

speaking, many of the ecological groups focused on the harbor and the region are concerned primarily with maintaining and enhancing the heron nesting habitat on North Brother Island, together with its neighbor South Brother. These groups conclude that human accessibility will degrade the ecosystem of the Islands.

Community development and human-development-focused groups look to North Brother as opportunity for expanding open space opportunities throughout the city, particularly South Bronx, where parks and open spaces are relatively limited and inaccessible. South Bronx has an extremely low amount of park space and public waterfront access per person: 6 square feet. Elsewhere in New York, access is much higher, such as 109 square feet for the rest of the Bronx, 197 square feet for Staten Island, and 53 square feet per person in Brooklyn.³⁵

Numerous organizations in the Bronx and the City are working towards environmental and heritage education and awareness program, as a part of their mission and work. These groups include the Bronx Council for Environmental Quality, The Point CDC, the Sustainable South Bronx, Rocking the Boat, which also works with NYC Audubon, hosts youth development programs in which youth build wooden boats, learn water-based skills and participate in environmental education programs.

The New York Restoration Project, a non-profit dedicated to making under-resourced communities more sustainable, led the Haven Project, a master plan that mapped designs, funding, and a new network of open spaces for the South Bronx neighborhoods of Mott Haven and Port Morris – close neighbor to North Brother. Landowner/developer Steve Smith at Oak Point on the Hunts Point shore north of NBI is another close neighbor to the Island and has shown an interest in serving as a future access point. Each of these groups should be consulted to develop a collaborative approach for access to the Island.

A number of Bronx-based or Bronx-focused groups with missions of community development, open space improvement, environmental awareness and ecological education constitute potential stakeholders for NBI. These include: The Point CDC, Rocking the Boat, Bronx River Alliance, Sustainable South Bronx, and some local public schools. A number of city-wide or regional environment-focused organizations have also expressed interest and concern about NBI, as a resource in itself and as part of larger complex regional ecologies. These organizations include: NYC Audubon, New York/New Jersey Harbor & Estuary Program/Hudson River Foundation, Wildlife Conservation Society, New Yorkers for Parks, and New York Restoration Project

Given the intense interest expressed in NBI in our experience, we are sure the potential exists for many more Bronx, and City-focused groups to join NYCDPR and its partners in the future, if and as specific programming, research or development opportunities arise. Specifically, groups working in education, environmental awareness, parks and open space, historic preservation, and arts-and-culture sectors would readily step forward as partners.

While New York City Department of Parks and Recreation and owners and managers for the City, some other agencies have planning, regulatory or consulting responsibilities for potential changes to NBI – these are not significant in day-to-day management under the Forever Wild Program, but these agencies (EDC, DCP) could be important partners if management or development plans change in the future. These stakeholders are outlined in Section 3.5 on enabling environment.

It should be noted that one gap in the collection of stakeholder groups interested in NBI is representatives of the historic preservation or heritage conservation communities. These groups have not been aware of NBI, for the most part. They represent an important potential partner in the future – particularly in the areas of advocacy and historical interpretation.

In sum, the stakeholder situation is very clear at the moment and potentially very rich and more complex in the future. The clear ownership and stewardship responsibilities of NYCDPR are an important asset for the Island. Due to its adjacency to the South Bronx, one of the poorest congressional districts in the country and lacking significant green space, North Brother Island presents community development and



TUBERCULOSIS PAVILION



MAPLE +
LINDEN
FOREST



RESTORED FOREST



PHYSICIAN'S HOUSE



MORGUE + COAL HOUSE



QUARANTINE
CORE



SCRUBLAND



MALE DORM



NURSES' HOME



QUARANTINE
CORE



MEADOW



GANTRY

educational opportunities – the open space, ecological complexities, and cultural heritage of the Island could well be leveraged for community benefit. Potential stakeholders rooted in the South Bronx are most interested in the way NBI could engage children in environmental education, and enhance the experience of living in the city with a green space significantly closer than those accessible to them today. In addition, interest has been expressed in making connections between adults in Hunt’s Point and employment opportunities connected to use of NBI. Some of these potentials are envisioned as short-term, occasional activities, thus relatively easy to implement (short, occasional educational excursions to the Island); other potentials, including those touching on economic development, are longer-term, heavier-lift possibilities that are difficult to envision at the moment.

3.5 Enabling Environment and Related Plans

The “enabling environment” sets the contexts for future interventions and management. It consists of existing legal and policy frameworks, current plans and planning activities, institutional responsibilities, and political issues – all of which shape the possibilities for future decisions. This section outlines the existing enabling environment.

The first fact of North Brother Island’s enabling environment is the ownership and management by a public agency, the NYCDPR. NBI is regulated by other agencies of several levels of government: federal, regional, and local. In addition to the variety of public-sector agents involved in governance of the Island, the responsibilities of several NGOs give them strong interests and advocacy roles if not statutory responsibility. Most policies and plans currently in place are aimed primarily at protecting the Island’s ecological values. In its current state of management by the New York City Department of Parks and Recreation (NYCDPR), the Island’s natural resources are given precedence and its cultural resources are neither explicitly nor directly regulated.

Following is a provisional summary of varied measures contributing to the enabling environment:

- NBI is owned and managed by the New York City Department of Parks and Recreation (NYCDPR) since its acquisition in 2001, and thus subject to all Rules and Regulations of the NYCDPR. This includes “Parks Tree Preservation Protocols” which are regulations to maintain tree cover. New development that may impact a tree must be authorized by the Parks Commissioner, is subject to the Tree Valuation Protocol, and potentially subject to a restitution process for unavoidable tree removal.³⁶ While these protocols apparently do not affect the Island in its current state, future projects may be subject to this scrutiny.
- NBI is one of 51 sites designated under the NYCDPR Forever Wild Program. The program was created to “protect and preserve the most ecologically valuable lands within the five boroughs” of New York City.³⁷ It is funded by the New York State Environmental Protection Fund and managed by Parks. Unlike the state-level Forever Wild Program, the city-level program is intradepartmental and highly subjective in its designation of sites—we understand there are no standardized criteria for designation. The Forever Wild Program has yet to establish official policies and regulations and its sites are managed on a case-by-case basis according to the program’s mission statement. While most of the 51 designated sites in NYC offer public access and recreational use, Parks has deemed NBI a Forever Wild site as a nesting place for the Black-crowned Night Herons, a protected and highly sensitive species. The Island thus offers no access at present.
- Harbor Herons Project is the NYC Audubon-sponsored project to monitor long-legged, colonial waterbirds and their allies (including gulls, cormorants and oystercatchers). The project conducts annual nest counts, during which staff and qualified volunteers visit every viable habitat and count the

active and inactive nests, identifying them to species and noting their contents. In the East River, North Brother Island, South Brother Island, and Mill Rock Island are surveyed; nearby Goose and Huckleberry Islands in western Long Island Sound are also part of the survey. Audubon occasionally partners with school groups from the Bronx to bring children out for surveys and invasive species removal.

- **Vision 2020: New York City Comprehensive Waterfront Plan**, completed in 2011, offers strategies on restoring the natural waterfront, improving water quality, and increasing climate resilience. It also aims to expand public access, enliven waterfront areas, and support the working waterfront. North and South Brother Island are specifically mentioned under this Management Plan to pursue funding to develop an Island-specific comprehensive plan to “integrate cultural, historical, and natural resource management on both islands.”³⁸ Currently, the Island-specific plan, taken on by the NYCDPR as a part of its forest restoration efforts, lacks the “integration of cultural and historical” resources into the management plan. Instead, it has taken form of a natural resource management plan rather than a comprehensive management plan.³⁹
- As a part of the Borough of the Bronx, the Island is under the jurisdiction of the NYC Department of City Planning (DCP) and its Bronx office, thus regulated by zoning. The majority of the Island surrounding the historic structures is classified a Park Zone while the rest is zoned a C8-2, a heavy commercial zone (See Fig. 3). Typically, parks are exempt from many zoning codes, however, all buildings are subject to safety codes if access is granted on the Island.⁴⁰
- Because it is located in an estuary of national significance, NBI is subject to the Estuaries and Clean Waters Act (2000) under the local jurisdiction of the New York – New Jersey Harbor Estuary Program (HEP). The most recent Comprehensive Conservation and Management Plan was published in 1996 and updated for 2011-2015. The Plan includes provisions to improve the water quality and protect and conserve the wildlife habitats within the region. The authorization for the NEP expired in 2010 and currently waits action by the U.S. House of Representatives.
- NBI is recognized as a sensitive coastal zone federally, locally, and at the state level. It is listed as a Federal Coastal Zone regulated by the Federal Coastal Zone Management Act, and the National Oceanic and Atmospheric Administration (NOAA).⁴¹ This legislation requires proposed federal projects to go through the Federal Consistency Provisions, to be checked for consistency with the approved state management program. In New York, projects are beholden to the policies of the state's Comprehensive Management Plan (CMP). The plan enables the creation of optional Local Waterfront Revitalization Programs (LWRP), which must be consistent with the state's policies. New York City has its own Waterfront Revitalization Program (NYC WRP). Its aim is to maximize the benefits derived from the economic development, environmental conservation, and public use of the City's waterfront areas while minimizing conflicts among environmental conservation objectives. This local plan identifies NBI as a Special Natural Waterfront Area and a Significant Coastal Fish and Wildlife Habitat. The NYC WRP is administered by the Department of City Planning and the City Planning Commission. Any undertakings on NBI are therefore subject to federal, state, and local review.
- NYC's WRP also addresses maritime and industrial developments, public use of the waterways, public access, scenic resources, and historic and cultural resources. This is the only plan affecting NBI's coastal area that specifically relates to the preservation of historical and cultural resources. Though the WRP does not explicitly address NBI, any proposal for action on the Island requires WRP review, as it lies within its jurisdiction and is controlled by public funds. Outside of the review process, interaction between the Department of City Planning and the Department of Parks and Recreation in regards to the Island seems limited.⁴²

- The Federal Emergency Management Agency (FEMA)'s deems the majority of NBI as either an AE-zone or a VE-zone. AE denotes areas subject to inundation by 1% annual chance flood event, and VE signifies additional hazards due to storm-induced velocity wave action (See Fig. 4).⁴³ NYC's FEMA building regulations apply to the Island, so that any new construction will be held to both local building codes and FEMA regulations.⁴⁴
- South Bronx Greenway Project is a multi-phased project begun by the New York City Economic Development Corporation (NYEDC) in 2005 to improve transportation and waterfront access, and guide interventions in the South Bronx. As a result of this project, Food Center Drive, the main point of access for the industrial areas of Hunts Point along the waterfront, has been renovated with bike lanes, a greenway, and has been changed to one-way traffic. Hunts Point Landing opened in 2012 as public space on the waterfront. It includes a fishing pier, tidal pools to manage flooding, and a kayak launch. The Randall's Island Connector, which aims to increase access to Randall's Island from the South Bronx, recently opened. Randall's Island contains over 400 acres of park and recreation land, but has been difficult for Bronx residents to access, despite the proximity. Long-term goals of the Greenway Project include nautical transit in the area, which offer opportunities for North Brother Island.
- Closely related to the South Bronx Greenway, the Haven Project, by New York Restoration Project is designed to improve the health of residents in the South Bronx (particularly Mott Haven). The project, funded by the Knight and Doris Duke Charitable Foundations, is premised on the principle that income levels and location play a role in physical well-being, and since residents in the South Bronx have higher than average levels of asthma and obesity, improving the healthfulness of the physical environment will improve equality of life. Working with the EDC, the Haven Project is dedicated to creating more open and green space, and increasing access to recreation and healthy spaces. Open space, parks, waterfront access, and public art are all part of the implementation of the plan - a park incorporating rehabilitation of the gantry located at East 132nd Street in Mott Haven (which historically connected to the gantry on North Brother Island) is planned; some funds for implementation have already been secured.
- Hunts Point Lifelines Project, a winning submission to the post-Sandy Rebuild by Design competition, seeks to increase the social, economic, and physical resiliency in Hunts Point. The project makes use of the Food Distribution Center on the waterfront is an important economic driver in neighborhood for jobs, and regionally as the largest food distribution center in the northeast. Taking into account climate change, sea level rises, and flood vulnerability, resiliency plans include increasing flood protection, residential engagement, and emergency plans and infrastructure. The project is slated to receive \$20 million in funding through HUD's Community Development Block Grant Disaster Recovery funding.
- In addition to this list of public- and NGO-sector organizations and plans with some influence or interest in NBI, private land owners, investors and developers active in the surrounding Bronx shorelines have a potential (if not actual) interest in NBI. At least one of these potential stakeholders - Steve Smith of Oak Point Properties - has expressed a deep understanding and keen interest in the value of NBI as an ecological and cultural reserve in close proximity to South Bronx communities.



Photo of the view from the Island looking Northwest towards the Bronx. Andrea Haley and Yimei Zhang.
9 October 2015.

4. PRELIMINARY ANALYSIS

4.1 Values and Statement of Significance

The first step of analysis is articulating the values of NBI – the qualities of the place that activate our interests and responsibilities – which serve as a foundation underpinning potential conservation and access measures. The individual value assessments, and the statement of significance that synthesizes them, are important statements of policy: all decisions have to be judged in terms of impact on current and future values and significance of the place. The statement of significance is particularly important concept in heritage conservation planning: it is a synthetic statement of values, actual and potential, related to the site that serve as a policy statement used to inspire and evaluate future design, conservation, development, use and management decisions. It serves as a kind of “mission statement” for the place.

North Brother Island is valuable for a variety of reasons; our assessment foregrounds existing conditions demanding responses in the short term, as well as future potentials suggesting a range of long-term possibilities. We organize the value assessments in three categories: Heritage, Ecological, and Social values. Any path forward for NBI’s management must realize and balance these values in some combination. There is no a priori suggestion that all these values are equivalent, nor that one value always take precedence over others. The statement of significance is meant to inform directly how forward-looking impacts of values can be balanced and managed.

Heritage / Cultural Values

Heritage values are present in the different historical uses of the Island and its buildings, in the historical narratives associated with the Island, and through deteriorated building fabric conveying the use and abandonment of many decades. Heritage values relate to all different periods of NBI’s evolution, including both inhabitation and abandonment periods.

As the geographical location of NBI allowed the Island to be used for different purposes, the buildings on NBI were repurposed several times and the configuration of the Island changed as well. Extant buildings represent different institutions, yet are related to each other as a set of buildings used throughout its inhabitation as an isolation/quarantine campus and later as a veterans “neighborhood.” The chronology of NBI’s use during the pre-abandonment period can be summarized as follows:

During the pre-abandonment period, NBI played an important role in the history of medical quarantine in NYC. Beginning in 1881, the Island was home to mostly poor, immigrant city residents suspected of being infected with contagious diseases.⁴⁵ People were sometimes forcibly exiled from their homes and workplaces.⁴⁶ This quarantine use was discontinued in 1943 and the Island became housing for WWII veterans attending NYC universities from 1946-1951. In 1952, the buildings on the Island were again repurposed into a rehabilitation center where juveniles were forcibly sent to recover from drug addiction.⁴⁷ These curated uses came to an end in 1963.

The architecture on NBI demonstrates the change over time as multiple construction methods and architectural styles from the late 19th to mid-20th centuries exist. In the earliest building campaign, Philadelphia’s famous salmon pressed brick was chosen as a facing material and a historic unreinforced load bearing masonry construction with concealed brick headers was used in order to face the building with uninterrupted American running bond.⁴⁸ In a later building campaign, more diverse building materials and systems were introduced to the buildings. Among the remaining buildings, unreinforced masonry structure is a typical construction system found on the Island, but depending on size and purpose of the building, hollow clay tile, adopted concrete encased frame, steel frame, or wood frame structures are also found. More varied buildings are found in historic photos, though they were demolished while the Island was still in use.

NBI has associations that refer to the first period of significance. Isolation was a driving factor for the previous uses of NBI as a quarantine or a

rehabilitation center. The isolated Island enabled forceful exiles, most famously the forced quarantine of Mary Mallon, derisively known as “Typhoid Mary.” These past uses have imbued the Island with a compelling inventory of buildings and associations with medical institutionalization, immigration, and the criminalization of addiction. Additionally, NBI has commemorative value as the site of the disastrous General Slocum shipwreck in 1904. The architect C. C. Haight was responsible for the earliest buildings on the Island, some of which still stand. He was a designer of a number of significant institutional buildings in New York and elsewhere (including the New York Cancer Hospital).

Other associations have developed since the Island was abandoned and contribute to its current meanings. During the post-abandonment period, little to no human intervention to the heritage on NBI has been undertaken. Hence, the buildings were left as they were in 1964. There has been no management plan for the buildings for the past 50 years, which has led to compromised structures and vegetation overgrowth. The heritage on the Island is continuous rather than momentary. Therefore, all identified pre-abandonment and post-abandonment resources should be evaluated for preservation interventions. The different periods contribute to each other, and affect the Island as it currently lives, and inform the next iteration of the Island. However, the interpretation of the diversity of the architecture will necessitate the selective demolition and rehabilitation of the buildings.

Ecological / Natural Values

NBI, along with the smaller, adjacent South Brother Island, serves as a reserve for colonial waterbirds and is particularly important as a habitat for the Black-crowned Night Heron (*Nycticorax nycticorax*). NBI is part of a system of seventeen New York Harbor islands forming a matrix of nesting habitat for NY State Species of Greatest Conservation Need.⁴⁹ The herons are closely monitored by the New York City Audubon Society as part of the Harbor Heron Preserve and their presence encouraged in NYC as an indication of the health of the larger ecological system.⁵⁰ When the environment, including the air, water, and plant life is healthier, more native species come back to NYC. A healthier ecosystem is beneficial to humans as well, thus keeping viable habitats for the herons takes on greater importance. NBI has been, and potentially will again be, heron and gull habitat, though there is no nesting activity on the Island at the moment, South Brother Island supports a large colony of herons and other birds, and NBI is believed to remain part of the habitat matrix of the herons in the East River. NBI has a dense canopy of mature trees and is classified by NYC Parks as a forest, and is actively being restored with native tree plantings and removal of non-native species.⁵¹ The restoration is aimed at increasing ecological value and habitat quality, particularly on the southern end of the Island.⁵²

Mature urban forest and “wild” landscapes are less common in cities and provide a suite of ecosystem services, including improved air quality, temperature moderation, habitat, water quality and quantity regulation, as well as numerous cultural values.⁵³ As a disturbed landscape, the Island embodies significant environmental-history narratives – which are rarely interpreted to the public. When the Island was fully occupied, the land was clear-cut into a manicured lawn with planting, which formed the superficial ecology. Since the Island has been abandoned, this man-made landscape has been allowed to grow wild. NBI is a testbed case study, as well as a discrete and compelling story, of urban nature.

Social / Contemporary Values

Although NBI is currently closed to visitation, one can view the Island from the Bronx coastline and the East River. The experiential qualities of the Island attract both legal observation and illegal visitation, including interest in the institutional architecture decaying, isolation, wildness, and its rugged character.⁵⁴ Kayakers and fishermen in rowboats make use of waters around NBI, while tours sponsored by the Audubon bring interested groups around the Island. There is illegal recreational use of the Island including camping, urban exploration, and geo-caching.⁵⁵ The aesthetic values of the Island draw interest from many demographics. The sense of wildness and isolation, while being in the middle of the city, is unique to the Island. With the material culture left behind from previous use, there is a strong connection and interest in the Island as an

example of landscape reclaimed by nature after human inhabitation.

NBI has potential educational value related to environmental education and urban history, relating the history of medical quarantine and its architecture, ecology, wildness, and status as a disturbed, semi-abandoned landscape. An important social value the Island can bring to the surrounding communities is the proximity to a wild, forested area. There are strong opportunities for community youth engagement, including volunteer programs to remove of invasive plants and other stewardship programs.⁵⁶ Currently some community stakeholders hope that access to the Island will create interest in Hunt's Point and the South Bronx in general, connect to other recreational and open-space assets, and provide job training and economic development.⁵⁷

Statement of Significance

North Brother Island's significance is based on its cultural heritage, natural history, and potential to provide educational and community benefits. The Island's history is understood in terms of two periods: pre-abandonment (1881-1964) and post-abandonment (1964-present). Both periods are important for understanding the Island, as it is as much a reflection of the social and institutional history of the Island, and abandonment, and disturbed landscape that followed. (Little is known specifically of the pre-hospital era or this historical landscape.)

The history of the Island reflects important developments in New York City, as well as national historical events and historical themes such as the treatment of contagious disease, public health in urban populations, and negative characterization of immigrants and "undesirables." North Brother Island, and its "brother" to the south, serve as essential habitats for gulls and colonial wading herons, species that are indicators for the health of the larger ecosystem - which in turn relates to contemporary issues of public health and environmental justice. Thirdly, as part of the South Bronx, an area of the city which is underserved in green space, parks, and other open space, the Island offers a substantial public, open space resource in close proximity to these neighborhoods.

Managing the Island in a holistic way to maximize the heritage and social value, while preserving the ecological value is the ultimate goal of future stewardship. The next iteration of the Island should incorporate these three macro-values in order to provide opportunities to continue protecting and strengthening the significance of the Island.

4.2 Character Defining Elements and Tolerances for Change

The next stage of analysis links assessment of values and significance (the qualities, interests, narratives, symbols, etc., associated with the place) with the empirical realities on the ground: the buildings and landscapes that constitute the total environment. For clarity, the analysis is organized around three successive steps:

- Determining character-defining elements (CDEs): CDEs record how values and significance are most vividly represented in the physical environment (built fabric and natural terrain); they impose a priority on the place's resources;
- Establishing character areas consolidate and organize the CDEs in terms of the landscape as experienced; they also map out a synthesized, geographical mosaic of areas around which to organize management recommendations (instead of managing different resource types separately, one can manage them as integrated in each area);
- Analyzing Tolerances for change takes existing conditions, CDEs and Values/Significance into consideration and outlines which aspects of the site can withstand more change, and which should bear least change.

CHARACTER AREAS



Three types of lists and corresponding maps result from this three-stage: a list of character-defined elements (aspects of the Island that bear greatest significance and important values, and require particularly careful decision-making); character areas that relate resources to experiences; and tolerances for change that inform design and management decisions directly (where to intervene, where to conserve).

Character-Defining Elements:

- Architectural remains and ruins
- Remnant landscape design features (roads, open spaces, seawalls) and organizational logic
- The palimpsest of ecologically disturbed plant communities, including extensive Norway maple forest, scattered specimen trees that marks the legacy of the hospital era, and a range of invasive species (native and non-native) that have thrived in a largely unmanaged and uninhabited place.
- Feeling of isolation from the surrounding urban context

Character Areas

As frequently used by the National Park Service, character areas provide a way to organize landscape conditions and features into areas of coherent character as the basis for managing them. Five areas are defined for NBI: the Front Door, the Spine, Trees and Ivy, the Coast, and the Meadow.

- “The Front Door” includes the Gantry and Ferry Dock, functioning as an entryway, characterized by flat surfaces, open views to the Bronx shores, and landmark structures, including the Gantry and the Smokestacks.
- The “Trees and Ivy” area was another sensory place, used to describe the cathedral-like space where light filters from the canopy above onto the ivy-covered ground near the Tuberculosis Pavilion. The ecosystem here is disturbed, consisting primarily of highly invasive plants (Norway Maple and English Ivy), yet creates a memorable space in the present-day landscape. This distinct place can be used to interpret disturbed landscapes to visitors.
- “The Spine” is the most legible path in the forest canopy, consisting primarily of a historic road/path that has been cleared by NYCDPR. The spine is framed by the Male Dormitory, Staff House, Shop/Storehouse, Tennis Courts, and Nurses’ Home.
- “The Meadow,” which is characterized by dense ground cover, is distinct from majority of NBI, which is heavily forested. Through its reforestation efforts, NYCDPR plans to replace the dominant species in this area with native grasses.
- “The Coast,” on the eastern side of the island, is primarily coastal shrub forest, rarely reaching heights above 20 feet. The relatively patchy vegetation and amounts of open ground are most likely the result of storm damage and erosion. This area allows for open views east and south of the Island.



FIGURE 6.
Map of Character areas identified by Historic Preservation Studio 2015. Graphic, Julia Griffith, 2016.

Tolerances for Change

Our analysis suggests that the Spine, and Trees and Ivy had the lowest tolerance for change. The buildings in these areas were found to be important for interpreting the historic use of the Island, and for maintaining the Island's sense of place. The Physician's House and Tuberculosis Pavilion frame the entry into the Trees and Ivy area, and the Tuberculosis Pavilion creates its southern wall. The buildings along the Spine—the Male Dormitory, Shop/Storehouse, the Tennis Courts, and the Nurses' Home—contribute to the Island's most legible pat. The mature canopy trees in both of these areas are important to the quality of the space and should be maintained throughout the process of building stabilization. Balancing the conservation of such a cultural landscape against ecological management concerns remains a question needing to be addressed by more specific design and planning measures. For instance, retaining English ivy among the Norway maple canopy might be aesthetically and historically valuable, but remains a seed source for the rest of the Island and thus presents a problem for natural resource management.

A more fine-grained analysis of tolerances for change will be one of the more important results of a full conservation management plan for the Island. It is difficult to draw satisfactory conclusions about the tolerance for specific interventions without a deeper level of analysis – especially related to the structural integrity of the islands heritage buildings and structures.

4.3 SWOT Analysis

A SWOT analysis – evaluating strengths, weaknesses, opportunities, and threats – takes into account the complex interaction of the Island's natural environment and the built environment, as well as the enabling environment and our understanding of existing and potential stakeholder interests. In other words, the SWOT analysis is a synthesis of all we currently know about the place, filtered through the need to identify and assign priorities in order to move to implementation in the future. While strengths and weaknesses characterize the current state of the place, opportunities and threats focus on possible futures. The SWOT analysis creates a compact assessment of the current and future situation to which the final section of this report – elaborating Principles, Policies and Interventions – respond.

Strengths

North Brother Island presents a series of strengths on a variety of scales beginning with the presence of physical fabric on the Island that has historical significance. Although the buildings onsite range widely in levels of integrity, the collection of these buildings represents the different periods of significance of the Island are contribute significantly to the Island's significance as a whole. The Island also presents a series of ecological strengths. The combination of institutional and ecological history with the ruinous state of some of the buildings create a sublime atmosphere on and off the Island that in itself is significant. From beyond the geographical bounds of the Island, its strengths extend into the political sphere with support from key figures. Key strengths include:

- Island is a part of a larger ecological system
- Presence of significant physical fabric (buildings)
- Island embodies both ecological and institutional histories
- Historical significance (throughout multiple periods)
- Sublime qualities
- Presence of political support
- Material culture
- Landscape and ecological features

Weaknesses

Isolation and its related issues are the primary weaknesses of the Island (in terms of access). The Island is located in a flood zone which precludes certain governmental support as well as local political interest due to its elevated risk. Its isolation has also resulted in a general lack of resources, infrastructure, and regulation of the Island. The difficulty in reaching the Island has hampered building and ecological monitoring and regulation of the Island to discourage trespassers. As a result, the buildings have decayed to a point where many of the structures present a severe safety risk to those in close proximity. The only evidence of monitoring, carried out by various stakeholders, is the counting and documenting of the wading birds who nest and forage on North and South Brother Islands. This also presents another weakness of the Island, which is the management of North Brother as primarily a natural resource. Key weaknesses include:

- No access to Island
- Island lacks infrastructure
- Aspects of the Island are unsafe
- Island located in a flood zone

- General lack of resources (financial and human capital) to devote to management
- Little to no monitoring and regulation of the Island
- Island is managed as a natural resource only
- Buildings have deteriorated to a point that is dangerous and limits potential experiences

Opportunities

Numerous opportunities are available for North Brother Island, most significantly a collaborative management plan that incorporates the health and recreational benefits of the Island as a new public green space in New York City. Educational and interpretive opportunities include sharing the significant and fascinating history of the Island and the potential to connect it to larger stories of New York City (quarantine, institutional histories, immigrant life). The implementation of such a plan also has the potential to set a unique and practical precedent and prototype for other islands in similar situations. Key opportunities include:

- Collaborative management planning
- Educational opportunities
- Interpretive opportunities
- Recreational and health benefits from additional green space
- Prototype for other islands

Threats

The most obvious threat, present and future, is lack of financial resources combined with the high cost of making any substantial interventions on the Island. Looking forward, climate change will continue to threaten the already vulnerable Island not only with sea level rise but also increased damage from more frequent and more intense coastal storms. This will result in accelerated erosion and land loss, inundation, and conversion of plant communities as species that are not salt tolerant become increasingly exposed to coastal waters. The possible expansion of other infrastructure adjacent to the Island, like LaGuardia Airport, threatens North Brother Island in indirect ways as well. The increase in airplane activity over the island may threaten the fragile ornithological ecosystems on the and around the Island. A failure to balance the natural and cultural aspects of the Island also has the potential to jeopardize one or the other. Access to the Island presents a perilous debate: granting too much access to the Island may cause overdevelopment, irreversibly changing the Island's character (both ecologically and architecturally); while limiting access to the Island presents its own series of challenges, specifically regarding monitoring of the Island. Overall, however, lack of timely implementation of any such plan may also lead to the cause falling by the wayside and support for any intervention on the Island dwindling further.

- Cost of any potential interventions / dearth of resources
- Climate change / storm surge / sea level rise
- Airport activity increase in the future
- Failure of effective planning / implementation delay
- Potential over-development will change the Island's character
- Failure to balance ecological issues and building significance in decision making
- Too much access

5. FINDINGS, PRINCIPLES, POLICIES AND INTERVENTIONS

Taking into account the research and consultation so far conducted, and the important questions they pose, the next phase of the Conservation and Access Study frames a set of general principles, policies to guide future actions, and a few specific interventions that can immediately be pursued by NYCDPR and partners.

5.1 Findings

Through the research conducted during the 2015 Historic Preservation studio at PennDesign, and preliminary conversations with stakeholders, key insights, issues, and assumptions have been identified for consideration in this study. In summary:

- North Brother Island is an ecologically complex place as well as a historically and culturally rich landscape; NBI is significant for both its cultural and natural values;
- The buildings and cultural resources of North Brother Island are in advanced states of decay: some are beyond repair or collapsed; others are worthy of stabilization, few are potentially suitable for adaptation and reuse;
- Ecological and/or anthropocentric factors have continued to disturb and transform the ecology of NBI; among observed changes are the disappearance of Black-crowned Night Heron population from the Island (and increased population on SBI) and the persistence of numerous invasive plant species. The resilience of North Brother Island's natural resources and ecology faces further challenges with the impending impacts of climate change;
- No public access to North Brother Island is allowed. The only access allowed is for management/stewardship purposes, and is tightly controlled by NYCDPR. Evidence exists of illegal visitation to the Island, by "urban explorers," vandals, et al.;
- Hazardous conditions exist on the Island, including compromised buildings, lack of emergency services, and a lack of basic amenities;
- The Island is quite close to the Bronx, yet is inaccessible; there is considerable demand for the services NBI could provide, principally for education;
- Bronx neighborhoods and residents are underserved in terms of open space;
- New forms of public space, and heightened expectations about the qualities of and access to public space, are part of the current era of urban innovation; this era of urban innovation is also produced new forms of stewardship.
- North Brother Island lacks all necessary infrastructure for occupation or public interpretation/access, including power, water, transportation, and communication;
- Due to these many issues, as well as legal and financial barriers, there is no real potential for inhabitation of North Brother Island;
- As a landscape of considerable cultural and ecological significance, North Brother Island offers great potential for light-imprint public uses such as memorialization and environmental education (limited to non-breeding season, September-February).

5.2 Principles

We propose several Principles to guide future plans for North Brother Island:

- Holistic: Plans should consider all resources – cultural, social and ecological – and the dynamics linking them.
- Integrated: Plans should unite all of the Island’s resources, and connect them with surrounding communities (both social and ecological); likewise, the goals of NYCDPR’s proposed activities should complement those of other stakeholders.
- Balanced: Plans should give fair consideration to both natural and cultural values of the Island, and to opportunities for conservation and access, when making long- and short-term decisions pertaining to programming and development.
- Collaborative: Policies, decisions, and implementation should be collaborative across sectors and stakeholders – while respecting NYCDPR’s principal responsibilities for stewardship of NBI as a civic asset.

5.3 Policies

Three broad policies should govern future decisions:

- Regarding preservation of cultural heritage: Given advanced decay, loss of integrity of most buildings, and the total lack of infrastructure and impossibility in the short or medium term for inhabitation or infrastructure development, preservation policy centers on triage. A few buildings should be stabilized (for possible future reuse); some should be stabilized as ruins; some should be demolished out of concern for safety (and their material should be reused on-Island). The cultural heritage of the Island should be purposefully interpreted to the public.
- Regarding ecological management: Continued restoration of the Island’s highly disturbed ecosystem, in order to protect/provide heron habitat in case they return from SBI or other sites and to increase the resilience of the Island’s ecology to storm surge, sea-level rise, and the continuing challenge of invasive species. This would be achieved by continuing NRG’s policy of introducing native plants, removal of invasive species, and, in general, maintaining the structure and mix of the Island’s existing character areas (as generated by both natural and anthropogenic forces).
- Regarding access: A pilot test of very limited and highly curated access should be undertaken. The potential for realizing social values from environmental and historical education of NYC youth is substantial. Safety risks are manageable; the lack of infrastructure can be accommodated by keeping groups small, visits short, and supervision strict. Audiences from the South Bronx should take priority, but not have exclusive access. Very limited access to NBI would also advance the interpretation of the Island’s history and ecology, including the challenges facing its management as a public, forever-wild park.

5.4 Interventions

Several interventions are proposed as short-term initiatives:

- Formulating an official management plan for NBI and SBI;
- Stabilizing ruins and dismantling some buildings that are beyond repair and present imminent threats to safety; these decisions should be based on a deeper level of building assessment than has been possible thus far, carried out immediately in collaboration with NYC officials. (Only cursory building investigation was possible during our 2015 site visits.)
- Piloting limited, curated public access; principal partners and audiences will be Bronx-serving community entrepreneurs and entrepreneurial NGOs; initial access events will provide excellent educational opportunities and very limited economic development opportunities;
- Designing an interpretation and memorialization scheme for the Island's important cultural and natural narratives; to be located on-Island and off-Island;
- Installing monitoring regimes, related to ecological as well as cultural resources; this is essential for long-term conservation and can have strong educational and community engagement components.



Photo of the Transformer Vault. Andrea Haley and Yimei Zhang. 9 October 2015.

6. CONCLUSIONS AND NEXT STEPS

North Brother Island is an extraordinary place, warranting the most careful and creative stewardship. The Island is an important lens for reflecting on significant and relevant themes in the city's history: public health, immigration, exile, the management of nature as part of city building, and the future of the city in an era of dramatic climate change. NBI should be envisioned as more than a patch of wildness, as valuable as this is.

NYCDPR, working with its current and potential partners, can seize the opportunity to protect and provide access to the cultural values and public space of NBI - which takes on urgency in light of the educational potential of the Island, the contemporary crises of public education, the relevance of urban environmental health issues, and the promise of improving access to quality public and open spaces in the Bronx.

By proposing very limited public access, this study does not open the door for uncontrolled access: full public access should be precluded on design/conservation grounds as well as cost-benefit grounds. Open access would clearly damage significant resources on the Island, preclude further conservation efforts, present significant public risks, and be extremely costly.

Given that nesting herons have been absent from NBI for 10 years, a shift in conservation priorities is warranted. As ecological and heritage conservation are re-considered and re-balanced, NBI presents an opportunity to be a testbed for cross-sector and cross-disciplinary questions facing landscape preservation in the next generation: How to weigh the benefits of public access against conservation priorities? How will climate change reshape management of island and coastal assets? How does the design of public access interact with restoration/ecological management strategies? How can restoration and planting can be used to frame experience of the Island and its evolution. How can the Island be re-imagined as a teaching/research asset to address urban habitat/ecology, restoration, and response to climate change - not to mention subjects like the cultural history of quarantine, historical interpretation of remote/unvisitable sites, "rescue preservation" of severely deteriorated buildings?

The question of who gets access to NBI is linked to the question of who "owns" NBI. Clearly, NBI is a City asset, but what opportunities and responsibilities should fall to proximal South Bronx neighborhoods as the future of NBI is contemplated? As access becomes possible, how are the benefits of that access distributed? How will very limited public access directly leverage additional conservation work for NBI as well as produce educational benefits? Conservations on these questions must be a focus of subsequent plans and strategies.

As any interventions are contemplated for NBI, the issues of financing and logistics stand front and center. If access is possible, what financing facilities may be available? Who benefits? Where do visits touch the shoreline(s)?

There is added urgency to act now in order to prevent a regrettable loss of historic resources and heritage values. The buildings and built landscape will not be recoverable in another generation. Responsible, sustainable preservation approaches applied to the Island's buildings now can retain important layers of built heritage (and provide future generations with the possibility of adaptive reuse). Implementation of prototype public access experiences and some necessary studies should be undertaken as soon as possible. Some stabilization measures must happen early, alongside the beginnings of curated public access. The momentum gained by NRC's ecological restoration work should not be lost.

This study ends by proposing next steps for implementing pilots of strictly curated access to NBI and undertaking next-level studies to frame the Island's future possibilities.



Photo of the Physician's House. Andrea Haley and Yimei Zhang, 9 October 2015.

[1] DESIGN AND PLAN A PROTOTYPE FOR PUBLIC ACCESS

A program and protocol for small-group experiences of NBI will be designed in early 2017 in collaboration with NYCDPR and ideally piloted in Fall 2017. The visiting experience would be designed by the PennPraxis team with the close collaboration of NYCDPR and other partners such as Natural Areas Conservancy and Audubon.

Initial assumptions call for 15 participants and 6 guides (two from NYCDPR, two from PennPraxis, one from The Point, one from Audubon) traveling by hired boat to NBI for a two-hour guided tour. The Island visit will be preceded by a thorough safety presentation and introductory talk about the island's history and ecology. Initially, three pilot experiences would be held, focused on distinct audiences (for instance, youth, families, donors).

[2] PLANNING FOR ACCESS: LANDING SITES, LOGISTICS AND PARTNERSHIPS

Physical, operational plans must be detailed if access to NBI is to be provided in any form. We propose a range of possibilities, implementable in the short, medium, and long term - each with different partners:

- In the short-term (immediately): departure from Hunts Point Riverside Park organized with The Point and Rocking the Boat. This was our study team's mode of access.
- In the medium-term (next few years): Departure from East 138th Street pier in Mott Haven, planned and underway by New York Restoration Project. It would be a shorter ride than the Riverside Park site on the Bronx River, and would provide excellent connectivity to South Bronx neighborhoods and elsewhere, especially as The Haven project in Mott Haven proceeds.
- In the long-term (five years): Departure could be arranged from Oak Point, in collaboration with property owner/developer Steve Smith, who has envisioned a range of public uses of this nearby waterfront property in the future - including Hunts Point shoreline greenway connectivity.

[3] NEXT-LEVEL STUDIES

To lay the foundation for a thorough management plan, the following next-level, more detailed expert studies need to be undertaken. Discussions between PennPraxis and partners to complete these specialized studies have already begun. PennPraxis' immediate next steps include fund-raising to support the studies while consulting closely with NYCDPR:

- Economic forecasting and institutional arrangements: Lead: HR&A; partners: PennPraxis, NYCDPR. This study would clarify feasibility by estimating order-of-magnitude costs, communication strategies, and institutional models for implementation of curated visits.
- Structural engineering and building assessment: More detailed and thorough assessment of the integrity of the Island's historic structures must be complete before any implementation can be undertaken. This study will focus on the five significant structures identified as facing irretrievable loss on page 29. Lead: Justin Spivey of Wiss Janney Elsnor Partners; PennPraxis, NYCDPR, Department of Buildings.

- **Monitoring:** Both ecological conditions and buildings conditions must be tracked with a thorough monitoring and data-collection regime. This would include means of actively monitoring island conditions and passively collecting data. Lead/coordinator: PennPraxis and NYCDPR; Partners: whole team.
- **Interpretation and memorialization:** The creative process of designing a compelling means of interpreting and memorializing NBI's heritage would typically be the subject of a public competition. While this would be exciting, we advise against it as the competition would immediately and sharply raise the profile of NBI and overstimulate demand for visiting the island. We suggest, as an alternative, a design process involving graduate students in preservation, landscape architecture, architecture and fine art in an "internal competition" organized by PennPraxis with partners Monument Lab (a project based in PennDesign's Department of Fine Art)

7. ENDNOTES

- ¹ The following summary draws on the Penn historic preservation studios from 2005 and 2015; Payne, Mason and Sullivan 2014; and other historical sources as noted.
- ² Sharon Seitz and Stuart Miller, *The other islands of New York City: a Historical Companion*, Woodstock, VT, Countryman Press, 1996, 190.
- ³ Robert Sullivan. "Wayfarers." *North Brother; the Last Unknown Place in New York City*. New York, N.Y.: Fordham University Press, 2014, 2.
- ⁴ Seitz and Miller, 190.
- ⁵ *Ibid.*, 190.
- ⁶ Historic Preservation Planning Studio 2005. "North Brother Island; Balancing Ecology and Cultural Heritage." Philadelphia, P.A.: New York City Department of Parks and Recreation and University of Pennsylvania Historic Preservation Program, 2005.
- ⁷ Randall Mason. "Wildness, Disease, and the Changing Civic Landscape: North Brother Island's History." *North Brother; the Last Unknown Place in New York City*. New York, N.Y.: Fordham University Press, 2014, 14.
- ⁸ Seitz and Miller, 192.
- ⁹ *Ibid.*, 192.
- ¹⁰ Historic Preservation Planning Studio, 21.
- ¹¹ *Ibid.*, 192.
- ¹² *Ibid.*, 193.
- ¹³ *Ibid.*, 193.
- ¹⁴ *Ibid.*, 193.
- ¹⁵ *Ibid.*, 29.
- ¹⁶ Molly McDonald Thesis.
- ¹⁷ Winthrop, 33.
- ¹⁸ *Ibid.*, 35.
- ¹⁹ *Ibid.*, 36.
- ²⁰ "North Brother Island, NY."
- ²¹ *Ibid.*
- ²² Jeremy D'Entremont, "Memories of North Brother Island."
- ²³ *Ibid.*, 41.
- ²⁴ *Ibid.*, 42.
- ²⁵ Winthrop, 48.
- ²⁶ "Forever Wild: North Brother/South Brother Harbor Herons Preserve." NYC Parks-Official Website of the New York City Department of Parks & Recreation. New York, N.Y.: The City of New York. Web. 15 Sept. 2015.
- ²⁷ Historic Preservation Planning Studio p. 16.
- ²⁸ Winston, T. 2015. *New York City Audubon's Harbor Herons Project: 2015 Nesting Survey Report*. New York City Audubon, New York, NY. [especially Table 2, Figure 2, Figure 4].
- ²⁹ While the building team conducted surveys during two site visits, the landscape team primarily conducted their survey during the first site visit. The work of the landscape team during the second site visit was to confirm what was recorded during the first visit and to work on individual projects. For this reason, results are not divided by site visit one and two as they are in the building survey.
- ³⁰ "Natural Area Mapping and Inventory of North Brother Island 1989 Survey", City of New York, Parks and Recreation, Natural Resources.
- ³¹ Hope and Harold S. Winthrop. *Corp Author Institute on Man Williams, Science, and Center Community Renewal. Toward North Brother Island*. Rensselaerville, N.Y.: Center for Community Renewal Institute on Man and Science, 1978.
- ³² "Port Morris Ferry Bridges," National Register of Historic Places Registration Form, completed by Jinny Kahnduja, Columbia University, May 2013, <http://www.nps.gov/nr/feature/places/pdfs/13001150.pdf>, 9.
- ³³ *Ibid.*, 9.
- ³⁴ *Ibid.*, 10.
- ³⁵ All numbers are approximate and calculated by the author using spatial data provided by the New York City Department of Planning for use in GIS programs and the most current population data released by the US Census Bureau. New York City Department of Planning, "Interactive Map of Publicly Accessible Waterfront Spaces," *Vision 2020: New York City Comprehensive Waterfront Plan*, accessed February 12, 2016, <http://www.nyc.gov/html/dcp/html/cwp/cw.shtml>; New York City Department of Planning, "NYC Publicly Accessible Waterfront," *Bytes of the Big Apple*, accessed February 13, 2016, <http://www.nyc.gov/html/dcp/html/bytes/dwnwaterfront.shtml>.
- ³⁶ New York City Tree Valuation Protocol, NYC Parks and Recreation, accessed November 22, 2015, <https://www.nycgovparks.org/pagefiles/52/NYC-Tree-Valuation-2010.pdf>.
- ³⁷ "Forever Wild: Nature in New York City," NYC Parks and Recreation, accessed November 22, 2015, <http://www.nycgovparks.org/greening/nature-preserves>.
- ³⁸ *Vision 2020: New York City Comprehensive Waterfront Plan*, New York City Department of City Planning, p.130, accessed September 22, 2015, <http://www.nyc.gov/html/dcp/pdf/cwp/vision2020nyccwp.pdf>.
- ³⁹ Interview with Michael Marrella.
- ⁴⁰ *Ibid.*
- ⁴¹ "Coastal Zone Management Act," Office of Coastal Management NOAA, accessed September 22, 2015, <http://coast.noaa.gov/czm/act/>.
- ⁴² Interview with Michael Marrella, Director of Waterfront and Open Space Planning, DCP, October 14, 2015.
- ⁴³ "Zone AE and A1-30," Federal Emergency Management Agency, accessed September 22, 2015, <http://www.fema.gov/zone-ae-and-a1-30>. and "Zone VE and V1-30," Federal Emergency Management Agency, accessed November 22, 2015, <http://www.fema.gov/zone-ve-and-v1-30>. AE-Zones are sometimes referred to as A-Zones in documents.
- ⁴⁴ Interview with Michael Marrella.

⁴⁵ Sharon Seitz and Stuart Miller, *The Other Islands of New York City: A History and Guide*, 3rd edition (New York: Countryman Press, 2011), 213.

⁴⁶ Randall Mason, "Wildness, Disease, and the Changing Civic Landscape: North Brother Island's History," in *North Brother Island*, (Fordham University Press, 2014), 17.

⁴⁷ Seitz, *The Other Islands of New York City*, 215-18.

⁴⁸ The material and construction method are described in the specification of a hospital building, which was designed by the same architect, C.C. Haight, but demolished circa 1934. "To face all outside walls, chimneys, piers, etc., above water table with the best quality light red Philadelphia pressed brick. (...) To bond face work every fifth course by cutting in diagonal headers. To bond all other work every fifth course."

⁴⁹ "Species of Greatest Conservation Need (SGCN)," New York State Department of Environmental Conservation, Accessed March 25, 2016, <http://www.dec.ny.gov/animals/9406.html>.

⁵⁰ "Harbor Herons," New York City Audubon, Accessed September 8, 2015, <http://www.nycaudubon.org/issues-of-concern/harbor-herons>.

⁵¹ In an urban system trees will not regenerate as readily.

⁵² "North Brother Island," New York City Department of Parks and Recreation, Accessed September 8, 2015, <http://www.nycgovparks.org/parks/north-brother-island/map>.

⁵³ Hasse et al. 2014; NYC Parks Guidelines for Urban Forest Restoration.

⁵⁴ Howard Silver, "The Jinx Project: Exploring North Brother Island," YouTube Video, Accessed September 8, 2015, <https://www.youtube.com/watch?v=AIEIAS09UwY>.

⁵⁵ Sean Cole, "How to Get to North Brother Island," Radiolab, Accessed September 12, 2015, <http://www.radiolab.org/story/170476-how-get-north-brother-island/>

⁵⁶ "ACTION visits North Brother Island," YouTube Video, Accessed September 8, 2015, <https://www.youtube.com/watch?v=Xi9MIOWJ3o>.

⁵⁷ Paul Lipson, personal communication, September 2015.

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9. CREDITS

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Aerial photograph, 1950.
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