

Best Practices for Promoting Safe Public Access to Human-Powered Boating in New York City

*A planning tool for public agencies, waterfront property owners,
site managers, and community groups to use when selecting,
developing, and operating public access sites.*

May 2013



Michael R. Bloomberg
Mayor



Courtesy Ben Solomon
NYC Kayak Championships

INTRODUCTION



New York Harbor is the cleanest it has been in more than 100 years, and New York City's waterfront is experiencing a transformative resurgence with renewed interest for recreation and access to the water in part due to the billions of dollars that the City has invested in water quality improvements. The public's interest in using the city's waterways is evident in the thriving network of human-powered boaters and many boat launches that are already available for public use.

From 2013 through 2015, three new city funded access points will be available for launching human powered boats. The City will continue to promote the expansion of public access and open new sites along the waterfront, consistent with the goals of *PlaNYC*, the *NYC Comprehensive Waterfront Plan* and *Waterfront Action Agenda*, while considering factors such as compliance with the New York State

Department of Environmental Conservation water quality classifications, harbor traffic, and security zones.

The City recognizes that with the potential for increased recreational use by the general population it must promote a safe and enjoyable environment across public access sites city-wide and for different boater skill levels. Individual boaters are ultimately responsible for their own health and safety, but a robust, established network of human-powered boaters provides valuable boater education within the community. This document describes different types of conditions along the waterfront, ideal conditions for human-powered boating, and precautionary measures that should be taken depending on existing site conditions. Conditions include *Water Quality, Management, Harbor Traffic, Security, and Site Access*.

Waterfront property owners (including city agencies), site managers, and community groups should consider these site conditions and best practices when selecting and developing public access sites for human-powered boating (e.g., kayaking, canoeing, and rowing). The City will periodically assess the need to update the document to reflect input from site managers and the boating community as implemented, and to reflect future changes in water quality conditions based on ongoing data collection efforts and improvement programs including the

Combined Sewer Overflow Long-Term Control Plan (CSO LTCP) program.

To the extent possible, all future access sites should use the best practices outlined in this document. Existing sites should also seek opportunities to implement measures such as education and signage that are consistent with these best practices. This document does not prohibit any current or future actions or “reinvent the wheel”—rather, it seeks to identify and leverage existing knowledge and resources.

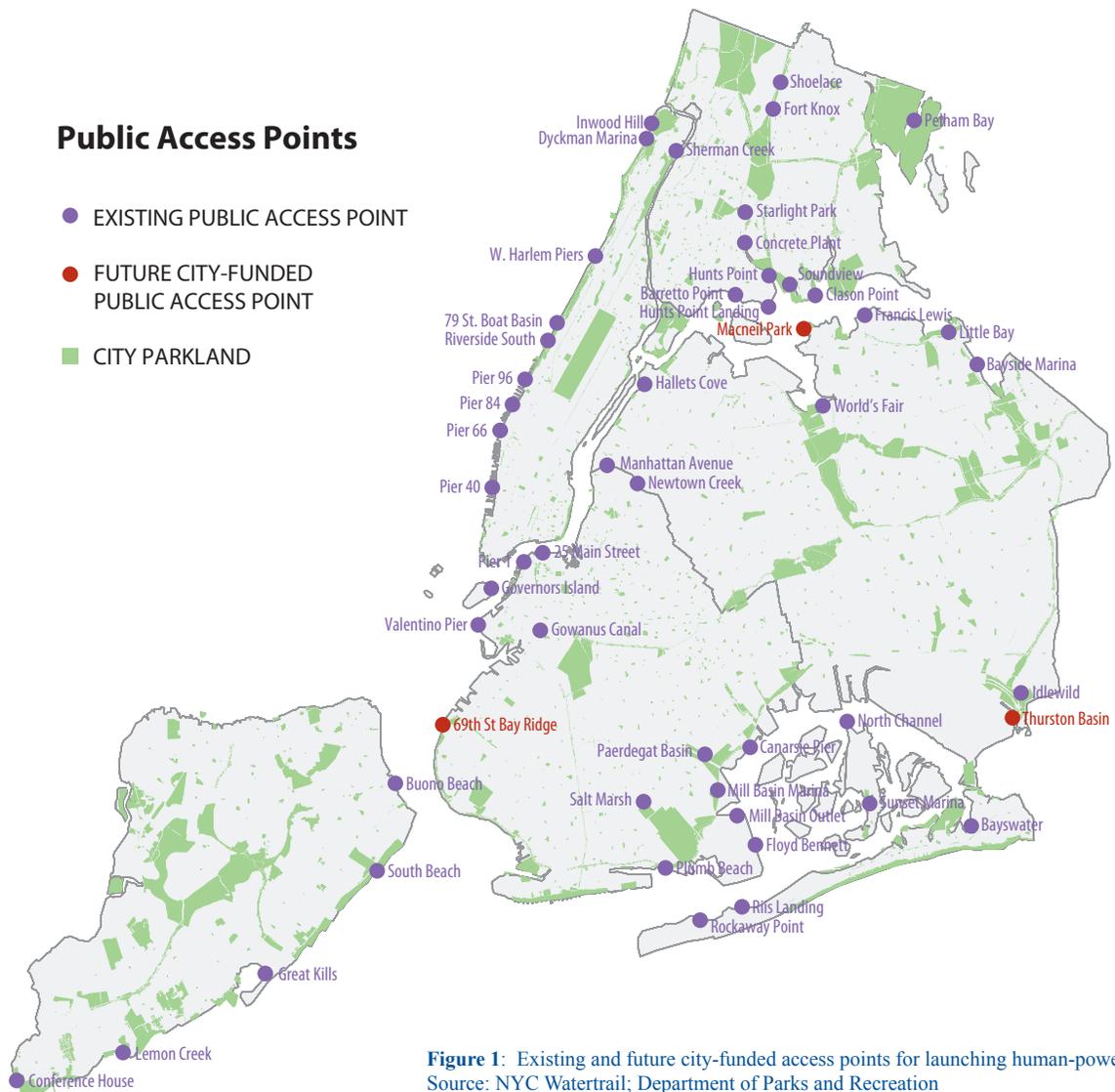


Figure 1: Existing and future city-funded access points for launching human-powered boats. Source: NYC Watertrail; Department of Parks and Recreation

IMPLEMENTATION



New public access sites may be initiated as part of privately or publicly-sponsored developments along the waterfront or requests from the boating or local community. As a result, several nomination and review processes are described below to address the different ways in which these site selection considerations and best practices should be used to promote public health and safety. This document should be considered representative of City policy and will be used to guide related decision making. However, it does not form the basis for a new review process.

- For new access sites that require a city, state, or federal discretionary action, these best practices should inform the determination of consistency with the Waterfront Revitalization Program, the City's Coastal Zone Management regulatory program.

- Private property owners are encouraged to think about appropriate siting early in their design process when proposing waterfront development. Site managers submitting Water Trail nomination forms, or seeking public support for grant proposals for new access, should describe best practices as part of their public health and safety plan.
- For locations on city property, the agency responsible for that property will maintain public health and safety plans as part of project documentation, and should reference best practices in requests for proposals.

These best practices are posted and linked to the websites of various city agencies for public and private entities proposing new access for human-powered boating to reference. As a living document to be updated based on continuous lessons learned and stakeholder input, it is recommended that users regularly check online for the most up-to-date version.



Figure 2: Water Quality Standards for Waterways of New York City

combined sewers during rainstorms, treatment plants can reach their capacity, and, as a result, mechanisms called “regulators” divert a mix of sewage and stormwater to the waterways which discharge at points referred to as “outfalls.” Approximately two-thirds of the city drains to combined sewers, with the remaining areas draining either to separate storm sewer systems or directly to adjacent waterbodies.

CSO outfalls are classified by tiers depending on the volume of annual discharge: Tier 1 outfalls comprise roughly 50% of all CSO volume, Tier 2 outfalls discharge an additional 20%, Tier 3 outfalls discharge an additional 10%, and Tier 4 and 5 comprise the remaining CSO volume. Figure 3 shows Tier 1, 2, and 3 outfalls. All

outfalls, including Tier 4 and 5, are shown in the NYC OASIS map², and are posted with signs at the actual location of the outfall.

For best practices, maintaining a buffer of at least 750 feet from a CSO outfall is recommended for public access sites that involve primary or secondary contact.³ While it may not always be possible to maintain this distance when selecting a new site, the City advises that the best practices described herein should be used to make users aware of proximity to CSO outfalls and advise of precautionary measures during wet weather, including limiting contact and practicing proper hygiene. More information regarding CSOs, including current CSO waterbody advisories, is available on DEP’s website,⁵

Combined Sewer Overflow (CSO) Volumes

- Tier 1 = 50% of Total CSO Volume
- Tier 2 = 20% of Total CSO Volume
- Tier 3 = 10% of Total CSO Volume

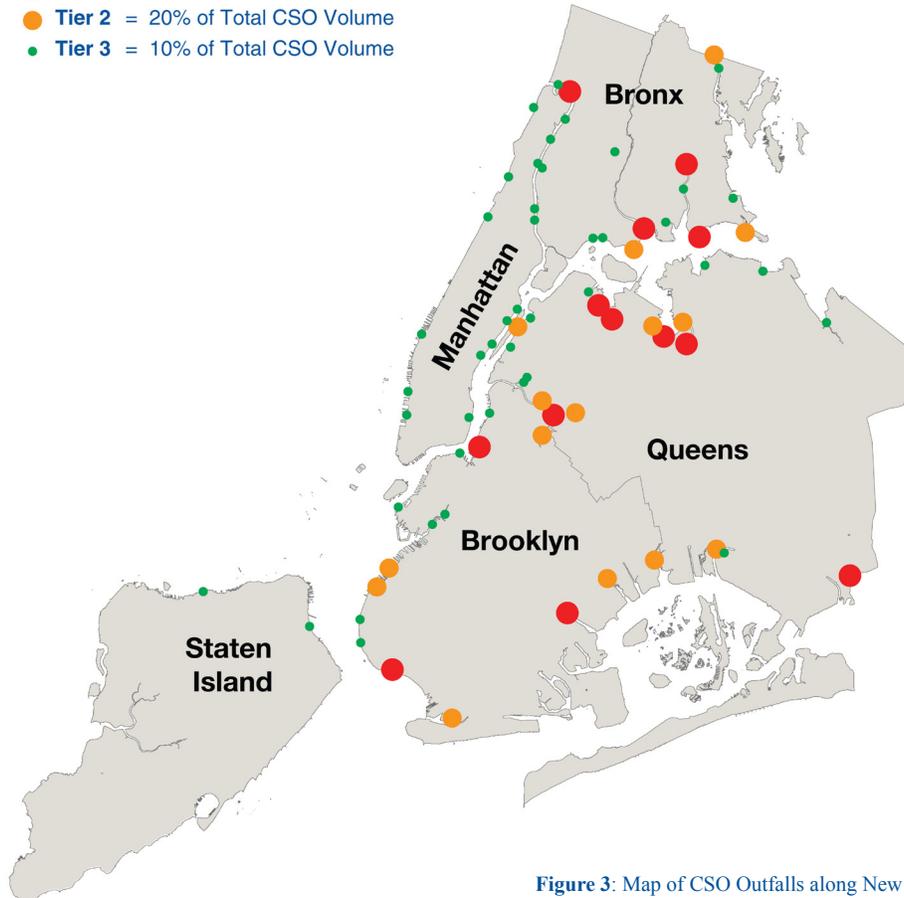


Figure 3: Map of CSO Outfalls along New York City’s Waterfront

and water quality sampling data is also available from 70 stations harbor-wide.⁶ Beaches can also be affected by CSOs and stormwater runoff. Beach advisories, closures, and monitoring data are posted on the NYC Department of Health and Mental Hygiene website.⁷

Public Health and Safety Best Practices

For all waterbodies, users and any responsible organizations should monitor DEP waterbody advisories, DEC waterbody spill notifications, and tide and current conditions. For all locations where users may be in contact with CSO-affected waters, precautions should be taken to minimize exposure during and after periods of wet weather (usually for a period of 12 to 48 hours after rainstorms and as indicated by the CSO waterbody advisories).

For launch sites in SC, I, or SD waterbodies, recreational users should remain in the vessel and activities that would increase exposure should be limited to SA or SB waterbodies (e.g., instructional programs for bracing, edging, and rolling kayaks, and rescue/recovery). Appropriate signage should also be maintained to advise boaters of precautionary measures and potential

hazards associated with contacting or ingesting water (see box below).

On-site staff, where applicable, should administer health and safety education regarding real-time water quality information (including bacteria levels and high turbidity conditions) and other hazards. Washing facilities and sanitizing products should be provided on site, with information regarding proper hygiene.

Potential Hazards of Contacting or Ingesting Water

Health risks may include gastrointestinal illness, upper respiratory, ear, nose and skin infections, as well as other infectious diseases.⁴ Small children, infants, the elderly, and those with compromised immune systems have a higher risk of developing illnesses or infections after contact with polluted water.

Resources

- ¹ Rules and Regulations of the State of New York, Title 6, Chapter X, Part 701: Classifications-Surface Waters and Groundwaters: <http://www.dec.ny.gov/regs/4592.html>
- ² NYC OASIS map: <http://www.oasisnyc.net/map.aspx>
- ³ Rules and Regulations of the State of New York, Title 10, Part 6, Subpart 6-2 Bathing Beaches: http://www.health.ny.gov/regulations/nycrr/title_10/part_6/subpart_6-2.htm
- ⁴ Dorevitch et al., 2012: Health Risks of Limited-Contact Water Recreation. Environmental Health Perspectives, Volume 120, Number 2.
- ⁵ NYC DEP, New York City Waterbody Advisories: http://www.nyc.gov/html/dep/html/harborwater/nyc_waterbody_advisory.shtml
- ⁶ NYC DEP, Harbor Water Sampling Data: http://www.nyc.gov/html/dep/html/harborwater/harbor_water_sampling_results.shtml
- ⁷ NYC DOHMH, Beach Quality and Safety: <http://www.nyc.gov/html/doh/html/environmental/beach.shtml>

Water Quality Best Practices

For sites where water quality is generally suitable for primary contact (SA and SB), limited primary or secondary contact (SC) or secondary contact (I):

- Install signage that identifies water quality designations, appropriate recreational uses, and directions for monitoring DEP waterbody advisories.
- If a launch site is near a CSO outfall, users should be made aware of proximity and monitor DEP waterbody advisories.

For sites where water quality is generally suitable for limited primary or secondary contact (SC and I) but where CSOs may have an impact (e.g., within 750 feet from a CSO outfall), follow best practices listed above and consider the following:

- Signage should include advisory information to limit activities that would increase exposure to water and outline potential health risks of activity during wet weather.
- Consider use of secured entry to access points (e.g., low guardrails and low gates) to maintain intended use of waterway. Secure site access should also be designed to limit unintended uses, but should not prohibit egress from the water.
- Provide user directions for monitoring DEP waterbody advisories, DEC waterbody spill notifications, and tide and current conditions; or, consider implementing limitations or closures during DEP issued waterbody advisories.
- Provide washing facilities and sanitizing products on-site, or information regarding proper hygiene.

For sites where water quality is generally not suitable for secondary or primary contact, including SD waters and Superfund sites:

- If no alternative locations are available and access is provided, consider applying active management to provide targeted boater health and safety education and oversight. Secure site access should also be designed to limit unintended uses, but should not prohibit egress from the water.
- Implement best practices listed above and provide additional signage and educational material to describe water quality conditions and associated health risks.

MANAGEMENT



The boathouse at Pier 66 on the Hudson River in Manhattan is an example of an actively managed public access site.

Considerations for Site Selection

There are two types of management for public access sites: active and passive. Active access sites are those where an agency, concessionaire or other organization manages use of the site. For example, active sites may have staff on site during the recreational season to sign in users, provide educational programming, enforce permits, and promote access to the water with boat rentals or storage. Passive access sites are unstaffed but can make use of signs and secured site access as appropriate management tools. While many current and future public access sites may be passively managed, active access sites provide additional opportunities to educate boaters and share public health and safety information.



The gravel beach at Louis Valentino Jr. Pier Park in Brooklyn is an example of a passive access site.

The pictures above are of an active access site at Pier 66 on the Hudson River in Manhattan (left)⁸ and a passive access site at Louis Valentino Jr. Pier Park in Brooklyn (right).⁹ At the active access site, launching and landing is available only when the boathouse is open and the site is secured with gates when closed. At the passive access site, a gravel beach provides access to Buttermilk Channel and the Upper Bay. The photo depicts a volunteer group (the Red Hook Boaters) that provides paddling and safety tips for kayakers.

Public Health and Safety Best Practices

Boaters should be advised that they assume full responsibility for their own safety. Several measures for both active and passive access sites to ensure boater safety to the maximum extent possible are described below.



Examples of new signage installed at kayak and canoe launching areas

Access sites, whether actively or passively managed, should use signs and secured site access as management tools. Examples of precautionary and informational signage are shown in the photos above. Secure site access should also be designed to limit unintended uses, such as swimming in unsanctioned areas, but should not prohibit egress from the water.

If the site is to be actively managed, an entity should be designated as responsible for operating the launch and ensuring compliance with operating restrictions and rules. To assure compliance with safety requirements, the City requires a permit for the use of all Department of Parks and Recreation (DPR) launch facilities. The managing entity should also consider implementing expanded measures to promote public health and safety including an education and oversight program. For example, individual boaters should be required to sign consent

forms agreeing to safety provisions or face revocation of access privileges and/or boater certification at boathouses.

Boathouses should be staffed at all times when open to the public, and access to boathouses should be secured when closed for the day or season (e.g., with locks). Passive locations can use signage and secured site access to limit activity at these times. Training programs should be developed to ensure staff on duty are appropriately trained. Boathouse staff should employ check-in and check-out procedures to account for all boaters at the close of business.

The management entity should ensure at all sites that children under 16 are accompanied by a parent or adult, or provide adequate staff supervision. Further restrictions on the age of boaters may be necessary to ensure public health or to necessitate enhanced parental or adult supervision.

Several boathouses throughout the city provide good examples of active management practices. The New York City Water Trail Association¹⁰ is a helpful resource to connect with the human-powered boating community and find

a local boating group. The NYC Watertrail Map & Guide¹¹ also provides information to boaters about launch permits, safety, hazardous conditions, security zones, and boating clubs.

Resources

⁸ Hudson River Park (Pier 66): <http://www.nycgovparks.org/facilities/kayak/29>

⁹ Louis J. Valentino Park: <http://www.nycgovparks.org/facilities/kayak/8>

¹⁰ New York City Water Trail Association: <http://www.nycwatertrail.org/>

¹¹ NYC Watertrail Map & Guide:

http://www.goingcoastal.org/Maps/Entries/2012/3/31_NYC_Watertrail_Map_%26_Guide.html

Management Best Practices

For an active water access site managed by concessionaire, private, or non-profit entity which provides education and oversight to ensure users follow safety restrictions:

- Propose management approach that provides education or requires a targeted program for users and oversight to ensure users follow safety restrictions.
- Require boaters to sign consent forms agreeing to all safety provisions and to adhere to all safety provisions.
- Staff boathouse with trained and certified operators when open and in use, and secure access to boathouse when closed.
- Formalize check-in/check-out procedures to account for all in-water users at the close of business.
- Ensure children under 16 are accompanied by parent or supervised by an adult.

For a passive or unsupervised water access site:

- For signage, include appropriate water quality information and information about permits and Rules and Regulations for Kayaks and Canoes.
- Consider use of secured entry (e.g., guardrails and gates) and barriers.

HARBOR TRAFFIC AND SECURITY



Courtesy Ben Solomon, NYC Kayak Championships

Considerations for Site Selection

Ideal access sites include protected inlets or coves removed from harbor traffic. Areas with lower harbor traffic and/or farther away from navigational routes are preferred over high harbor traffic areas or areas in close proximity to designated navigational routes for commercial and large vessels. The launch site should be visible from both the water and shore allowing paddlers to locate the launch site easily.

The United States Coast Guard and New York City Police Department should be included in any siting discussions. Launch sites should be located outside a Coast Guard designated security zone, and the City recommends that proposed locations within approximately 0.25 mile of a security zone communicate early with the Coast Guard and Police Department regarding the intent to establish a site in close proximity to the security zone.

Public Health and Safety Best Practices

For launch sites near security zones, boaters should be educated about the proximity to the security zone(s) and charts and navigational aids or other notices (including Coast Guard¹²) should be made available.

For locations adjacent to harbor traffic, including commercial and large recreational vessels, the site should ensure communication with harbor operation and maritime industrial groups, and provide information describing the potential hazards for recreational boaters posed by large vessels.

Resources such as The Safe Harbor website¹³ are available to provide education about the “Rules of the Road” for boating safely around New York City. Additional resources include the United States Coast Guard Boating Safety Resources Center,¹⁴ National Safe Boating Council,¹⁵ United States Lifesaving Association Water Safety Tips,¹⁶ the American Canoe Association,¹⁷ and local tide, current, and weather conditions.¹⁸

Harbor Traffic Best Practices

For a protected inlet or cove removed from harbor traffic and visible from both the water and shore:

- Ensure charts or other navigational aids are available to boaters.

For an area adjacent to harbor traffic, including commercial and large recreational vessels, and/or visibility limitations, follow best practices listed above and consider the following:

- Ensure site is visible from both the water and shore allowing paddlers to easily locate it.
- Ensure communication with harbor operation and maritime industrial groups.
- Provide information describing the potential hazards for recreational boaters posed by large vessels, including the effects of wake and surge.
- Implement additional education regarding the “Rules of the Road” for boating safely around New York City.

Security Best Practices

For an area more than 0.25 miles from a Coast Guard established security zones:

- Include Coast Guard and NYPD in siting discussion.
- Ensure charts or other navigational aids are available to boaters.

For an area less than 0.25 miles from a Coast Guard established security zones:

- Notify the Coast Guard and NYPD of the intent to establish a site close to a security zone.
- Ensure charts or other navigational aids are available to boaters and consider additional boater education about proximity to security zone(s).

For an area inside a Coast Guard established security zone:

- Coast Guard permission must be granted.

Resources

- ¹² United States Coast Guard, Sector New York Homeport:
<https://homeport.uscg.mil/mycg/portal/ep/portDirectory.do?tabId=1&cotpld=2>
- ¹³ The Safe Harbor: <http://thesafeharbor.us/>
- ¹⁴ United States Coast Guard Boating Safety Resources Center: <http://www.uscgboating.org/>
- ¹⁵ National Safe Boating Council: <http://www.safeboatingcouncil.org/>
- ¹⁶ United States Lifesaving Association Water Safety Tips: <http://www.usla.org/?page=SAFETYTIPS>
- ¹⁷ American Canoe Association: <http://www.americancanoe.org/>
- ¹⁸ National Oceanic and Atmospheric Administration: <http://www.noaa.gov/>

SITE ACCESS



Courtesy Rob Buchanan, NYC Water Trail Association

Considerations for Site Selection

Priority should be given to locations where in-water access is currently limited and strong local community support exists. Proximity to public transportation and parking should also be considered to provide easy access. Locations should demonstrate ease of portage or ability to store or provide boats on site. For sites where boats or storage are to be made available on site, bikeways and greenways may also provide appropriate access, including ease of portage, for users.

Provisions should be made to improve the accessibility of proposed locations with poor proximity to public transportation or parking lots, or where boats are unable to be stored onsite. Design features or criteria such as the ones described below should also be used to enhance the accessibility of a site.

Site Access Best Practices

For an area with strong local community support with demand from likely users and/or good proximity to subway, public transportation, bike paths, parking lots, and easy portage or boats available on-site:

- No specific action(s) necessary.

For an area with moderate local community support with demand from likely users and/or fair proximity to subway, public transportation, bike paths, parking lots, and moderate portage or boats available on-site

- Implement provisions to enhance access to transportation, ease of portage, and/or access to boats.

ADDITIONAL CONSIDERATIONS



Any entity proposing new access sites should be able to demonstrate that it has considered specific site selection conditions and related public health and safety best practices. Future plans and development proposals that may affect the programming of the site should also be considered. In addition, the property owner should employ design and management practices that would further promote public health and safety for its users. Several examples are described below and detailed design guidelines are currently being developed by the Metropolitan Waterfront Alliance and New York City Water Trail Association with input from DPR.

To minimize contact with water, public access sites should provide protection from exposure to high winds and heavy flows or currents such as river eddies. Ideal locations for in-water access would be located in or adjacent to locations of calm waters such as a cove, inlet or

meandering bend. Sites should be located in an area where it will not cause damage to riparian habitats or vegetation during construction or operation.

Beaches are a good option for water access if water quality and safety provisions are met. Height differences between surface water levels and dock height or shorelines should be between six inches and two feet from the highest expected water level. The launch area should be at a minimum 5 feet wide and preferably 6 feet to 12 feet wide and at least 25 feet long to allow paddlers “dry” access to the entire length of their boats. Ideal locations would have no physical in-water barriers such as impassable sections, dams, or weirs.

The example design recommendations above are not meant to be an exhaustive list and all sites must comply with applicable city, state,



and federal regulations. The Americans with Disabilities Act (ADA) Accessibility Guidelines may dictate slopes and other access features during design and construction, and other design elements may be considered to facilitate easy portage. Permits from the United States Army Corps of Engineers (USACE) are needed for all in-water work activities below mean high water or ordinary high water, or if the project

will impact any significant habitat or wetlands. DEC also regulates impacts to tidal wetlands and water quality through permits that must be obtained prior to construction activities. DEC Part 59 regulations also prohibit the use of boat launch sites for any purposes other than launching boats and impose minimum distances for other uses.

CONCLUSION



The purpose of this document is to inform waterfront property owners, site managers, and community groups of best practices for locating and managing new in-water access points. Representatives of city agencies responsible for the compilation of these best practices will continue to meet internally and with representatives

of the boating community to discuss proposals and requests for new access sites, and track implementation of best practices at new locations and opportunities to implement at existing sites. Recommended updates to best practices can be brought forth as part of this process and reflected in future iterations of the document.

ACKNOWLEDGEMENTS

These best practices were developed by an interagency group with input from the human-powered boating community. This group will continue to meet internally and with representatives of the boating community to track implementation of best practices and recommend updates to future iterations of this document.

Primary Contributors:

Department of Environmental Protection – Bureau of Environmental Planning and Analysis

Department of Parks and Recreation - Maintenance and Operations Division, Planning Division, Queens Borough Commissioner’s Office

Department of City Planning – Waterfront and Open Space Division

Department of Health and Mental Hygiene – Division of Environmental Health

Economic Development Corporation – Ports and Transportation Division

Mayor’s Office of Long-Term Planning and Sustainability

Additional Contributors:

New York City Law Department

New York City Police Department

United States Coast Guard