso de mitopoiesis. En este nuevo mito, como en todos los mitos, está contenido el relato que provee la identidad al pueblo que lo ha generado.

A la luz de las reflexiones sobre el contenido de The Golden Day podemos hallar las razones que han empujado al grupo del Report a preservar el territorio de las colinas: entendemos ahora que denso substrato de significados se halla tras cualquier porción virgen del territorio norteamericano.

5. Lugares públicos en la Naturaleza Norteamericana

Como hemos podido constatar, en el Report se propone, con una sorprendente antelación respecto a cualquier otra hipótesis de planeamiento territorial, un modelo policentrico de ciudad-región que tiene cuidadosamente en cuenta la historia y la cultura de las comunidades que ocupan su territorio. Hoy en día, de manera casi unánime, se apoya el sistema policentrico, pero desafortunadamente, en los 80 años que nos separan de la redacción del Informe, el desarrollo monocentrico de la estructura urbana y la ocupación desordenada e indiscriminada del territorio por elementos de uso distinto, conocida como ciudad difusa, han generado una configuración difícilmente reversible. Volver a estudiar el Report y los Estudios Americanos de Mumford significa, para nosotros, remontarnos al origen de las ideas que conforman el debate actual. Entre las aportaciones, destacan por su vigencia las reflexiones en torno a las porciones de espacios naturales como elementos de la estructura policentrica del sistema.

En nuestra opinión, estas islas de wilderness asumen el papel de verdaderos lugares públicos en la naturaleza, según la definición que se ha dado de estos espacios en recientes estudios: “las nuevas condiciones hacen que sea la propia geografía la que asume el papel de vertebrar el territorio urbano. Los grandes hechos geográficos (montañas, desfiladeros, cuencas fluviales y franjas costeras) pasan a ejercer un papel similar al que, en la ciudad clásica, correspondía a los grandes ejes y a los espacios monumentales”. A modo de conclusión de nuestra investigación queremos comprobar la consistencia de nuestra hipótesis hallando las analogías en la estructura formal, las funciones y los significados, entre estos lugares en la naturaleza y los lugares públicos de ciudad tradicional.

Reconocidos estudios han demostrado que es posible formular un análisis topológico de la estructura formal de los espacios habitables. Se considere, como ejemplo, la lectura del espacio urbano propuesta por Kevin Lynch en su famoso ensayo “The Image of the City”, donde se demuestra que los habitantes de una ciudad perciben y guardan en la memoria la relación que establecen cinco elementos topológicos primarios: path, node, landmark, district, edge. Estamos

acostumbrados a valorar la dimensión topológica de los lugares públicos de la ciudad tradicional, hallando la categoría a la cual cada uno pertenece: elementos lineales de atravesamiento, elementos nodales, elementos que permiten la orientación, áreas permeables homogéneas y elementos que determinan límites a la permeabilidad y barreras visuales. También los lugares en la naturaleza, por supuesto, se pueden someter al mismo tipo de análisis. Algunos lugares en la naturaza norteamericanas poseen características topológicas tan simples y contundentes, que invitan al desarrollo de una teoría general al respecto de este argumento: el Nacional Monument y el Nacional Trail.

Si buscamos la palabra monumento en el diccionario de arquitectura de Pevsner, encontramos dos definiciones: 1-Construcción erigida en memoria de una personalidad o de un evento histórico; 2-cualquier obra arquitectónica antigua de valor bajo tutela. Estas definiciones corresponden a la acepción corriente del termino en la cultura europea. En cambio si ojeamos la lista de los 93 monumentos nacionales de Estados Unidos, nos damos cuenta que no pueden describir lo que esta lista contiene. Junto con la Estatua de la Libertad y la casa donde nací George Washington en Virginia, aparecen algunos monumentos que no son ni construcciones ni artefactos. Se trata de hechos geográficos: picos de montañas, cascadas, árboles... De un punto de vista topológico, elementos puntuales que marcan una posición, constituyendo una referencia visual y geográfica y permitiendo la orientación. Tan solo un ejemplo: la Devil's Tower en las Black Hills, Wyoming. Este monumento, que lleva nombre de torre, es un monolito de origen volcánico que funciona de landmark para la entera mancomunidad de la Crook County.

En el 1968, a través de una ley federal, se constituye el The National Trails System: un sistema de caminos públicos en lugares en la naturaleza. Entre ellos destacan los "Nacional Historic Trails", que se despliegan a lo largo de las trayectorias de desplazamiento de los colonos en la fase de ocupación del territorio. De un punto de vista topológico, estos senderos representan elementos lineales de atravesamiento y conexión, fácilmente comparables con aquellos del espacio público de la ciudad tradicional. El Trail mas conocido es el Appalachian Nacional Escenic Trail concebido por Benton Mackaye. El sendero se extiende desde monte Springer, en el estado de Georgia, al monte Katahdin en Maine. Mackaye delinea el recorrido a través de campos y granjas, conectando áreas de naturaleza salvaje para uso de los habitantes de las grandes ciudades de la costa Este.

Es opinión compartida que los lugares públicos de la ciudad tradicional que cumplen su papel de manera más eficaz son aquellos que forman parte de un sistema complejo de elementos que se relacionan entre si. Los Park System norteamericanos, cuyos primeros ejemplos fueron concebidos por el arquitecto y paisajista Frederick Law Olmsted, pueden ser considerados como sistemas complejos de lugares en la naturaleza: áreas verdes no urbanizadas, caminos, jardines, estanques, playas. Desde el punto di vista topológico, se relacionan entre sí de manera análoga a los elementos que forman el sistema del espacio

público de la ciudad monocentrica. Consideramos un caso paradigmático: el Emerald Neckelace de Boston. Se trata de una cadena de parques, conectados por caminos y canales navegables, que une el parque público más antiguo de la ciudad, el Boston Common (que fue antiguamente su primer village green) con el campo que se extiende fuera del núcleo urbano.

Hoy en día, entre los usos programados y espontáneos, ortodoxos y heterodoxos del espacio público resaltan aquellos relacionados con la interacción social y el recreo: el ocio, el descanso y el deporte. Sin embargo, cada vez mas, a parte de relaciones sociales y recreo, se subraya la importancia de lugares que favorezcan la intimidad y el contacto con sigo mismo. Todos estos usos son fácilmente detectables en los lugares públicos de la ciudad tradicional. A partir de las consideraciones formuladas por el poeta romántico ingles William Wordsworth, pasando por la creación de los primeros parques naturales al final del siglo XIX, llegando hasta los principios enunciados por el Park Movement norteamericano, se ha ido formando la conciencia de que también los espacios de la naturaleza pueden tener usos relacionados, no solo con el recreo, sino también con la reflexión y la contemplación. Todas las porciones de wilderness norteamericanas pueden cumplir plenamente estas expectativas. Si bien no es necesario citar ejemplos de espacios naturales de Norteamérica que ofrecen recreo, aducimos uno que muestre un espacio natural para la reflexión: el Walden Pond a las afueras de Concord, Massachusetts. En el año 1845, en el bosque que rodea este estanque, Henry David Thoreau construyo una pequeña cabaña para retirarse de la sociedad y dedicarse a una vida de contemplación y meditación. Desde entonces, siguiendo su ejemplo, ese lugar se ha convertido en una meta para todos los estadounidenses que buscan en la naturaleza en espacio para la reflexión.

"La experiencia demuestra que no basta la voluntad humana para hacer de un sitio cualquiera un verdadero lugar publico…" Una de las condiciones necesarias para que un sitio sea un lugar público es la presencia de valores colectivos asociados al lugar. El lugar público es un conjunto de elementos físicos habitables en que ha cristalizado la cultura de una comunidad. En cada uno de sus elementos, se podrán leer símbolos que remandan a estos valores y testimonios de la historia a lo largo de la cual se han ido generando. Nos gustaría sintetizar este concepto diciendo que en los lugares públicos se pueden leer algunas de las fuentes del relato de un pueblo. Estamos acostumbrados a reconocer la presencia de estos símbolos y de estos testimonios en los lugares públicos de la ciudad tradicional. Esta costumbre nos podría conducir erróneamente a pensar que sean atributos peculiares de los artefactos urbanos, en cambio, también algunos lugares en la naturaleza respectan esa condición necesaria. Después haber apreciado las interpretaciones de los significados condensados en el ambiente natural del continente norteamericano, podemos afirmar que también las porciones de wilderness poseen todos aquellos atributos ocupando el papel que el espacio publico ha llevado en la ciudad tradicional. Por los Trail de su territorio, sean carreteras o senderos, y orientado por los Monumentos de su territorio, sean torres o montañas, quien vive en la regiones norteamericanas no se mueve de ciudad en ciudad a través del ambiente natural, sino mas bien través del ambiente natural de su ciudad.

Appendix C
LUGARES PÚBLICOS EN LA NATURALEZA NORTEAMERICANA

Esta investigación inicia en la primavera de 2006, durante el seminario de estudios sobre la literatura científica de Lewis Mumford dirigido por el prof. Carles Martí Arís, al cual asistí en calidad de estudiante del Master Oficial del departamento de proyectos.

El análisis del Report de la New York State Commission for Housing and Regional Planning, tomado en consideración con ocasión del seminario, generó las primeras reflexiones que han llevado a la definición del tema de investigación. El Report es un informe redactado en 1924 por un grupo de estudiosos de la RPAA (Regional Planning Association of America) a conclusión de un trabajo sobre los recursos geográficos, económicos y sociales del territorio del estado de Nueva York. El documento se compone de una recopilación de datos, un análisis y la consiguiente propuesta para el planeamiento futuro, constituyendo un esbozo para el nuevo Plan Regional del estado.

Con una antelación sorprendente sobre las teorías que se han afirmado en las décadas posteriores, en el Report se encuentra ya, in nuce, las superación del modelo tradicional de sistema urbano cerrado y monocéntrico segregado del ambiente natural en el cual se encuentra inmerso; a este se contrapone un modelo abierto y policéntrico en forma de network que incluye porciones del ambiente natural en su interior. En estas porciones se propone reducir al mínimo las intervenciones de transformación, preservando su condición incontaminada. Estas áreas no se consiguen a partir de espacios intersticiales entre los núcleos de las 'conurbaciones', al contrario son ellas que vertebran el sistema gracias a sus propias características morfológicas, convirtiendo la geografía física en la generadora de la estructura formal del tejido urbano. Se deshace la relación topológica dicotómica entre la ciudad y lo que se halla mas allá de sus límites: el ambiente natural pasa a ser un elemento primario al interno del sistema urbano.

Considerado el valor de esta revolución copernicana en la concepción de ciudad, se ha decidido investigar el conjunto de referencias culturales que han influido en las ideas del grupo de la RPAA, llevándolo a madurar esa posición inédita y tan innovadora. A este propósito, se han encontrado resultados proficuos durante el otoño posterior, cuando me di de bruces con las ediciones originales de algunos escritos juveniles de Mumford que se remontan a los años en los que la RPAA se reúne.

Después de publicar su primer libro en el año 1922, un excursus sobre las utopías urbanas a lo largo de la historia, el eminente neoyorkino se dedicará a un extenso estudio sobre la cultura norte-americana. El resultado de esta investigación se puede apreciar en tres ensayos editados entre el ano 1924 y 1931: "Sticks & Stones", The "Golden Day", y "Brown Decades". Siguiendo la orientación interdisciplinaria propia de toda su producción critica, Mumford se aventura en la búsqueda del los elementos más auténticos de la arquitectura, la literatura y el arte de su joven nación. Se define un complejo conjunto de valores que representan la esencia más positiva y novedosa de la cultura norteamericana, de la cual se revindica la autonomía, logrando franquearla de su subordinación a la tradición europea. Los temas tocados por el ultimo capitulo de esta trilogía, Brown Decades, se conocen mas allá del ambiente académico estadounidense gracias a las traducciones que se han realizado. Los primeros dos, Sticks & Stones y The Golden Day restan todavía casi inexplorados, a la espera de desarrollar su potencial aportación a los estudios sobre la arquitectura. Como es sabido, entre los miembros de la asociación, Mumford recubre un rol importante, garantizando el fundamento teórico del trabajo del grupo. Se retiene que estos escritos alimenten el espíritu del colectivo y planteen algunas reflexiones centrales para la redacción del documento.

Particular importancia recubren las reflexiones en ellos contenidas sobre la peculiar relación entre el hombre y el ambiente natural del nuevo continente, que se define, según Mumford, tras la experiencia de la exploración y ocupación del territorio en la época de colonización. Según la interpretación del autor, el éxodo desde el viejo continente ha provocado una ruptura en la continuidad del proceso histórico, que, en un primer momento, impide a quien ha emprendido el viaje al otro lado del océano de disponer de una identidad propia. Los elementos que se han conservado de la cultura europea no son suficientes por si mismos para proveer los valores del recién nacido pueblo norteamericano; en cambio, esos elementos en el nuevo contexto geográfico sí. Los colonos, aun huérfanos de una propia historia pero todavía estimulados por las inquietudes generadas por la cultura romántica europea, se sumen en la naturaleza que los rodea y se lanzan a la 'aventura norteamericana': afrontan la exploración de un territorio virgen, salvaje, ilimitado, cuya escala y potencia superan la de cualquier otro hábitat natural conocido por el hombre occidental. La experiencia es suficientemente extraordinaria para desarrollar un proceso de mitopoiesis. En este nuevo mito están contenidos los valores que proveen la identidad al pueblo que lo ha generado. El ambiente natural pues es escenario y al mismo tiempo, protagonista del mito fundacional de la cultura norteamericana, en él sedimentan testimonios y símbolos de la narración colectiva de la comunidad.

A la luz de estas reflexiones, se ha podido hallar otra razón que ha empujado al grupo a integrar el ambiente natural en el sistema urbano. La comisión intuye el valor que, para las comunidades que se han paulatinamente asentado después de dos siglos de incesantes exploraciones, comporta vivir en proximidad de

'porciones' de wilderness, definiendo con este termino la condición primigenia del ambiente natural que protagoniza la experiencia de los colonos de Norteamérica.

En síntesis, en el Report se propone un modelo urbano policéntrico donde el ambiente natural, incluido en el sistema, se configura como matriz primaria de su estructura formal y como lugar de concentración de símbolos que se refieren valores colectivos específicos.

El desarrollo espontáneo y/o programado de los sistemas de asentamiento del cual hemos sido testimonio en los 80 años que nos separan de la redacción del Report, han puesto en evidencia la imposibilidad de seguir refiriéndonos a la ciudad según la concepción tradicional. El desarrollo monocéntrico, llevado mas allá del limite dimensional que garantiza su funcionamiento, ha causado en muchos casos la 'desintegración' de los núcleos, cuya consecuencia mas frecuente es el fenómeno de ocupación desordenada e indiscriminada del territorio por elementos de uso distinto conocido como ciudad difusa. En este contexto, el sistema policéntrico propuesto por la RPAA, rechazado en su momento por las autoridades políticas y administrativas del estado de New York y casi siempre olvidado en las teorías urbanísticas sucesivas, ha vuelto a ser de gran actualidad, ofreciendo un modelo a seguir en el control de los fenómenos de urbanización.

Ante la escala de la nueva ciudad, que trasciende la dimensión que le ha pertenecido a lo largo de la historia y, de manera ya ineludible, abarca el entero territorio, hoy en día el arquitecto encuentra gran dificultad en la aplicación de los instrumentos habituales de análisis y proyecto. Se ve tentado a renunciar a tratar las cuestiones de la ciudad delegando este papel a otras disciplinas tradicionalmente relacionadas con el análisis y proyecto a escala territorial como el urbanismo, la geografía, el paisajismo y la sociología del territorio, relegándose al estudio de las problemáticas de fragmentos aislados del tejido urbano. A pesar de estas dificultades se considera que el salto de escala resultado de la "explosión" de los sistemas urbanos monocéntricos no cuestiona la eficacia de las estrategias tradicionales del estudio de la ciudad, si no que comporta tan solo la necesidad de recalibrarlas.

La fase de investigación que aquí se inicia encuentra su premisa fundamental en las conclusiones que se derivan del RPAA y, reivindicando la posibilidad de tratar las problemáticas de la 'ciudad-territorio' incluso con los instrumentos del 'arquitecto-proyectista', se propone desarrollar un análisis del ambiente natural de los sistemas urbanos norteamericanos a través de dichos instrumentos. Si de hecho el ambiente natural puede asumir un papel estructurante de la forma de la nueva 'ciudad-territorio' y si puede guardar profundos significados para la comunidad que las habitan, se formula la hipótesis que esto pueda representar, en este nuevo contexto, lo que el espacio publico ha representado en la ciudad tradicional. Los métodos de análisis del espacio publico propios de

la investigación en el ámbito del proyecto arquitectónico, entonces, se podrían prestar a ser 'declinados' para ofrecer resultados proficuos a la nueva escala de la ciudad con la cual hoy nos confrontamos.

El objetivo final de esta investigación es por tanto el de verificar esta hipótesis y desarrollar un análisis sistemática y coherente de fragmentos específicos del ambiente natural norteamericano dirigiéndose a ellos como a verdaderos lugares públicos en la naturaleza.

Desarrollo y metodología de la investigación

1 - definición del papel del ambiente natural en los sistemas urbanos

La primera fase de la investigación consistirá en un estudio de las influencias literarias y filosóficas, referencias historiográficas, teorías y practicas de proyecto y planificación que han contribuido a la definición del peculiar papel del ambiente natural en el sistema del territorio prefigurado en estadio embrionario en los estudios del RPAA. En primer lugar tomaremos en consideración las tres obras centrales del "Trascendentalismo": "Nature" de Emerson, "Walden" de Thoreau y "Leaves of Grass" di Whitman. En segundo lugar "la historiografía de la frontera" desarrollada por Frederick Turner en los mismos años en los que se redacta el Report. Imprescindible es además el estudio del 'Conservacionismo' americano, desde los inicios del Early American Conservation Movement a los tiempos de J. Muir hasta Park Movement de Benton Mackaye. Se pasará seguidamente al estudio de la obra de F. Olmsted, considerado pionero del paisajismo, para concluir con los escritos de juveniles de Mumford citados anteriormente, que toman en consideración todas estas referencias relanzando su valor.

Sin pretender un análisis exhaustivo de estas fuentes, cada una de ellas podría ser objeto central de una tesis de doctorado, se quiere efectuar una inmersión en el clima cultural que ha dado vida al debate del cual la RPAA ha sido protagonista. Cuando existan traducciones al castellano o al italiano de los textos y documentos se les dará precedencia, con el fin de conseguir un léxico especifico para desarrollar las dos fases sucesivas de la investigación.

Para esta fase, constituida principalmente por búsquedas y estudios bibliográficos, nos serviremos de los recursos de las principales bibliotecas de arquitectura españolas e italianas, reservándose la posibilidad de profundizar las pesquisas en un viaje a los Estados Unidos que nos permitirá el acceso a documentos no disponibles de otra forma.

2 – instrumentos de analisis del ambiente natural de los sistemas urbanos

En la segunda fase, se pondrá a punto un método de análisis del ambiente natural de los sistemas urbanos. Se experimentará la posibilidad de estudiar la estructura formal, las funciones y los significados en ellos custodiados, así como habitualmente se ha realizado con el espacio publico de ciudad clásica. Para el estudio de la estructura formal se tomará como punto de partida los instrumentos ofrecidos por los escritos de Kevin Lynch. El estudio topológico de la ciudad que este autor lleva adelante transciende la escala de esta, validando sus instrumentos de análisis para abordar la nueva dimensión territorial de la ciudad contemporánea. Para el estudio de las funciones y de los peculiares significados del ambiente natural, resultarán útiles los instrumentos ofrecidos en dos ensayos escritos durante los años '70 por dos eméritos estudiosos y docentes universitarios estadounidenses: "The Necessity for Ruins" de John Brinckerhoff Jackson y "Topophilia" di Yi-Fu Tuan.

3 - lugares publicos en la naturaleza norteamericana

En la tercera fase, se propone utilizar los métodos de indagación precedentemente desarrollados, para analizar el ambiente natural de algunos sistemas urbanos del estado de New York escogidos en calidad de Case Study, para intentando demostrar que en ellos se hallen contenidos auténticos lugares públicos en la naturaleza.

Esta última parte de la investigación se realizará, tras una selección de los Case Study adecuados, a través de visitas de campo. De los lugares preescogidos se recogerán los necesarios documentos cartográficos y se efectuará un exhaustivo levantamiento fotográfico, no sin recoger todas las informaciones relativas a las emergencias arquitectónicas y las preexistencias históricas y tomando en consideración los estudios de carácter topográfico, geográfico, urbanístico y paisajístico existentes sobre el lugar.

Appendix D
WILD-DEOR METROPOLIS

1. Obiettivi

Il termine wilderness, nell'uso comune della lingua inglese, definisce la condizione di una porzione del territorio ove non è riscontrabile alcun segno antropico. Per estensione semantica, la parola si riferisce anche ad ogni area che conserva tale condizione o all'insieme di tali aree. La parola possiede inoltre un denso substrato di connotazioni che esprimono il significato culturale che la wilderness ha assunto ed assume. Tale significato si fa specialmente profondo e complesso in Nord America, ove ogni wilderness è un frontier remnant, ovvero un resto dell'ambiente naturale indomito che è stato scenario e al tempo stesso gran protagonista della storia del continente.

La relazione di prossimità tra città e wilderness è da sempre uno degli aspetti più significativi e affascinanti dei processi insediativi nordamericani. La progressiva trasformazione del territorio a fini produttivi ha ridotto solo parzialmente tale contatto: non distante da alcuni dei più vasti centri abitati si conservano ancora ampi brani di natura incontaminata. In molti casi si è però invertita la loro reciproca relazione topologica. Se la storia urbana americana è una storia di città nella wilderness, oggi sono i sistemi metropolitani complessi su scala regionale che includono nella propria trama enclavi naturali, vere e proprie wilderness nella città.

Si tratta di frammenti la cui resilienza nei contesti urbanizzati é dipesa da circostanze diverse: aree le cui caratteristiche orografiche o idrografiche hanno reso troppo difficile o troppo caro lo sfruttamento, aree potenzialmente sfruttabili ma inaccessibili, aree soggette a vincoli paesistici, aree dismesse di cui la natura si é riappropriata sino a cancellare ogni testimonianza del loro precedente uso. Vari per forma e per tratti fisico-geografici, spaziano - senza soluzione di continuità nel fattore di scala - dalla grande emergenza geografica sino alla più minuta immergenza interstiziale che si insinua capillarmente nell'abitato, formando ciò che in questo studio definiremo come il sistema della wilderness urbana.

Nei quattro decenni che ci separano dalla sua nascita come disciplina, l'ecologia urbana ha dedicato approfonditi studi a questi sistemi, spiegando come essi offrano necessari rifugi per la biodiversità e illustrando con minuzia di particolari il loro importante ruolo nella conservazione degli equilibri ambientali delle

regioni metropolitane. Con autorevolezza e veemenza ne ha rivendicato la conservazione portandoli per la prima volta al centro del dibattito sulla città contemporanea.

Anche ma non solo in seguito a ciò, é sorto un progressivo interesse nella wilderness urbana come luogo di recreation. L'uso di queste aree come alternativa ai tradizionali spazi di verde pubblico si sta promuovendo in risposta alla necessità di ristabilire un contatto tra cittadino e natura. In esse sono possibili attività di esplorazione e di gioco che rarissimamente si sono potute svolgere dentro i confini della metropoli, così come momenti di raccoglimento per la riflessione e la contemplazione in solitudine. Tali politiche istituzionalizzano la wilderness come un nuovo e peculiare tipo di spazio pubblico.

Ma il valore della wilderness urbana americana va ancora oltre. Ciascun frammento é un serbatoio semantico che raccoglie i molti significati che la parola possiede. É un luogo ove tali significati possono essere riscoperti e compresi che resiste come un baluardo nelle sterminate distese della macchia urbana. In esso si custodiscono i valori collettivi che la cultura americana ha attribuito alla natura. É dunque luogo di concentrazione di senso che assurge al ruolo di vero e proprio monumento.

Nella sintesi dei suoi valori ecologici, funzionali e simbolici il sistema della wilderness urbana si configura come una componente fondamentale dei sistemi urbani territoriali nordamericani contemporanei, ciascuna sua parte come un elemento primario della struttura formale della città capace di informare il suo contesto. In questa ricerca ci si propone di effettuare uno studio che, affiancandosi a quello degli ecologi, si prefigga di studiare caratteri morfologici e i valori simbolici di questi peculiari fatti urbani.

Tale studio si comporrà di due parti. Nella prima ci si porrà in contesto esplorando il folto sottobosco della letteratura scientifica che ha trattato il tema del valore culturale della wilderness americana. Nella seconda, impiegando gli strumenti analitici propri dell'architetto, si prenderanno in esame sei casi di studio, presenti in alcuni sistemi metropolitani del sub-continente: Washington, Boston, Toronto, Minneapolis, Vancouver e Portland. Ciascuno di essi sarà approfonditamente studiato in qualità di emblematico locus ferus intrappolato nelle maglie di una grande città.

2. Originalità del lavoro in relazione al tema scelto

Nel 1969 Lewis Mumford presenta al mondo accademico e professionale il libro di Ian Mcharg Design with Nature, redigendone una introduzione entusiasta. É questo un momento di passaggio del testimone tra due figure centrali del secolo scorso nelle discipline che studiano il territorio. Le relazioni tra il paesaggista di Glasgow e il suo mentore americano garantiscono continuità agli studi sulle relazioni tra sistemi naturali e sistemi urbani: Mumford raccoglie l'eredità di Patrick Geddes e del gruppo del Regional Planning Association of America e la offre a Mcharg che con il suo pionieristico libro apre il cammino alle ricerche contemporanee, giunte sino alla recente istituzione dell'ecologia urbana. Nei quaranta anni trascorsi dopo l'apparizione di questa seminale pubblicazione si é costruito un proficuo iter di studi che trova le sue pietre miliari, oltre che nel già citato libro, in City Form and Natural Process di Michael Hough e Landscape Ecology di Richard T. T. Forman apparsi entrambi alla metà degli anni '80. Tali studi rivelano l'importanza dei sistemi degli spazi naturali spontanei nella città contemporanea.

Nel ripercorrere le tappe del lungo percorso che conduce dagli studi di Geddes sino a quelli di Forman, si nota facilmente come questo filone di ricerche ha vissuto in modo molto accentuato il processo di specializzazione che sta investendo quasi tutti i settori decennio dopo decennio. Se gli studi del Regional Planning Assosacion of America, di Mumford e di Patrick Geddes in primis erano multidisciplinari e quasi omnicomprensivi, gli ultimi sviluppi dell'ecologia urbana hanno un carattere molto specifico, attingendo principalmente dalla biologia e dalle scienze naturali in genere gli strumenti per analizzare le aree metropolitane e determinare criteri per la loro pianificazione. Se dunque gli ultimi sviluppi di questa disciplina hanno avuto il merito di scrivere un convincente apologia della wilderness urbana, essa si limita a studiarne e descriverne le virtù nel migliorare la sostenibilità ambientale e di salubrità pubblica.

Oggi l'architetto riesce ad impiegare con difficoltà gli abituali strumenti di analisi e di progetto quando si confronta con la città contemporanea nel suo insieme, a causa della sua estensione e della sua complessità. Questa, trascendendo la dimensione e la struttura appartenutagli nel corso della storia, abbraccia la scala del territorio seguendo pattern difficilmente decifrabili. Egli è dunque tentato di rinunciare a trattare le questioni che riguardano gli interi sistemi urbani, dedicandosi allo studio di frammenti isolati del tessuto costruito e delegando tale compito ai professionisti delle discipline tradizionalmente impegnate nelle analisi e nel progetto su scala territoriale: la geografia regionale, la sociologia del territorio, l'ingegneria civile e quella ambientale. Nonostante le difficoltà oggettive, si pensa però che il salto di scala risultato dalla esplosione delle città tradizionale monocentrica non metta in discussione le strategie fino ad oggi impiegate nello studio della città da parte dell'architetto, ma che comporti solo la necessità di ricalibrarle.

Il sistema della wilderness delle grandi città nordamericane contemporanee può valere come banco di prova. Si é interessati verificare l'efficacia di una analisi dei caratteri morfologici e dei valori simbolici di queste grandi riserve impiegando le strategie che l'architetto ha consolidato negli ultimi decenni di studi dei

fatti urbani. È possibile effettuare una classificazione delle wilderness urbane in funzione della loro struttura formale e della relazione che questa stabilisce con la forma urbis ? Si può ridurre queste strutture a una serie limitata di ricorrenze: wilderness urbana come enclave nel tessuto della città, wilderness urbana come corridoio che unisce aree di wilderness più vaste altrimenti separate dalla città stessa, wilderness urbana come cuneo che penetra in profondità nell'area metropolitana, et cetera? È possibile discernere quelle wilderness urbane che sono emergenza da quelle che sono immergenza, ovvero, è possibile distinguere quelle che hanno un valore strutturante sui caratteri morfologici del contesto costruito da quelle che devono i propri caratteri morfologici al valore strutturante di tale contesto? E ancora, é possibile interpretare il complesso di riferimenti simbolici a cui specifici elementi di questi luoghi rimandano? In che modo la loro storia offre alla comunità un racconto vivo che può fornire le basi per valori condivisi ?

Questa ricerca si propone di rispondere affermativamente a le precedenti domande, cosí come ad altre simili ancora da formularsi, mettendo a punto un metodo di analisi che sappia svelare le virtù della wilderness urbana oltre ai già citati aspetti ecologici . Si ritiene che l'originalità del lavoro consista nel riaprire il discorso sul selvaggio nella città a tutte le dimensioni in cui si merita di essere trattato: esso si propone di recuperare l'approccio trasversale proprio di Geddes, di Mumford e della RPPA, rivendicando il ruolo dell'architetto - accanto a quello degli ecologi - nello studio di quei luoghi che, pur non contenendo traccia del lavoro dell'uomo, hanno tutte le potenzialità per diventare elementi primari nella costruzione della città nordamericana del XXI secolo.

3.Piano di Lavoro

Il lavoro di ricerca si svilupperà in due fasi. Nella a fase 1, che si svolgerà in modo intensivo nei prossimi mesi sino alla fine del 2010, si procederà alla raccolta del materiale di studio. Nella fase 2, che si svolgerà a partire da gennaio 2011, ci si dedicherà allo sviluppo della struttura e del contenuto della tesi così come alla sua redazione. In ciascuna delle due fasi si lavorerà separatamente sulle due parti in cui sarà strutturato il testo: la parte prima, che offrirà le riflessioni frutto dello studio sulla letteratura scientifica che tratta il tema del valore culturale della wilderness americana, e la parte seconda, che prenderà in esame specifici luoghi di alcune grandi città nordamericane: il Theodore Roosevelt Island National Memorial a Washington, la Boston Harbor Islands National Reacreational Area a Boston, il Tommy Thompson Park di Toronto, la Mississippi National River Recreational Area a Minneapolis, lo Stanley Park di Vancouver e il Forest Park di Portland. Per esigenze logistiche nella fase 1 ci si dedicherà prima alla raccolta del materiale relativo alla seconda parte della tesi, mentre che nella fase 2 si procederà seguendo l'ordine in cui le due parti appariranno nel testo finale.

Fase 1 - Raccolta Materiale di Studio

I - Field Trip

Immediatamente dopo l'accettazione di questa proposta, si procederà alla preparazione di un viaggio di studi per visitare ciascuno dei luoghi selezionati come casi studio. In primo luogo ci si procurerà il materiale cartografico e tutte le informazioni reperibili, incluse tutte le pubblicazioni specifiche. Poi si metterà a punto un metodo per la raccolta di dati in situ che possa essere applicato in modo sistematico e rigoroso per ogni esempio, al fine di ottenere materiale studio coerente e facilmente comparabile: un sistema di rilievo fotografico e grafico che punti a mettere in luce i caratteri morfologici e quelli simbolici apprezzabili nell'esplorazione e un sistema di schedatura delle informazioni raccolte in modo diretto attraverso interviste a cittadini, amministratori ed esperti. Il viaggio si effettuerà a partire del 18 di luglio prossimo venturo. Durerà in totale tre settimane prevedendo soste di due tre giorni per ciascuna tappa.

II - Studi presso il dipartimento di Landscape Architecture dell'università di UC Berkeley.

Nell'intenzione di svolgere nell'ambiente più propizio la fase di raccolta del materiale teorico per la ricerca, si é fatta domanda di ammissione al programma di "visiting scholarship" di UC Berkeley. Tale domanda é stata appoggiata dal professor Carlos Martí Arís nel nostro dipartimento e dalla professoressa Louise Mozingo in quello di Berkeley. La 'scholarship' é stata concessa per il primo semestre dell'anno accademico 2010-2011. Si trascorreranno dunque sei mesi presso il dipartimento dell'università californiana, seguendo corsi e seminari inerenti al tema di studio, portando avanti la ricerca bibliografica nelle biblioteche dell'ateneo e collaborando con nell'attività di ricerca del dipartimento.

Fase 2 - Sviluppo e Redazione della Tesi

1 - Sviluppo e redazione della parte 1 della tesi.

La prima parte della ricerca consisterà in uno studio propedeutico alla seconda, che punta però ad avere anche un valore autonomo: uno studio sul valore culturale della wilderness in Nordamerica. Si inizierà prendendo in esame la più rilevante letteratura scientifica che si è occupata del ruolo della wilderness nella storia e nella cultura del sub-continente. In seguito ci si rivolgerà direttamente alle fonti primarie di tale letteratura, selezionando e sistematizzando alcuni

degli oggetti culturali che hanno contribuito a precisare suddetto ruolo. Infine ci si calerà nel vivo dibattito intorno a 'l'idea di wilderness' che nella contemporaneità sta mettendo in discussione le accezioni fino ad ora accettate del termine, inducendo a una nuova riflessione sul suo significato. L'intenzione di è quella di comporre un mosaico di contributi che fornisca una sorta di definizione aperta di wilderness. Esso possa, da un lato, essere solida base per la trattazione successiva e, dall'altro, utile strumento di avvicinamento a pubblicazioni considerate imprescindibili negli ambiti accademici nordamericani ma ancora inedite in Europa.

II - Sviluppo e redazione della parte 1 della tesi.

La seconda parte della ricerca consisterà nella analisi delle wilderness urbane scelte come casi studio prescelti. Si studierà la loro storia, la causa della loro permanenza nel tessuto della città, la struttura formale propria e la relazione con la forma urbis, i loro margini e il loro grado di permeabilità, le funzioni che svolgono parallelamente a quelle prettamente ecologiche e i valori simbolici che custodiscono per la comunità.

4. Bibliografia fondamentale che definisce il punto di vista.

Alcune delle ipotesi fondamentali assunte per sviluppare questa tesi sono state tratte dalle considerazioni presenti in due brevi scritti del direttore di questo lavoro dottorale (riferimenti bibliografici 1 e 2). Nel primo si sviluppano riflessioni sul cambio della relazione tra città e ambiente naturale che lo sviluppo dei sistemi urbani contemporanei sta imponendo, nel secondo se ne aggiungono altre sul valore che i frammenti di natura presenti in detti sistemi possono assumere. Tali ipotesi si sono poi consolidate nello studio del lavoro svolto dalla Regional Planning Association of America nell'ambito della pianificazione territoriale dello Stato di New York (riferimento bibliografico 3). In tale lavoro si propone un modello di occupazione del territorio basato sullo sviluppo urbano policentrico che da grande rilievo al ruolo delle riserve naturali incluse nel sistema. In quella che nelle fasi precedenti di questa ricerca abbiamo definito come la 'trilogia degli studi americani del giovane Mumford', e in particolare nella seconda delle tre pubblicazioni, si sono trovati i primi spunti per le riflessioni sul ruolo della natura nella cultura nordamericana che hanno poi portato all'interesse verso il valore simbolico degli enclavi di natura incontaminata presenti nei sistemi urbani. (riferimento bibliografico 4). Il recente libello-manifesto di Gilles Clement ha fornito altri spunti originali per la definizione del tema (riferimento bibliografico 5). Un noto saggio scritto da William Cronon alla metà degli anni '90 ha offerto una sintesi delle riflessioni sul significato di wilderness dei decenni precedenti aprendo a nuove interpretazioni che si devono e si vogliono prendere in considerazione nello sviluppo di questo lavoro (riferimento bibliografico 6).

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6- Cronon, William. “The trouble with Wilderness, or: Going back to the Wrong Nature.” In Uncommon Ground: Rethinking Human Place in Nature. New York: W. W. Norton & Co., 1996.

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Per affrontare la ricerca, sarà preliminarmente necessario dedicarsi alla lettura di alcune fondamentali pubblicazioni - ormai considerate grandi classici - ove si é riflettuto sull’ essere e il dover essere della relazione tra uomo e ambiente naturale in Nord America. Si fa riferimento, in primo luogo, alla declinazione americana del pensiero romantico europeo che si esprime nel movimento letterario e filosofico del trascendentalismo: alle opere di Ralph Waldo Emerson, Henry David Thoreau e Walt Whitman. In secondo luogo alle riflessioni dei naturalisti padri del conservation movement: dagli scritti di John Muir sino a quelli di Benton Mackaye. In terzo luogo alla storiografia della frontiera istituita da Frederick Jackson Turner, nei cui saggi si descrive il ruolo cruciale nella formazione della cultura nordamericana del constante confronto tra civilizzazione e natura indomita che ha caratterizzato gli anni dell’espansione verso ovest. A tali opere e a tali autori la letteratura scientifica che tratta il tema della wilderness oggi si rimanda costantemente. A seguire si elencano, in ordine cronologico di stesura e con la data di prima pubblicazione tra parentesi, quelle che si considerano le opere centrali dalle quali non si potrà prescindere.

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5. Vincolo dell’autore con il tema.

“Vivevamo tra la Via Emilia e il Far West” disse una volta un noto letterato della mia città parlando della sua infanzia, trascorsa nelle campagne bolognesi negli anni in cui cinematografi ambulanti si fermavano di paese in paese, proiettando sui muri delle vecchie case fotogrammi di epopee americane e i loro

scenari fatti di praterie e deserti. Benché io sia nato quaranta anni dopo, in un ambiente meno campestre ove i western arrivavano comodamente fino al soggiorno di casa, potrei usare le stesse parole per descrivere la geografia sognata che infinite volte ho proiettato su quella reale della mia terra. Negli anni successivi l'esplorazione di quei luoghi remoti é continuata nella mia passione per la letteratura, la musica ed il cinema statunitense senza mai scemare, neanche quando - dopo il mio primo viaggio oltre oceano, ho finalmente potuto sostituire le 'immagini immaginate' con immagini vere, impresse sulla mia retina.

Ancora oggi, il potere evocativo del paesaggio americano rimane per me un mistero. Da dove deriva il fascino delle visioni che offre di sé e quello della costellazione toponomastica dei suoi luoghi? Cosa rende una prospettiva così invitante farne parte? Non credo che si possa cercare la risposta esclusivamente nella bontà delle narrazioni che lo hanno celebrato nella letteratura, nella musica e nel cinema, ne tanto meno nella l'insistenza e l'invasività con cui si sono diffuse queste narrazioni insieme a qualsiasi altro prodotto commerciale nella progressiva 'americanizzazione' del mondo. Ritengo piuttosto il contrario: la potenza dei discorsi narrativi che descrivono l'uomo immerso nel paesaggio nordamericano dipende da un carattere specifico di tale paesaggio.

Lewis Mumford da una possibile pista per capire quale sia questo carattere in uno dei suoi primissimi libri: The Golden Day, pubblicato nel 1926. Si tratta di un saggio sulla storia della letteratura e della filosofia nordamericana, parte del corpus letterario di autori diversi che si considera come l'origine della disciplina degli American Studies. Per introdurre la trattazione, seguendo un approccio comune a tutte le opere di tale corpus, l'autore si impegna nel distillare i componenti autonomi della cultura della sua giovane nazione, nell'intento di affrancarla dalla sua condizione subalterna rispetto a quella britannica e a quella europea in genere. In questa parte del testo sono di grande interesse le riflessioni sulla peculiare relazione tra uomo e ambiente naturale del nuovo continente, che si definisce negli anni dell'occupazione del territorio. Secondo l'interpretazione dell'autore, il viaggio oltre oceano provoca una rottura nella continuità del processo storico che genera in chi lo ha intrapreso una vera e propria perdita di identità. Tale identità verrà riconquistata in seguito alla trasposizione di alcuni specifici elementi della cultura europea nel nuovo contesto geografico. I membri delle congregazioni protestanti, in fuga dalle persecuzioni del pensiero religioso dominante, ma zelanti nella loro immedesimazione nel popolo di Dio in esodo verso la terra promessa raccontato dalla Torah, si dedicano ad una lenta ed incessante penetrazione. I pionieri, sradicati dalle loro comunità di origine, ma stimolati dal pensiero romantico che li sprona a spogliarsi delle convenzioni dell'uomo civile e a tornare alla natura, si lanciano in una temeraria esplorazione. Insieme a loro, ogni uomo ed ogni donna di varia provenienza e stato sociale arrivati nel nuovo continente affrontano un territorio vergine, selvaggio e illimitato, la cui scala e la cui potenza supera quella di qualsiasi habitat naturale precedentemente conosciuto. L'ambiente naturale si converte nello scenario e nel co-protagonista di una straordinaria avventura collettiva, vivendo la quale il fu uomo europeo - ora americano - trova sé stesso.

E se in questa avventura, l'uomo americano trova sé stesso, il paesaggio americano acquisisce un sistema di significati che il paesaggio europeo ha perduto da secoli: esso diventa terra promessa o deserto da attraversare per raggiungerla, giardino dell'eden o luogo della corruzione morale; ed ancora: natura indomita, sublime manifestazione di un dio immanente da contemplare. Si potrebbe parlare dunque di carattere semantico del paesaggio, intendendo appunto ciò che gli é conferito dall' insieme delle possibili attribuzioni simboliche associate ad ogni sua porzione. Tale carattere non si é estinto con la caduta dell'ultima frontiera nel 1890, ma continua a percepirsi in ogni frammento del continente ove é ancora possibile perdersi o cercare, nascondersi o trovare, esplorare e vagabondare e continuerà ad esistere sino a quando il territorio non sarà esausto, consumato in ogni sua porzione visuale dalla traccia della presenza dell'uomo, come accade in gran parte della nostra vecchia Europa. In altre parole: continuerà ad esistere sino a quando vi saranno luoghi ove è possibile vivere la wilderness condition.

Intraprendere uno studio sui valori simbolici della wilderness americana e studiare le relazioni che nella contemporaneità essa instaura con il suo termine antonimico, la città, sarà il modo migliore procedere nella comprensione di questo ineffabile carattere. Comprenderlo a fondo, svelando il mistero del fascino del paesaggio nordamericano - se mai sarà possibile, sarà il modo per recidere il vincolo che sino ad allora mi lega indissolubilmente a questo tema di ricerca.

1.2 Testi fondamentali inerenti al tema di ricerca

I testi selezionati vengono presentati divisi per aree tematiche. Ogni sezione è stata ordinata in ordine cronologico, specificando - a margine e tra parentesi - la data di prima pubblicazione.

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