

## APPENDIX I

### Feasibility Study for the Development of Hudson River Public Swimming Facilities

#### STEP I EVALUATION OF POTENTIAL SITES September 2000

##### SITES UNDER EVALUATION

The list of potential sites considered for development as public swimming facilities along the shores of the Hudson River estuary is presented in Table A-1. Overall, a total of 60 sites were evaluated under the feasibility study. Information for each site based on a site survey and document review and grouped by counties is presented below:

Documents reviewed as part of the potential site list development included: The New York State Department of State's (NYSDOS) reference report Hudson River Significant Tidal Habitats (NYSDOS 1990), The Hudson Recreational Access Field Inventory (1986), referred to as the *1986 Survey, Between the Railroad and the River* (Hudson River Access Forum 1989) and the "Cruise n' Chart Kit" (NYS Conservation Dept 1965).

##### ALBANY and RENSSELAER COUNTIES

Water quality is a significant impediment to the development of public swimming facilities between the Troy Dam at River Mile (RM) 154 and the south end of Houghtaling Island at RM 130. This area of the Hudson River has a 'C' classification, which does not permit swimming. Shoreline uses and conditions also pose constraints. The following sites were identified as potential sites in this river area:

Watervliet Park (152W): A joint development with DOT, partially under a bridge, the site has more parking than existing use generates. Bathrooms may be mothballed. Steep shoreline and water quality conditions would make development of a beach difficult at this site. The beach is limited in upland depth, and is probably not totally dry at high tide. A storm drain outfall pipe (approximately 6-ft diameter) is located next to beach. This outfall drains 3000 acres of the Town of Colonie. Although it primarily carries storm water, it does carry combined sewer overflow during storms. Because of the close proximity of Interstate 787, there is little room to move the pipe. In addition, a small beach is nearby on Green Island, but is exposed to boat traffic. A site inspection was conducted in late May. The beach is sand based, but not currently used. It is somewhat protected from main channel by nearby Green Island. Subsequent discussions with the General Manager of Watervliet indicate that there are immediate plans for commercial development of the property. These plans include a marina.

Corning Preserve/Hudson Linear Park (146.5W): Steep, unsuitable shoreline in areas with good access - heavy/conflict with use of developed boat launch site. Major treated wastewater

and storm water (CSO) outfalls in this area were reported in the Albany Times Union on June 13, 2000. There is no existing beach on this site.

Rensselaer (North of High School) (146.5E): A small beach noted by County planner on 2 June 2000, the area is limited in upland beach above high tide line, as well as depth of property and exposure to ship channel waves. The site has also been proposed for other uses. The same water quality constraints as noted above exist in this area. The river channel is close to the site, and the beach area is very narrow. Limited need for additional review to protect beach characteristics for distant future options, as well as scenic quality and for initial uses for fishing and small boat landing access.

City of Albany - South End (145W): Port and industrial uses dominate this area. There is one small park, unsuitable shorelines for beaches, and also water traffic conflicts.

Henry Hudson Park - Town of Bethlehem (138.5W): The developed part of the property has a concrete bulkhead with a rock fill crib on the riverside for most of the park's shoreline. On the north side, an undeveloped section of land has a 300-ft beach. The Town should secure the beach site, keep erosion from diminishing it and hold it to preserve the opportunity for a beach in the future. A second area with parking and support facilities would be needed for this end of the park when this project is considered. Glenmont Job Corps Center with riverfront property, located a half mile north of this site is also worth reviewing, should it be declared surplus in the future; to be checked for status with Town. Current use of the property is limited to town residents.

***To make this site a beach:*** Need to confirm property ownership, water quality must be improved or technology brought in to improve water quality.

Papscaene Preserve/Campbell Islands (peninsula) (138.5E): Public access by foot trail (and illegal RV) has only recently been secured. Associated marsh is on New York State Department of State (DOS) significant tidal Habitat list. Notes in newspaper indicate that the island includes a 190-acre "nature Preserve". A railroad (RR) crossing is an impediment to shore access. The 1986 survey indicates bulkheads exist along much of the shoreline. River channel is close. Some sites with spoils, gravel borrows, nearby industrial uses may also be problematic.

Schodack Island (peninsula) State Park (134.5E): The consultant reviewed the July 1998 Master Plan with OPRHP regional staff. The Master Plan for this area calls for the creation of a swimming pool complex and a potential beach site. An access bridge is currently under construction by OPRHP, with a fall 2000 completion date. Other site improvements are also planned as part of the next phase of park development, with some of the planned improvements directly benefiting beach development (NYS OPRHP 1998). The proposed beach site could be a good alternative to putting in a swimming pool. Most of the Hudson River shoreline is protected by bulkheads and is in poor condition; dredged spoils - sand - is piled in steep but vegetated upland formation parallel to the river edge. The river channel is close. The east side is tidal mud flats. The plan includes a beach. The U.S. Army Corps of Engineers (USACE) owns the southern third of the island and uses it for the disposal of dredged material and a navigation light.

The southeast corner of the USACE property may have suitable beach potential, but this is within the planned natural area of the peninsula. Constraints and still limiting water quality may preclude consideration of this site for a beach. OPRHP staff indicated that this is a difficult prospect due to ownership, use and access problems.

Two other locations have been suggested by two OPRHP staff, the Walsh property to the north, which is difficult to access or design beach activities due to bridge design with ramps facing south (in construction), and concrete shoreline protective blocks indicate erosion and limited beach potential; proposal not advanced due to site design constraints. If acquired, other uses are better for this location.

A small cove is located immediately south of a break in the bulkheads, mid island, west shore. A sand beach has evolved through erosion. An approximate 200-ft long shoal exists between channel and beach. This location was field checked 18 July 2000. A fine grained sand base is apparent, but tree roots, fallen trees and logs, as well as other debris makes this water edge an obstacle course at this time. The beach section is narrow, 3 to 5-ft at an outgoing tide. A 60-ft bench composed of fill sand is behind the beach at an elevation of 2 to 3 ft above the beach, meeting at an eroding scarp. The access road is 6 to 7 ft above this. In addition to clearing and grubbing, more beach space and (the restoration of) a gradual beach sand elevation rise is needed for any use. A boat-based survey of this entire section of narrow beach is required to select a favorable site. Then beach restoration will have to be designed and undertaken.

*To make this site a beach:* Access bridge would need to be built, water quality must be improved, beach area must be developed, and infrastructure would need to be constructed.

## **GREEN and COLUMBIA COUNTIES**

Classification changes to “A” below Stuyvesant (RM 130); permitting use for treated potable water and swimming. Judging by operating sites in Ulster County, operations at selected swimming sites may be feasible below this point in the Hudson.

Bronck Island (127.5W): This is proposed access/camping site for the Hudson River Water Trail, to be constructed by AmeriCorps during the summer of 2000 using TEA-21 "Trails" funds (Giddy 1999). The size of the property is approximately 25 acres, with a shoreline comprised of heavy clay strata which is currently eroding. The site has restricted land access and a sand berm constructed from area dredged material. A 25 acre property on the river has been donated to not-for-profit organization(s) for a non-powered boat access site managed as a part of the Hudson Water Trail. Other properties and any overland access is privately owned. There is a sand beach on the site. It is a very small private beach on the south end. This site has a deposit of fine sand dredged spoils that have formed a consolidated sandbar/shoal just at high water level. Waves were observed washing over this entire beach area. The low-intensity use site proposed will probably use the part of the berm for camping and beach for landing for non - powered boats. The site will be resurveyed for other future uses (if any) when the construction is underway. This work may be delayed for a year however due to Water Trail volunteer's time needed for project

design and clearance. Water Trail Association (project sponsor) indicates that land access is only available for boating / campsite construction, and that with liability public swimming will not be allowed.

Stuyvesant (127E): A dredged material disposal site forming a small peninsula, this site is located approximately 300 feet south of the Margaret and William See Riverview Park. Access to the site is via an at-grade RR crossing to the Village of Stuyvesant park, continuing on a dirt road partly located on an unused RR spur. Part of this well used access alignment is probably on Railroad property. DOT plans for this signalized crossing are being researched. The peninsula is purportedly owned by NYS OGS. A wide sand beach exists along the north side and the first 300 feet of the West Side of the peninsula – probably over 1000-ft. in length and up to 75-ft. width. The remaining shores on the western side of the island facing the river are mud flats, which the Estuarine Sanctuary staff indicates are also more sensitive

The section before the peninsula curves is probably best for clear sand (a few stones are nearer to the RR). River currents and waves need to be reviewed, but the best sand site is probably also a good selection for a public beach. This site appeared to be acceptable for water current, slope, depth and upland capacity at the time of the site inspection. A four-wheel drive trail parallels the shoreline inland of a few feet of screening vegetation – this “dirt road” would probably be a good location for an access and service road.

Access to the peninsula can be obtained via a bridge which can start at-grade near the junction of Route 9J and Riverview Street. This would cross the railroad and terminate near the dirt road already on site. A less expensive access can be run from the Town Park along the abandoned rail spur property to this same access point.

Needs may determine the best scale and recommended operating entity for this potential site. Local interests would also want a few primitive campsites; already an unsanctioned, on-going use at this site. Boat access, another local interest can be sited with a beach but needs to be designed properly to prevent potential erosion of the sand beach caused by placement of structures. Access, utilities and management may be the most difficult issues to be solved at this site.

***To make this site a beach:*** Infrastructure would need to be created, a design must be developed that will allow the boat launch and beach area to coexist, access to site must be created or site must be designated as “boat only - access”.

Nutten Hook (125E): Two, possibly more, short beaches can be found near the access road linking an at-grade railroad crossing to this site. The site is the location of a boat launch facility proposed in the Draft Nutten Hook Master Plan and EIS (NYSDEC 1997). Difficult access, and environmental considerations for this site made any decision recommending active recreational uses controversial. Plans for this site do not include a beach, though people report swimming at the site. The two short beaches inspected are very limited, full of debris and closer to the ship channel than the preferable sites located one mile to the north.

Coxsackie Riverfront Park (125 W): This park or nearby shoreline to the north was mentioned by OPRHP staff, but probably this site only has potential as a local informal swimming access point.. The boat launch at this village park is however the primary access to the islands, discussed below.

Some village streets and properties also adjoin the Hudson. It is reported that though these shoreline conditions, water depth and river traffic make these sites unsuitable, even hazardous, local children swim at many of these access points.

Gays Point (122.5E): The site is OPRHP property. Sections of Gays Point have deteriorating bulkheads. Nesting eagles have been observed on site. Impromptu swimming is an activity on this site near a boat landing area. If an island swimming program is contemplated this site should be considered.

Stockport Middle Ground Island (122.5E): OPRHP properties, good shoreline sand from dredged sand spoils areas and some stable former mud flats in other locations. The area is on DOS' significant tidal Habitats list. Uses are now limited to boat landing for day use, picnicking and a small overnight campsite for the Hudson Water Trail (human powered boats). These islands are popular for swimming from boats. Currents, wakes from shipping and tides are occasional problems for uninformed boaters. People who do not secure boats on landing find them adrift or stranded on high ground a few hours later. This situation is misinterpreted by some local officials who believe that the river conditions are "dangerous", possibly because of calls for help from stranded boaters.

These "islands" are small, hard to access without improvements, and constrained in some section by man - made, natural and ecological considerations. The properties are possible sites for a beach, but are probably best suited for the low intensity use they now receive.

Four Mile Point Road – Scenic Hudson Property (121.5W): There are two good but small sites located off of this road, located half way between Coxsackie and Athens. The northern section of the road paralleling the shoreline adjoins a 7.6-acre Preserve owned by Scenic Hudson. Two fine-grained 1/8" stone beaches of approximately 125 feet and 100 feet, both limited in width are suitable for a limited (local) but successful beach project.

Four Mile Point Road (120.5W): A mile further south along Four Mile Point Road, there is a 100 ft. long, 30 ft. wide sand beach, located only a few feet from the road. This property is already in use as a shoreline access, campfire and picnicking site. Narrow upland space will necessitate roadside parking if this beach is considered for local public use as a public beach. The sand quality, slope and exposure look favorable for beach uses along this limited site.

Middle Ground Flats (119.5): An island that was once assumed to be NYS OGS owned formed by dredged sand spoils. Ownership of 90 acres is a problem, as confirmed by 1890 title provided by OGS.

The island has good beaches on the West Side; along a stretch that's especially desirable since the shipping channel is to the east of the island. The area is on DOS' significant tidal Habitats list;

bank swallow habitat was mentioned. DOS also indicates that Athens is constructing a ferry slip to access the historic lighthouse across the river and possibly the railroad station in Hudson, and this service could also service a public beach.

Field inspection and direction regarding public policy is required. The NW corner of the island has the best sand conditions, as observed from oblique aerial photos. This corner is also not exposed to the shipping channel, which is to the east of the island. The Athens' assessor sent out tax bills to reputed owner of the island; probably in arrears or lacking due to no prior notification. This situation requires review in the near future.

*To make this site a beach:* Property would have to be purchased from the current owner, and boat access would have to be constructed.

St. Lawrence Cement Company (118E): A representative reviewed the waterfront sections of their proposal with the consultant on 30 June 2000. The West Side has a long pier and wetlands, all unsuited to beach development or safe swimming sites. The East Side waterfront site located at the southern end of the city of Hudson's shoreline and includes a park proposal. The 1 inch stone/cinder granules that comprise the narrow bay on this site, the near proximity of the shipping channel (150 feet), narrow uplands with limited access, and signs of ice scour and erosion make this site unsuitable for a beach.

Rogers Island (115E): OPRHP staff indicates that an upland easement includes a section of land facing the island. The railroad and a steep upland shoreline constitute great constraints. The area is on DOS' significant tidal Habitat's list, with a specific reference opposing bridge access to the island. Tidal flats and wetland areas constrain much of the shorelines.

Dutchman's Landing Park (113.5 W): A scenic and well-used park is located at the confluence of Catskill Creek and the Hudson. A wetland and fine-grained sandbar located off the northwest bay of this park were examined. Though this sand was more solid than observation from a distance would indicate, it is submerged at high tide as evidenced by emergent wetland vegetation and wave patterns on the exposed sand. These characteristics indicate that this would be a difficult site to develop without substantial sand fill and other construction.

Greene Point (110W): The property is to be vacated by industrial user, and requires field review of the condition of extensive shallows and dredged spoils (sand) deposits. Extensive near shore shallows show on navigation charts. The property was field checked, as far as landowner permitted. Wetland vegetation was observed along the shore, confirming shallow off-shore waters shown on navigation charts.

Cheviot, also Germantown (106.8E): This site has small access points, as noted in the 2000 survey and also referenced a 1+/- acre local access site with a "swim at your own risk" sign in the 1986 survey. There is no adequate space for public beach.

## **ULSTER and DUTCHESS COUNTIES**

Bristol (Beach) State Park (105W): an undeveloped property owned by OPRHP. Additional acquisitions, extending the property to the south are now pending and is being coordinated with Scenic Hudson. Access needs to be developed. A plan done by TSA for Scenic Hudson recommends low intensity uses. The consultant discussed and inspected the site with PIPC staff.

Properties to the south, probably including the acquisition site, contain former brick works, large fuel tanks and wrecked barges on the shoreline. Where bricks and debris do not overlay the shore, a compact strata of clay is visible or under a thin veneer of rocks or sand. The water looks clear and slope is acceptable, but the clay base is unsuitable for a beach. A dredged spoils sand bar located in the center of the property is an exception to this condition. This location is difficult to access by land at the present time.

The Eve's Point section of the property is scenic and apparently used for swimming by a few people. However, stone fill and the clay formation also underlay this site. The site is also somewhat more exposed to river currents and waves from ships than the remaining section of the Park. The Saratoga Associates' plans (c.1991) indicate a section of dredged spoils off shore, off of the original Park property.

A second check of near shore conditions on 12 July 2000 only disclosed dense emergent wetland vegetation. An oblique aerial photo does show a prominent sand shadow in the dredged spoil area. The sand in place at this location is fine grained but well packed by river currents and waves. Inside the bay, this sand is too shallow for a beach. Facing the riverside the sand has been flattened by waves and is under water part of the day.

*To make this site a beach:* Creating a beach at this location would be difficult, and would involve moving sand because the existing beach disappears at high tide. There is also extensive SAV on the site, and the issue of sensitive habitat. This large property has the potential for multiple uses and would benefit from the creation of a master plan that may or may not include a swimming area.

Saugerties Village Beach (Esopus Creek) (102.5): This small municipal beach is located on Esopus Creek, upstream of a small impoundment approximately one mile from the River. The park can be accessed from Route 32 or from Village streets. Sand acquired from an upland source has been deposited on the beach. The beach has about 150 ft of shorefront on the small lake. Water depths increase gradually to 9 ft. The site gives the appearance of many decades of sand management (augmentation, raking, etc.) that makes this a serviceable beachfront for local use. A small bathhouse looks serviceable, but old. Village representatives at the public meeting noted that they may occasionally have an aquatic weed problem, but none was observed during two inspections. Use of the beach by local children and elderly who walk or bike to the site was also observed. Approximately 25 parking spaces at the site are easily augmented by local on – street parking.

*To improve this beach:* Improvements would include control of aquatic weeds and potentially enlarging the parking facilities of the site.

Cruger Island (99.5E): This site is approximately 61 acres and is part of the Tivoli section of the National Estuarine Reserve Sanctuary. Steep, scenic shorelines and very limited property to the outboard of the RR. And a 50-ft. drop-off after a narrow 10-ft edge along river edge make this site inappropriate for beach use. A small bay to the south shows 1-ft depth at low tide.

Barrytown (97.5E): This site is a 16 acre property noted in the 1986 survey as accommodating significant boating activities, and confirmed by marina notation in the Cruise n' Chart kit. A water depth of 46 ft is shown just off shore.

Ulster Landing County Park (97W): County-run swimming beach and park. Excellent upland design, with modest scaled facilities. Site review and off shore inspection was conducted with County staff on 23 June and 27 June 2000. Operations data was discussed and additional information has been requested. A proposal to protect shorelines and/or to move sand from a sandbar located above the low tide line was discussed.

The primary issue related to this scenic and well-used site is the retention of sand at the beach and along adjoining shoreline picnic area to the south. Records indicate that 30 feet of the sand formed by 1930's dredged sand placement as well as the trees and vegetation that grew on this shore has been lost in the recent decades (Ulster County DBG 1999). An engineering firm under County contract will review aerial surveys, and has prepared cross sections of options for erosion control works. Initial comments have been provided as follow up to the field checks. DEC Regional Forester indicates shoreline vegetation includes an endangered plant that needs to be considered if sand movement options are considered.

*To improve this beach:* An engineering consultation is needed to determine best way to control erosion at the beach and adjoining shoreline without causing any other damage to the site.

Charles Rider Park (95.5W): This site is owned by the Town of Ulster. Boat launching is its primary use, with rip rap occurring along the shoreline. The site is located close to the channel. There is no potential for swimming.

Ulster Town Park (94.5W): After consideration, no Town plans for swimming are being considered at this site (other nearby, available swimming sites serve this area need). View from off shore 23 July 2000 indicates the existence of limited upland space, stone and rock beaches and shoreline protection.

Kingston Point Park (92W): This is an existing City Park with swimming. It includes an extensive and wide sand beach, approximately 300 feet developed, including a handicapped ramp. It is more than 150 ft. in width. Exposure is to the Northeast. The site is a considerable distance from the shipping channel. There is a small comfort station/lifeguard office and concession space; both need aesthetic treatment – perhaps an upgrade. The property was a traditional recreational site located at the end of the City trolley line. Next to the beach, riverside attractions, along with a

train ride from the museums and shops at the Kingston Harbor, are being built to restore the historic popularity of this site. Swimming facilities dating to the 19th century are part of this facility. The site is also popular for launching board – sailing craft in the spring and fall. Access will be comprehensive, with the connection of ferry service to Amtrak at Rhinecliff. CSO pollution questions have been raised regarding this site. Wetland delineation needs to be checked for any additional development proposals.

*To improve this beach:* Infrastructure, including bathhouses and concessions need to be upgraded.

Port Ewen (90.5W): This site consists of a park area with playground equipment and basketball court, as well as a boat ramp and public beach (currently closed to swimming). DOS' significant tidal Habitats list maps the area as "fair quality habitat". The most significant obstacle is the water chestnut vegetation encroaching on the swimming area. The Park has acquired harvesting machinery for aquatic weeds operated by boat club volunteers. The hard, spiked water chestnut seeds are also a problem, as they float onto beaches and are painful if stepped on.

A field check on 23 June 2000 clearly shows the water chestnut encroachment. Plant removal by various means is being implemented. This small park offers good use and has other existing advantages. If a program can be implemented for the control of nuisance invasive aquatic plants, then this would be a prime site for future implementation.

*To improve this beach:* The primary problem is the ability to control the water chestnuts.

Mills - Norrie State Park (87E): Swimming has been a missing attraction at this park and campground. While swimming is not permitted, many people swim at various locations off of shoreline trail. Some sites are reported to be shallow near shore, however navigation charts show very deep (up to 84 ft.) near shore drop-offs. DOS' Significant Tidal Habitats maps show all of the area in this northern bay to be in the Vanderburg Cove and Shallows area, listed as possible shortnose sturgeon feeding grounds during migration and habitat for the sharpwinged monkey flower.

On 18 May 2000, OPRHP staff and consultants (IV and DMG) field checked picnic access point location. A steep, eroded shoreline of massive rip-rap (composed in part of jagged scrap concrete) is being re-arranged by the current and or ice flows. Some of the shoreline shows undercutting by the river. Norrie Point was also observed it was found to have muddy, - unsuitable soils and sediment. In addition, at least a foot of muck was measured near shore, a condition that probably extends further out from the shore as well.

Field observations of Mills Cove and the Huntington property Mills' coves and shoreline in between conducted on 21 June. An interested swimmer was contacted, and indicated there was a sand bay bottom, but also a water chestnut problem. Four small beach sites located in these three coves, from S to N indicated the following:

a) A beach running E-W, facing north (Site A), near former groundskeeper's cottage had a 150-ft x 15-ft beach, possibilities for extension inland up to gravel road. Signs of erosion and future tree loss; some of the beach will be visible from Mills Mansion. Limited parking is 600 ft + away. Good slope.

b) A 175-ft x 25-ft beach (Site B) exists at the most northern end of the Mills shoreline. Good slope, facing west. Exposure good protected from S and N winds and waves. An old stone wall, probably considered as contributing to the historic site, has been replaced with gabions; moving this segment of the wall back another 25 feet and adding ramps would add considerably to the beach potentials. Parking with the possibility of expansion is approximately 400 ft away. A small comfort station exists on site, as well as a picnic shelter. This is probably the best site at the existing Mills Norrie SP.

c) The next bay to the north is probably somewhat better than site b, discussed above. A private property encumbered by an easement but with no public access is located adjacent to the Mills SP site. A 200-ft + x 35-ft, west facing beach with excellent slope is located on this property, with good exposure and sand quality. A steep eroding sand bluff and the remnants of a stone wall is behind the beach. Boat access is good, but without control of uplands, getting pedestrians to the shoreline is not possible.

d) Scenic Hudson's recently acquired property's beach was the last examined. A west facing 150-ft x 35-ft beach backed by a 6 ft to 10 ft bluff could provide opportunities for upland access, should the RR crossing be resolved. Scenic qualities of this site are excellent. Unfortunately, the bay traps near silt sized floating debris piled up along the tide lines. This will likely remain a persistent problem with this bay.

Underwater survey and review of design options with Historic Preservation input is still needed for the selected bay / beach for future work.

*To make this site a beach:* The best potential location for a beach on this property are the small sheltered beaches near the Mansion. An entrance ramp to the beach and the restoration and creation of infrastructure will be needed to create a beach at this site.

Black Creek Forest Preserve (84W): This site is a 130-acre nature preserve owned and managed by Scenic Hudson. Scenic Hudson staff suggested a site visit. Two small beaches are on this site, located along the Hudson River Trail loop. These sites are nearly a mile from a parking lot located near 9W. The trail to the site is interesting but rough, with notable elevation changes. The better beach of the two is in a shallow bay, 120-ft x 30-ft of small rocks (1-in + broken shale). A "no swimming" sign is posted. The condition, remote location, and access problems of these beaches negate public swimming program potentials at this site. Discussions with Scenic Hudson staff indicate that their interests in the adjoining property to the north may change this access situation at some future time.

Bard Rock (83E): This Vanderbilt National Historic Site is mentioned by some 2000 survey respondents. There is no provision for swimming, and the 1986 survey lists the property on the

river side of railroad ROW as a steep, rocky 15 acre outcrop with a steep, scenic shoreline. Bolles Point is also mentioned as a private property just north of Vanderbilt, with probably similar shoreline characteristics as Bard Rock. A steep drop off to 53 ft and 60 ft are indicated just off shore of these points on the navigation charts. National Park Service may be asked to review the potential of these properties.

Hudson Psychiatric Center (HPC) (78E): This site includes about 6 acres on waterfront, containing a former water treatment plant and boat access site and other structures. The property is now being declared surplus, probably to OPRHP, with Town operation. The Town of Poughkeepsie has a park development proposal pertaining to this property in their Local Waterfront Revitalization Plan. Site characteristics include a constrained, one lane underpass access and limited riverfront land, several structures on land, cribbing and other water edge structures in need of repair. These issues make this a difficult site and shoreline for swimming facilities. Inspected during 1 June, unsuitable for beach uses. Additional information on this site can be found in the NYSDEC and OPRHP document “Conserving Open Space in New York State (1995).

Another desirable, but small beach is mentioned by survey respondents, located to the north of the HPC site, with an entrance behind the Brass Anchor restaurant. Reportedly this was the beach once used by the Roosevelt family. Water quality and beach quality are indicated as excellent, but site is small and private. No field review scheduled.

Marist College (77E): The college has a 6.5 acre waterfront segment of their property. It was noted as eroding in the 1986 survey. Uses include a pump house, and boathouse docks. Some swimming is noted in the 2000 survey, probably off the dock; not a good prospect for a public swimming site.

Poughkeepsie – Waryas Park (76E): This is a well-developed and used park on the Poughkeepsie waterfront. Located just north of Kaal Rock, the park has good road access, walkways and sidewalks, as well as access to bus and train service. A small pier can be used for fishing and small boats. Play areas, picnic facilities, comfort station, a concession stand and other amenities are located at the park. Unfortunately a riprap shoreline leads to deep water, and signs of debris pinned amongst the rocks indicates a strong current. A beach would not survive at this site, nor at the next shoreline open space, the undeveloped De Laval property and abandoned wastewater plant site (south of the Mid Hudson Bridge). The former wastewater plant operator (now a PIPC staff member) remembers kids jumping in off piles, outcrops and rip-rap in this area and quickly landing up a few blocks down-current. If a River swimming facility was required to meet demands in this City, another solution such as a floating pool would be needed.

Poughkeepsie - Kaal Rock Park (75E): Kaal Rock Park is used for unauthorized swimming, but is too steep and unlikely for public swimming. Site inspection during 1 June indicated steep, riprap shoreline and signs of repaired erosion. Water current appears strong near shore. The former De Laval property, proposed for park and redevelopment together with a former sewerage plant has steep river edge rip - rap, former industrial uses also may pose some limits. Cruise boats also dock

in this area (south. of Mid Hudson Bridge) resulting in potential conflicts with swimming. Needs aside, suitable shoreline sites in Poughkeepsie may be unavailable for a beach.

Traprock (68W): Operational gravel quarry site with barge loading operations along the shoreline. Railroad tracks on rip-rap located along shore result in very limited potential for swimming facility development. Commercial vessel traffic would also preclude beach development.

Dennings Point State Park (60E): Access improvements are being advanced as a part of Beacon area plans by Beacon, Scenic Hudson and NYS OPRHP. Southern bay shoreline is shallow, with dense aquatic weeds, also a protected habitat. All of the Fishkill Creek marsh (the Dennings south bay) area is mapped as DOS' significant tidal Habitat as an important habitat for anadromous fish - for some reason nearly the entire peninsula is in this designation, including the upland slopes that drain in the other directions. The western shore of this peninsula is exposed to currents and ships' wakes. The north and northwest bay shoreline requires careful review. Shoreline dumping and deposition from historic brick factory waste makes it difficult to assess natural beach sand deposition and retention.

The consultant and OPRHP staff field checked these possibilities on 21 June. The western end of the peninsula has several very small (50 ft to 75 ft) exposed beaches with shallow upland dry beaches  $\pm$  5 ft. While a rope swing and other debris, as well as the 2000 survey indicate people occasionally use these sites, the area can only accommodate a few people. Handicapped access is impractical.

On the East Side of Dennings Point both of the bays to the north and south are considerably constrained by water chestnut and floating debris. The water also looks murky, perhaps indicating little flushing action.

The beaches on Dennings Point are not suitable for a public swimming site.

## **ORANGE and PUTNAM COUNTIES**

Water classification changes to "SB", reflecting seasonal changes in the location of the salt front. Swimming continues to be a permitted use up to NYC.

Central Hudson Property (Roseton and Danskammer Point Generating Stations) (65.5-66.5W): Two large electric generating stations recently purchased by Dynegy from Central Hudson Gas & Electric Corporation. Extensive commercial development with oil barges/vessels and coal barges/vessels making deliveries to the Roseton site. Current commercial site use, commercial maritime vessel traffic, and potential commercial site development preclude this from further consideration as a public swimming facility.

Eastern Harbor Marine (59.5W): Listed in the 1986 survey as an industrial property, of approximately 10 acres, with "good beaches". Site was evaluated on 19 September 2000. Site consists of several abandoned warehouses and commercial offices and a very large cleared area

between the warehouses and Hudson River shoreline that is currently used for parking and boat storage. There is very little current activity at the site. A well maintained boat launch ramp is located at the northern end of the property. Oil tanks are located north and south of the site and there are several commercial piers present in the immediate vicinity of the site. The shore zone consists of large rocks and cobble, with a concrete breakwall, extending along the entire property, that is in good condition.

Extensive commercial activity in the immediate vicinity of the property and unsuitable beach conditions preclude this site from further consideration as a swimming site.

Kowawese Unique Area at Plum Point (58W): Also called Sloop Hill, NYSDEC property, County Park (NYS acquired, managed by Orange County). A two-lane bridge over the railroad is a recent replacement. Existing site features include substantial gravel parking, a porto-john, a meeting room, fishing access, and car top boat launching. Two good natural beaches are located on either side of structure and man - made bay formerly used for a barge landing. The Northern beach is smaller and has a coarser stone / sand mix, but may have a little better water clarity. Initial inspection was conducted on 17 May 2000. Several people who were fishing at Plum Point and commented that they (or their "kids") would swim at the site if it were opened for that activity, and commented that their parents used to swim there. The site is within the NYSDOS' significant tidal Habitats list. Maps show the Moodna Creek shallows include the southern beach on Plum Point. Follow-up with County is necessary.

On 7 June the consultants met with County staff on site. Water conditions tested OK for swimming during routine tests. There is a demand for swimming; people at beach are kept out of the water with difficulty, especially when boaters swim just off shore. Demand may be beyond the capacity of the site and the configuration of the access turn from 9W. Town opposition is a potential obstacle. Newburgh is rebuilding a City pool nearby, which could be considered in meeting the needs of the community. The upland beach is narrow, about 10 ft during high tide. Concerns regarding the site's "unique" classification were also raised.

NYSDEC Regional Forester indicates that the Unit Management Plan for this "Unique Area" left the issue of a beach open, given water quality constraints at that time (NYSDEC 1998). Upland habitat and nearby wetlands do, however, pose constraints for any extensive development.

To make this site a beach: Access to the site would need to be expanded, and the addition of upland beach area would need to be considered. The significant habitat issue will also need to be examined.

Little Stony Point (55E): (Also called "Sandy Beach"). Part of the Hudson Highlands State Park, the traditional beach used by boaters is on northwest shore. There has been long term local interest for a public swimming facility for this property. A previous underwater survey indicated good slope and sand condition of the beach, with some debris that would require clean up. Some remnants of a rock quarry operation facility on the peninsula remain and may require review for upland safety. A bridge over the railroad was recently rebuilt, and a 40-car parking lot project on the East Side of the railroad is being advanced. The new bridge ramps are steep, requiring some

caution in the design of handicapped access and perhaps-other entrance arrangements. The consultant and OPRHP staff will field review these possibilities.

*To make this site a beach:* Engineering to provide handicap and other entrance facilities, and cleanup of underwater debris would need to be undertaken to create a beach at this location.

Constitution Island (53.5E): This site is owned by the U.S. Army and has constraints pertaining to Foundry Cove that will probably preclude the consideration of this site. In addition the site has a steep shoreline. The DOS' significant tidal Habitats list maps this entire Hudson shoreline (up to the south bay of Little Stony Point - above) as bald eagle winter feeding grounds and a possible nursery area for shortnose sturgeon.

## **ROCKLAND and WESTCHESTER COUNTIES**

Iona Island (45W): This site is PIPC property is separated from the mainland by a marsh next to Bear Mt. The southeast cove was mentioned in the 2000 swimming survey responses as an impromptu swimming site. The shipping channel is close by with rapid river flows characterizing this narrow section of the Hudson. There is also a steep drop - off after a very narrow beach. The island was used for a water trail landing, but not for swimming. The consultants and PIPC staff do not recommend the use of this site for swimming.

Verplanck (41E): The site is currently owned by Consolidated Edison utility company. It is a former quarry site, south of Indian Point power plant property (Con. Ed.). Most recent use included a striped bass hatchery (program suspended because of project re-evaluation), and the assembly and winter storage of the "Gunderboom" protecting the Lovett plant intakes (Southern Energy), located across the river (see: Lovett Generating Station Gunderboom Evaluation Program, 1999 LMS). Boaters and perhaps trespassers use this beach and have assembled a swimming dock (float) out of salvaged (or pilfered) Gunderboom parts. The beach area has excellent sand quality and near shore slope, with adequate property for park facilities. Depending on site configuration, there may be some access solutions to mitigate difficult access through the neighborhood that are posed by the existing entrance to the property. Photos were from visit to property related to Gunderboom deployment 1999. A survey of underwater slopes and conditions as well as water currents is necessary. Nearby water quality and river classification permits swimming.

A recent site review indicates the excellent potentials of this site and perhaps an adjacent property.

Properties located nearby to the south include steamboat landing, Harbor land, an easement from the Kolping Society and George's Island, Westchester County Park. While some of these other nearby properties also have potential, the Con Ed owned beach and property at Verplanck has much better potential.

*To make this site a beach:* The property would have to be purchased from Con Ed, infrastructure, and improved access would be necessary to create a beach at this site.

Stony Point State Historic Park (40W): This site was mentioned in several survey responses as an area used for swimming, but not noted by PIPC staff. Swimming would not be an easy addition to existing historic interpretation, considering limited parking, archeological sensitivity, etc. Access is through local residential development, then via a narrow bridge over RR. The 1986 survey indicates rocky steep slopes on peninsula, with good views toward “King’s Ferry at the northern cove. Haverstraw Bay is also mentioned in 1986 survey, accesses via shoreline from this property is a difficult and dangerous prospect, since many will walk along RR ROW. Grassy Point, to the south on this bay is also mentioned by a few in the 2000 swimming survey.

*Note: All of the sites below, through the discussion of Nyack Beach are on the DOS’s list of Significant Tidal Habitats as part of the Haverstraw Bay shortnose sturgeon wintering area.*

George's Island, Westchester Co. (39.5E): A Review of a potential beach area near the boat launch site was conducted on 12 June, 2000. Observations included rocky and eroded sections with remnants of wooden staving which were left after the shoreline retreated inland; indicating erosion due to wave action from the west. A sand beach would not survive at this site. Maps and Westchester County staff comments do not indicate other potential beach site at this location.

Oscawana, Westchester Co (39E): This site consists of a small section of land outside of railroad ROW. Consultation with county staff indicates limited beach potential. The 1986 survey indicates ± 9 acres on the riverside of railroad ROW, with a steep drop-off and scenic rock outcrops.

Riverfront Park (39W): This property was surveyed on 11 and 22 August 2000. A small Town park is located at the northeast corner of the peninsula. Use of the property is restricted to Stony Point residents. The shoreline within the park is a 200 ft. x 10 ft. sand beach, with a good slope and good north facing exposure. The adjoining east facing shore has a local street along the shore, which is protected by a low concrete seawall and several groins. The groins trapped sand beaches which are narrow, but three 200 ft. segments are of good quality. People who do not use the Town Park use these beaches. The east facing beaches can be linked to this park by abandoning a short segment of road and connecting traffic between River Road and Grassy Point Road, forming a one block triangle, consolidating parks and beaches at this point.

*To make this site a beach:* The site has a good beach and adequate space. It would need bathhouse and parking improvements as well as road realignment and beach infrastructure. Coordination with local government would also be necessary.

Rockland County Park (37.5W): A sizable property has been recently acquired by Rockland County in West Haverstraw. The property straddles a small tidal lake and includes considerable wetlands. Closed fences, roars, a communications tower and even an abandoned railroad spur exist on the property. The Haverstraw Marina is located to the north and the Bowline Point power plant to the south. Inlets, perhaps accommodating barges at one time, have abandoned sheet piling at their entrance.

The upland sections of this property indicate significant opportunities as well as environmental constraints. A broader planning effort should review how the existing, but abandoned infrastructure can be used, the best access solutions, and the uses that need to be accommodated as well as the sensitive natural areas associated with the property. The beach concepts can not be planned without this comprehensive approach.

The shoreline was examined at two locations, one approximately 500 ft. south of the Marina parking, and another on the riverside of the communications tower, approximately 1000 ft. north of the power plant boundary. The shore at both locations, and as far as could be observed, was a narrow beach with sand and brick remnants. Slopes were approximately 10%+. Upland floatstone and other debris were intertwined with thick vegetation and recently fallen trees. A clean area would be needed backing any beach, perhaps augmented by additional sand upland. The shoreline may be improved by raking the brick and debris into mini groins to help retain the sand. Underwater survey is necessary.

*To make this site a beach:* An overall engineering/planning design would be needed to determine the best way to use the existing infrastructure, create access solutions, and to clean up the back beach area of the property to create a beach at this site.

Bowline Point (37W): This site was mentioned as a swimming site in the 2000 swimming survey. Southern Energy staff indicate that the inner bay (part of power plant intake site) has a rubble and brick shoreline and is unsuitable for swimming, and probably dangerous. However, substantial parking, utilities and other development would be sufficient to support a beach at the site. The Village of Haverstraw has a popular park at the tip of the peninsula, with a small natural beach near an oil platform. A field survey of this site is needed to assess potentials. Contact with the municipality may follow.

*To make this site a beach:* A beach would need to be designed to support sand accumulation.

Croton-on-Hudson (Village Beach) (37E): Several properties mentioned as good riverfront potentials were located in Croton on the Hudson at the Bear Mountain public meeting. A pedestrian overpass crossing of the railroad and Route 9 connects to one of these properties, so pedestrians who are in the downtown area have good access. Vehicular access is more complicated. An at-grade crossing of several railroad tracks arrives at a shorefront road. Departure could be via a one-lane tunnel and one way street further to the south. The access route is difficult and confusing, with little space left for improvement.

The railroad crossing leads to the fenced in Croton Yacht Club. South of the railroad crossing is a small local park designated for residents only. A performance stage and a number of activities are offered. Sand was probably brought in to form a beach volleyball court. This gives the park a beach-like appearance. A short beach 120 ft. x 20 ft. is located next to the court, but at water level rocks and slippery algae is visible above water. Another 70 ft. x 20 ft. beach segment directly next to the adjoining marina's barge has a better sand surface but no back-beach space. Both of these small beaches would experience some conflict with the marina. Space upland is also limited.

North of the Yacht Club is open waterfront space paralleling a dirt strip used by the railroad crews, and a RR yard with numerous tracks and considerable activity. The shorefront green space stretches over a half mile at varying widths up to 300 ft. and consists of mixed conditions. The shoreline is protected by boulder-sized riprap, with deep water at the locations examined. At the one half mile point north of the yacht club, a small sandy bay with practically no water at low tide opens to the River through a narrow gap in the riprap. This outlet may have considerable flow on an outgoing tide. Though the shoreline park opportunities are apparent in this linear open space, these are not safe beach conditions.

Croton Point Westchester County Park (36E): The public beach is operated along the northwest shore of the peninsula. A large Park accommodating many activities has been developed as part of a planned re-use of an encapsulated solid waste site. The shorelines remained in good, natural condition, and are not constrained by this initial upland use. The property is located in a populous area, and within walking distance of the Metro-North railroad station. Fieldwork on 11 July 2000 indicated an excellent beach, with good operations potentials. The beach operating days are limited at this time however due to lifeguard shortages and perhaps other constraints. Constraints imposed by trained lifeguard availability in this region was also discussed by State, Taconic and PIPC staff; this issue may require a broader regional approach for long term resolution. Some organized groups use the beach facility in the off times, providing their own lifeguards.

One problem encountered at this site is that boaters come too close to the swimming area. A perimeter buoy line has been erected to prevent this but boats still get close and get entangled in the protective line. The protective line requires 600 ft. +/- of the shoreline, as compared to 250 ft. +/- of guarded beach. Another problem is floating debris. Tractors are not always available to pull raking equipment. Larger debris also floats in, and during the off-season sinks in the western corner of the beach-bay.

The most significant problem at Croton Point is the infrastructure supporting the beach. The bathhouse is more than 50 years old and requires considerable repair and upgrade. The concession building is mothballed, and the concessionaire operates from vehicles. Planning may be required for these facilities before extensive rehabilitation is undertaken.

*To improve this beach:* Improvements to this beach would include a mechanism to preventing boaters from encroaching on the swimming area, cleanup of floating debris, and repair and upgrade of the existing infrastructure.

Crawbuckie Park (36.5E): This 8 acre natural area is part of a local project involving a State grant, with limited beach potential. The site is very close to Croton Point, which is a large and excellent facility. Some unauthorized swimming has been reported at this site, and swimming was mentioned in 1986 survey.

Ossining, Louis H. Engel Jr. Park (32E): A small bay with a good quality sand beach 160 ft. x 20 ft. is located at the southern end of this small park and railroad station. Upland grassed area and a paved walkway narrow to a 30 ft. width between beach slope and a fence providing protection from a road paralleling the site. A small comfort station is located 300 ft. to the north in the park.

An historic prison guard tower exists to the south, and is to be opened as a tourist attraction, which will need to be coordinated with any beach activity. The small bay is shared with boat moorings and other boater services. Public beach operation potentials are marginal at such a narrow, constrained site. This evaluation does not answer one of the questions raised at the public meeting regarding what can be done regarding the unauthorized swimming presently occurring at this site. A wastewater plant is located approximately 300 ft. south of the beach, but the location of the point of discharge needs to be identified if this beach is considered.

*To make this site a beach:* Coordination with local boat traffic will need to occur to separate the boaters from the bathers. Expansion of the existing comfort station or the addition of a bathhouse in the small space available will require design and planning.

Nyack Beach State Park (30.5W): This is the southernmost, perhaps most accessible beach located along a six-mile strip of Hudson shoreline beaches which are under the jurisdiction of PIPC. In addition to Nyack, these include Haverstraw, Hook Mt., (also called Redstone Beach) Alpine (NJ), and Englewood (NJ). "Dutchtown" beach is mentioned as a large span used for swimming in the 1986 survey. Upland park areas parallel this shoreline and include two swimming pools at Rockland Lake State Park. Most of the other park areas include protected highlands, natural areas and trails along the mountainous extension of the Palisades "traprock" (basalt) escarpment. These linear parks have notable views of the River, with High Tor at 820 ft. and Hook Mt. at 730 ft. towering over the riverfront beaches; sometimes overlooking the river edge section of the properties. There is only limited connection between the upland and shorelines however; so one access point to be examined is from the Nyack street system, linking to a traditional small beach site. It is unclear why public swimming facilities were discontinued during the WWII era. DOS' mapped habitat areas end at the mid-Hook Mt. beach section. Water quality measurements, done by PIPC continued along these beaches until 1985, then were abandoned as a budgetary measure. Survey response indicates significant unauthorized swimming activities at these sites at this time.

PIPC staff and consultants will field check these sites on 20 June to review existing conditions. Entire linear park along Hudson was reviewed from the bike trail, with inspections at the following beaches:

a) Haverstraw Beach includes several beaches with good sand quality, a few boulders and other debris, lengths 150 ft. to 200 ft., but the section above high tide line is only about 25 ft. Good beach angle, with ship channel at some distance. Entrance parking limited, entrance through neighborhood and distance to beach area and down to beach sites (2 or more) is also a constraint. Upland back – up potential is limited, especially if flood prone area is a problem.

b) Rockland Lake sections; Parking at this upland site is good, but then a half mile walk down (and back up) from the river shoreline. Shoreline along former amusement park and day liner landing is rock and construction debris – not suitable. Approximately another half-mile further south are several narrow beaches approximately 150 ft. x 20 ft. Probably the best of these is formed by an exposed bedrock point with some picnicking use.

Capacity of site is very limited. An additional beach 300 ft. to the north is cut off and constrained by a steep bluff.

c) Nyack Beach; A shoreline retention wall placed in the 1930s probably caused the erosion of the narrow beach in front of the substantial WPA building at this site. The building contains comfort stations and a large meeting hall. Parking for 45 +/- spaces with access through local streets. Another closed, blacktop section is only partially used for picking. A remaining beach at the southern end of the property is 200-ft x 25-ft, but is least accessible to the support building. A private property further to the south includes another 100 ft. x 20 ft. beach section. Some reorganization of the southern black topped section of the Park and perhaps the elimination of the eroding retention wall in front of it may help bring back some beach conditions closer to the park building.

Programming discussions are needed with PIPC staff to indicate which site, if any, warrants a beach swimming program. An underwater survey and updated water quality analysis will be required for any selected site(s). No clear best proposal is immediately apparent for these popular, but officially closed swimming sites (as shown by the 2000 survey).

*To make this site a beach:* The stone walls put in place in the 1930s will need to be removed (approximately 200 ft. of wall) and fresh sand brought in to create a larger beach area that will continue to collect sand. Some infrastructure will need to be expanded/added to support the creation of beach at this site.

Nyack Memorial Park (28.5W): A relatively small property including a baseball diamond, a boat ramp (possibly unused) and some shorefront amenities had been recommended for the construction of a new beach. Approximately 30 parking spaces are available within the existing park, however the municipality acquired the adjoining marina with added parking located to the north and separated from the park by a 70 ft open span of water. The proposed shoreline currently consists of rip – rap and a concrete boat launch ramp. No visible sand accumulation was observed at this shore. Several barges, some said to be all concrete, are sunk around a “harbor” located outboard of the park, but only segments of the superstructures of the sunk barges are visible, forming a navigational hazard. The bay to the south has a sand bar shaped by a stream outlet which parallels the park’s rip-rapped shore. Derelict pier structures, including piles and a remnant marine railway pose constraints, as do nearby residential units on the shoreline. The reconstruction of the “harbor”, a bridge to the marina property, and the development of a stable beach after the removal of the rip rap all present considerable impediments to a beach. Access to the park is said to be primarily via pedestrians; this may prove to be a constraint to groups travelling for an outing to the beach.

Kingsland Point County Park (28E): Scenic park located on the north side of the peninsula that was once the site of a GM plant. The park includes a 600 ft x 40 ft sand beach of high quality. Retaining walls and entrance ramps/stairs are of high quality stone, but the entire beach is fenced off from the Park by a chain–link fence. It is apparent that considerable effort is made to keep the public from entering and using this unguarded beach. A beautiful pavilion building, much in need of repair, once served this beach as a bathhouse. It is partially vacant and supports park

maintenance at this time. A modest sized operation and training program for sea kayaking and small craft sailing uses the pavilion and beach by permit. The park is popular for picnicking, its scenic views, and access by occasional scheduled tours to an historic lighthouse. Parking and access impose some constraints on this site.

There are opportunities to strongly support local, regional and State waterfront redevelopment programs and objectives by restoring swimming and upgrading the infrastructure and access to this County-operated park in the Village. It is opportune to link these initiatives to restore the closed deteriorated Pavilion, reclaim the beach for swimming and provide better vehicular and pedestrian access to major adjacent public and private recreation and economic redevelopment projects.

The Village is working on initiatives to enhance DeVries Park, which is separated from Kingsland on the West by the Metro-North line, and to restore and reopen the pedestrian bridge across the tracks. New park access from this area by pedestrians and vehicles, coupled with the park's upgrading, would strengthen the economic values and recreation benefits of people living and/or working in and those coming to the redeveloped GM site.

A restored Kingsland would be a major critical link in the Village's approved LWRP that proposes a waterfront promenade from the Southern end of the Village at the Tappan Zee Bridge, around the GM site anchored on the northern end of the Park.

*To make this site a beach:* This site may require sand restoration, and engineering to create a back-beach area. In addition, restoration and adaptive reuse of the old bathhouse and pavilion would be necessary to provide infrastructure needs and other development opportunities.

BA Beach, Tarrytown (26E): A beach located south of the Tappan Zee Bridge, and visible from the eastbound lane of the bridge was suggested by a citizen. The property was discussed with Village Mayor Paul Janos on 27 July, 2000. The property is only accessible by walking along the railroad. The charts and 1986 inventories do not show an upland property outboard of the railroad at this location. The upland on the east side of the railroad is steep and not available.

Piermont Pier (25W): Mentioned as a swimming site in survey responses. This property was determined to be inappropriate for a sanctioned river swimming site because of pier configuration and boat traffic on the north side and Piermont marsh on the south side.

Dobbs Ferry (23E): A small sandy beach area runs along the train station parking lot. The beach area is approximately 150 ft. x 10 ft., with a good slope, and sand quality. The site is backed by boulder sized rip rap and the parking lot for the railroad. A significant section of this lot would need to be removed to provide safe access and a back beach area. The resulting area would be limited, but not impossible to develop. A safe ramp entry from the top of the rip rap protected area would also be needed. Recreational parking is located at the far end of the train station parking lot.

*To make this site a beach:* The deep mud and clay sediments found off of this beach make a successful swimming program unlikely. Additionally, a back beach area would need to be created, resulting in the removal of approximately 20 commuter parking spaces for the railroad station. Infrastructure and improved access would also be necessary to create a beach at this location.

## **NEW YORK CITY and YONKERS**

Shoreline configuration, the location of railroad, industry and major highways, near shore deep water, probable exposure to river currents, water classification and possibly limits necessitated by State and/or City Sanitary Codes appear to preclude beach potentials of existing shorelines in Yonkers, the Bronx and in Manhattan. Several sites mentioned as locations for swimming access are along the upper West Side of Manhattan. The sites mentioned are narrow and/or constrained, with poor shorelines, unsafe water depths, and current conditions for beach use. Piers and other sites that are not designed for swimming are also used on an occasional basis, as they have been for centuries. One NYC administrator who was consulted opined “they are only swimming from there – because that’s a place we don’t (can not) stop them”.

Other options in NYC and perhaps at other urban locations require the investigation of shoreline sites with limited or no natural beach potentials. It is likely that these additional options may include floating pools or beaches protected by a geotextile filter fabric (Gunderboom) barrier. Other optional sites in New York City and Yonkers are also possible.

Hudson River Park (3.5E): Review of the Hudson River Park project was undertaken on 7 September 2000. The May 20, 1998 Final Environmental Impact Statement (FEIS) as well as earlier plans were reviewed (Empire State Development Corporation (ESDC) 1998). Active recreation was proposed for piers 25, 26, 40, 42, 52/53, 60, 64, and 97. A “beach” was proposed at piers 52/53 and a pool was mentioned in the text pertaining to the pier 59 through 62 area. A pool has been constructed as a part of the “Sports Center”, a commercial enterprise at pier 60 (Chelsea Piers). This 25-yard, 6-lane pool is located on the pier and is used for lap swimming and exercise programs. In addition, some tests of swimming activities have taken place at pier 26.

The comments and responses documented in the FEIS also provided some pertinent information. One point made was that some non water-dependant projects are preferable upland, and that these upland sites would also be less expensive to build and operate. Either exposure of permanent floating structures was questioned regarding a floating bridge between piers 25 and 26. Water dependant activities as well as floating structures were also discussed. The issue of conflicting boat traffic was raised, and many statements and responses were made regarding access to the park.

Though the issue of swimming at this new Hudson River Park has been discussed in the press (i.e. NY Post Aug. 10, 1997; NY Times, August 24, 1997 and Aug. 18, 1997; and the Village Voice, Aug. 12, 1997), this activity received little mention in the comments and responses to the FEIS. Considering that the Pier 52 and 53 “beach” is shown in the plan and that at least one other

location is indicated for a pool, it can be assumed that this concept was not a controversial issue during the FEIS process.

The only area that had a near shore slope and configuration suggesting potentials for beach development were Piers 52 and 53, a location that was already recommended in the plan for this activity. The edge of Pier 53, facing north appeared to retain more sand and smaller sized materials than the south-facing Pier 52. This is probably due to the open fetch of wind and waves coming in from the south, and the less exposed Pier 53 area facing nearby piers to the north. The sun exposure is, however preferable toward the south. The upland configuration and the documentation regarding access also favored this site for the consideration of public swimming.

The Piers 52 and 53 and seven other piers designated for active recreation, as well as the bulkhead section between Piers 59 and 62, can all accommodate a floating pool, so long as the upland services and the tie-up facilities are designed to support this activity. Pier 42 is shown on plans as more narrow than the others listed above, so it's a less likely prospect for accommodating a floating pool. Pier 60 already had an indoor pool on the pier, and the other piers require considerable work, with or without the floating pool.

A review of NYC DEP map of outfalls (NY Harbor Water Quality Survey, NYCDEP, 1998, Figure 2) indicates that all of these locations are relatively close to one or more CSO overflows. All of the sites would therefore require practically the same process to protect the swimming area from occasional polluting discharges. The design and approval of the techniques protecting a floating pool or a beach would require similar precautions regardless of which pier(s) are designated for a floating pool or a beach. Dialog with the Hudson River Park Trust and NY City and State staff can therefore select the best project site(s) based on compatible on-pier or upland plans for the Park and it's environs. The potential for moving the floating pool allows for more than one site to be designed to accommodate this potential added activity. These locations should however be limited to those sites that suggest compatible upland activities and off-season uses for upland or on-pier facilities supporting a swimming facility.

*To make this site a beach:* Subsurface and upland beach materials would have to be constructed, possibly using geotechnic fabric. A boom (also of geotechnic fabric) would need to be installed as filtration to meet water quality standards. Another option for this site would be the installation of a floating pool or barge.

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