SECTION 6
FINDINGS

6.1 RESULTS OF SCREENING PROCESS

The Step II field survey, and the other relevant information reviewed, indicated that of the 17 new sites (the five existing sites were considered separately), five showed good potential for a swimming program at this time, and eight additional sites could be considered after some existing constraint was resolved (these sites are listed in Table 6-1 and discussed in detail in Section 6.3). The remaining four sites present substantial barriers to development. It was also clear that some locations would necessitate a proportionally greater effort and cost than other locations. Consequently, the 17 new sites and five existing public swimming facility sites were separated into four groups, as follows:

A) Potential Improvements to Existing Swimming Sites. These five sites were included in Part II of this study for the purpose of determining improvements that could be made to enhance existing conditions.

B) Feasible New Sites. Five sites were determined to be feasible as public swimming areas with no additional action (other than construction of a beach and related facilities, and the approval of the property owner). All five sites are publicly owned.

C) Potential New Sites Requiring Additional Action to Become Feasible. Eight sites require additional research and evaluation before these sites could be advanced for development.

D) Potential New Sites With Substantial Barriers to Development. These sites are unlikely to be advanced at this time because of: 1) constraints that require costly site development programs with unpredictable results, 2) proximity to sites that are considered preferable, or 3) site constraints that would preclude a swimming beach, unless considerable investment is made as a part of a comprehensive park plan.

6.2 ESTIMATED CONSTRUCTION AND OPERATION COSTS OF TYPICAL SWIMMING FACILITIES

Most of the swimming sites that are being considered along the Hudson River fit into a small or an intermediate sized swimming beach category. The natural beach limits are constraints at many of these sites and the needs in other areas suggest beaches in the 150 foot range, with a few locations with beaches of 300 feet or greater in length. Many of these beaches are limited in width as well. These beach size limits indicate the potential for small, or for those few areas where there are more extensive beaches as well as area needs, a medium sized facility.

To obtain a scale of magnitude and cost for these small and medium sized swimming facilities and operations, several model sites were reviewed for their construction and operation costs. A very small, private site was also reviewed for those few locally administered operations that may

Table 6-1a
Summary of Findings
Analysis of Existing and Potential Sites

A. Potential Improvements to Existing Sites (Does not include operating costs which will not change)

SITE NAME/LOCATION (North to South)	CAPACITY (persons/day)	COSTS (Construction)	INVESTMENT/ACTION NEEDED
Saugerties Village Park – Ulster County (located on Esopus Creek)	150	$125,000	Bathhouse rehabilitation
Ulster Landing County Park –Ulster County (Town of Ulster)	400	$150,000-$500,000	Beach restoration and protection
Kingston Point City Park – Ulster County (City of Kingston)	500	$500,000+	Bathhouse rehabilitation
Port Ewen Municipal Park – Ulster County (Town of Esopus) (not currently in operation)	150	Unknown	Water chestnut removal
Croton Point County Park – Westchester County (Village of Croton-on-Hudson)	700+	$600,000-$1,000,000	Bathhouse rehabilitation

Table 6-1b
Summary of Findings
Analysis of Existing and Potential Sites

B. Feasible New Sites

SITE NAME/LOCATION (North to South)	CAPACITY (persons/day)	COSTS (Construction/ Annual Operation)	INVESTMENT/ACTION NEEDED
Stuyvesant NYS OGS Property – Columbia County (Town of Stuyvesant)	300	$600,000/ $30,000	Parking, bathhouse, resolution of potential siting issues to complement other planned uses, site-specific analysis of water quality, sediment characteristics
Kowawese Unique Area at Plum Point, Orange County Park – Orange County (Town of New Windsor)	350	$825,000/ $40,000	Parking, bathhouse/comfort station, grading improvements, potential water chestnut maintenance, improved bicycle and pedestrian access, site-specific analysis of water quality, sediment characteristics
Riverfront Park – Rockland County (Town of Stony Point)	250	$500,000/ $30,000	Bathhouse, possible road relocation and parking, site-specific analysis of water quality, sediment characteristics
Rockland County Park – Rockland County (Town of Haverstraw)	600	$1,000,000/ $50,000	Beach improvement, bathhouse, access, potential land acquisition, Investigate potential wetlands issues, conduct site-specific analysis of water quality, sediment characteristics
Kingsland Point Westchester County Park – Westchester County (Village of Sleepy Hollow)	600	$2,500,000/ $50,000	Bathhouse restoration, beach replenishment, parking, site-specific analysis of water quality, sediment characteristics

Table 6-1c
Summary of Findings
Analysis of Existing and Potential Sites

C. Potential New Sites Requiring Additional Action to Become Feasible

SITE NAME/LOCATION (North to South)	CAPACITY (persons/day)	COSTS (Construction/ Annual Operation)	INVESTMENT/ACTION NEEDED
Henry Hudson Park –Albany County (Town of Bethlehem)	250	$500,000/ $40,000	State water quality classification change, land ownership determination, bathhouse, parking, site-specific analysis of water quality, sediment characteristics
Schodack Island State Park – Rensselaer County (Town of Schodack)	300	$500,000/ $30,000	State water quality classification currently Class C would need to be upgraded to Class B. Additional investment needed includes bathhouse construction, parking, site-specific analysis of water quality, sediment characteristics
Four Mile Point (private property) – Greene County (Town of Coxsackie)	150	$125,000/ $25,000	Land acquisition, parking, bathhouse, site-specific analysis of water quality, sediment characteristics, including ways to make parking compatible with adjacent Vosburgh Swamp habitat
Mills-Norrie State Park – Dutchess County (Town of Hyde Park)	300	$600,000/ $30,000	Further examine floating pool options at the “old town beach” in the Norrie section of the State park; further review park master plan and related policy issues for establishment of a beach within the historic core of the Mills section of the State Park; site-specific analysis of water quality, sediment characteristics

Table 6-1c (Cont'd)
Summary of Findings
Analysis of Existing and Potential Sites

C. Potential New Sites Requiring Additional Action to Become Feasible

SITE NAME/LOCATION (North to South)	CAPACITY (persons/day)	COSTS (Construction/ Annual Operation)	INVESTMENT/ACTION NEEDED
Little Stony Point State Park Property – Putnam County (Town of Philipstown)	300	$600,000/ $30,000	Complete park master plan; address constraints of parking and vehicle and handicapped access, possible scenic considerations; conduct a site-specific analysis of water quality, sediment characteristics
White Beach (Verplanck) (private property) – Westchester County (Town of Cortlandt)	300	$600,000/ $30,000	Land acquisition, bathhouse, parking, site-specific analysis of water quality, sediment characteristics
Nyack Beach State Park – Rockland County (Town of Clarkstown)	300	$500,000/ unknown	Development will include removal of existing sea wall, restoration of groin, restoration at slope and observation to see if beach restores as a result. If so, address bathhouse and parking and conduct a site-specific analysis of water quality, sediment characteristics. Additional capital investment will be required for bathhouse and parking.
Hudson River Park – New York County (Borough of Manhattan)	unknown	unknown	Research geotextile fabric applicability for public beach; research floating pool potential; site specific analysis of water quality, sediment characteristics

Table 6-1d
Summary of Findings
Analysis of Existing and Potential Sites

D. Potential New Sites with Substantial Barriers to Development

SITE NAME/LOCATION (North to South)	CAPACITY (persons/day)	COSTS (Construction/ Annual Operation)	INVESTMENT/ACTION NEEDED
Bristol Beach State Park – Ulster County (Town of Saugerties)	unknown	unknown	Soil conditions, wetlands, sand retention
Bowline Point Town Park – Rockland County (Town of Haverstraw)	unknown	unknown	Close proximity to fuel off-loading pier
Ossining, Louis Engel Park – Westchester County (Town of Ossining)	unknown	unknown	Small size, water quality, no available parking, proximity of wastewater treatment plant
Dobbs Ferry Village Waterfront Park and Wickers Creek – Westchester County (Village of Dobbs Ferry)	unknown	unknown	Minimal upland area for support infrastructure, unsuitable subsurface conditions (strong currents at Wickers Creek); lack of access

fit into the “mini-site” category. The design of recreational facilities is guided by how many people can be accommodated. Beaches and pools can be represented by the number of people found at a site on the afternoon of the design day, often the 10th highest weekend day. This number is called the "instant population" accommodated by the site. Other times of the day or less popular days are then easily accommodated, while a few really crowded afternoons may exceed this number and necessitate turning away people or pre-scheduling the use to accommodate the pool or beach limitations. The costs associated with these sites summarized for scale of magnitude cost comparisons, are presented below:

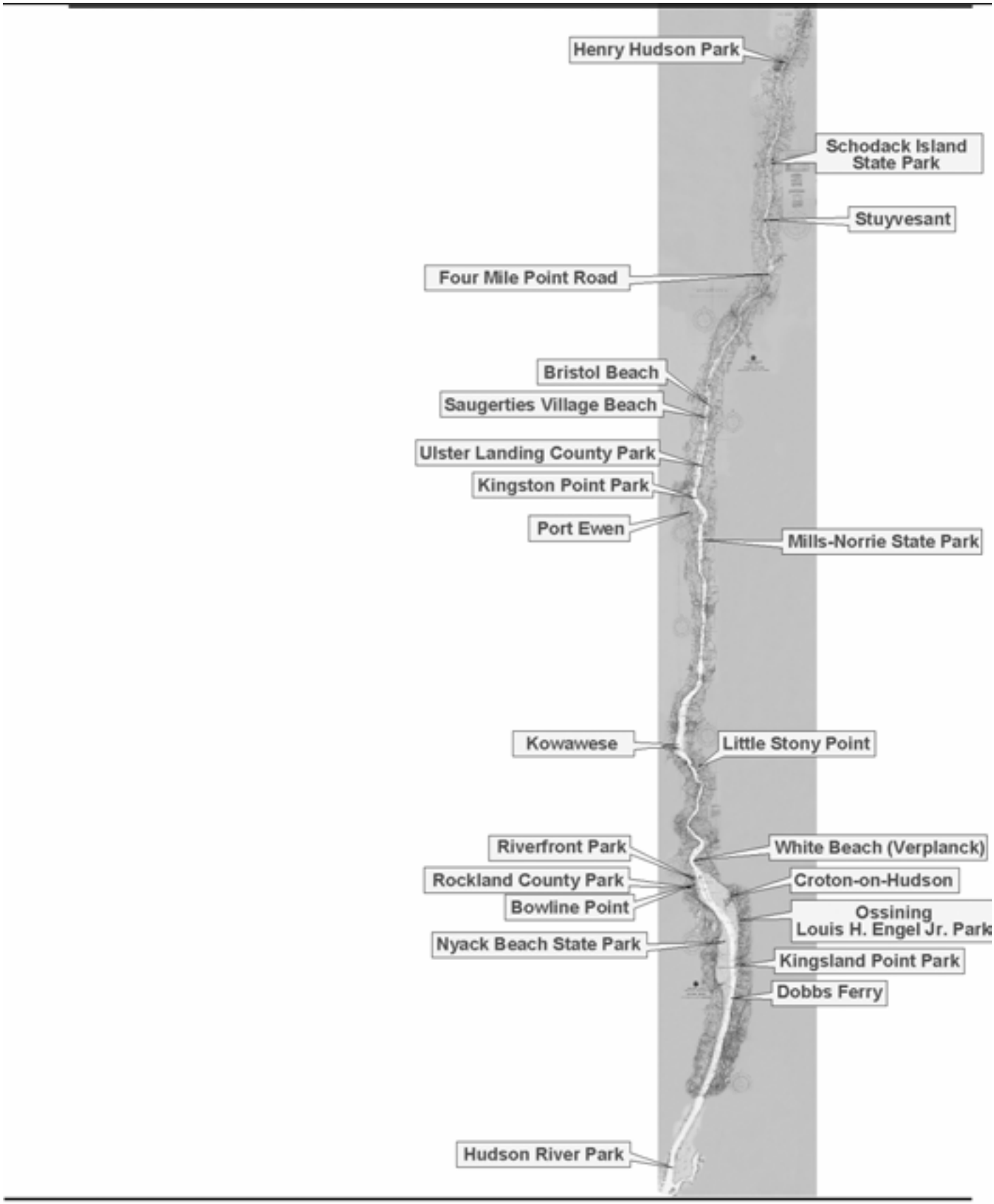
Mini site
120 foot beach, private or special condition use operations.
Instant beach population: 50
Design day population: 150
Facility construction cost: $125,000
Operations costs: $25,000 / year

Small Public Hudson Swimming Site
150 foot beach, full public use.
Instant beach population: 100
Design day population: 300
Facility construction cost: $600,000+
Operations costs: $30,000+ / year

Medium Sized Hudson Swimming Site
Two adjoining beach areas, total length 300 feet
Instant beach population: 200
Design day population: 600
Facility construction cost: $1,000,000+
Operations costs: $50,000+ / year

6.3 SWIMMING SITES FEASIBLE FOR DEVELOPMENT

The Step II screening process resulted in four categories of sites, those that are most suited for development in the near future, those that are potential sites for future development depending on variables such as improved water quality, sites with substantial barriers to development, and those sites that are currently in operation. A listing of these sites can be found in Table 6-1 and on Figure 6-1. Table 6-1 presents a summary of the proposed or existing facility site modifications needed. A more detailed discussion of each site can be found starting in Section 6.3.1. The following discussion of each of these sites includes a brief summary of the site’s attributes, a figure depicting the site, a suggested site development plan, and site photos.



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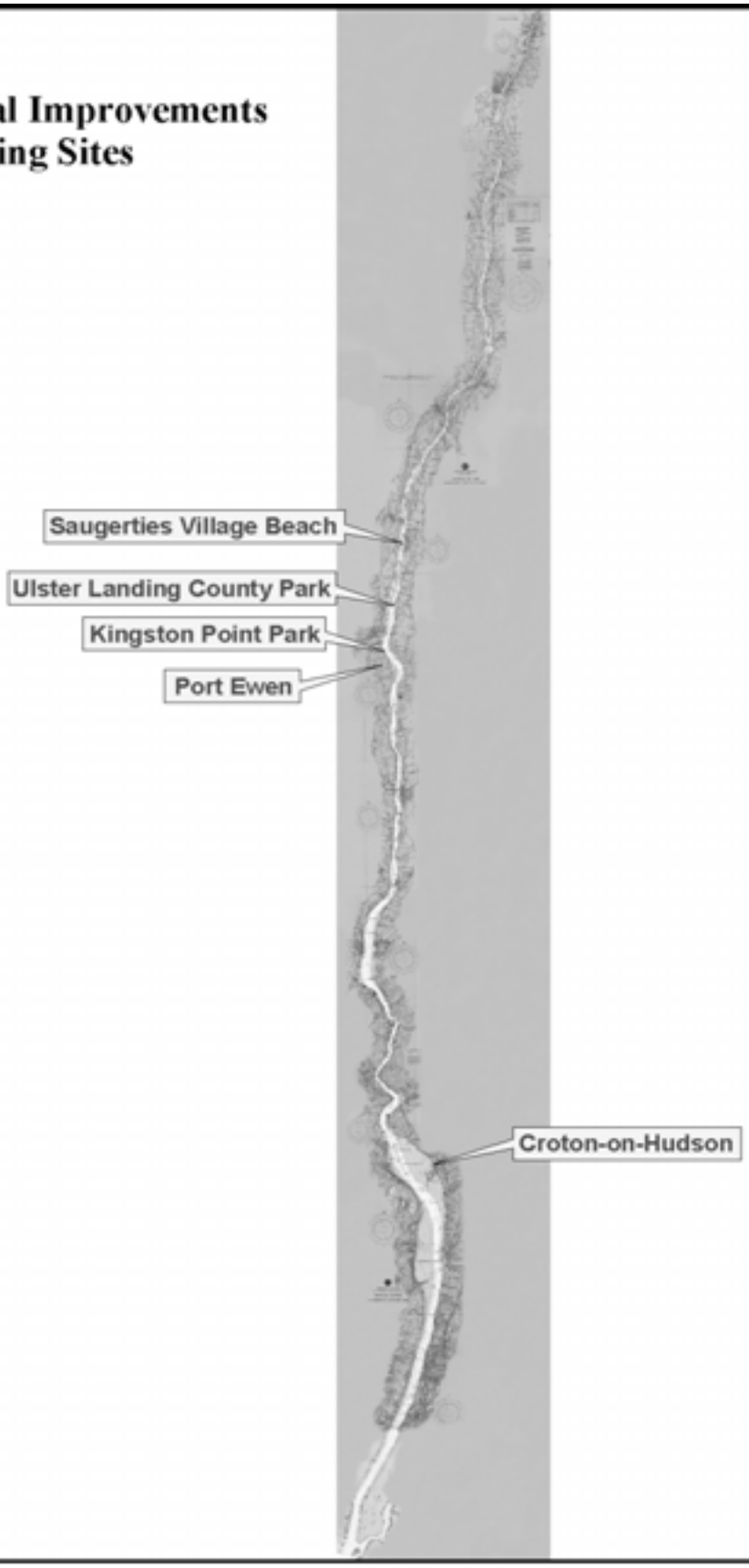
Locations of Potential Swimming Facility Sites Evaluated Under Step II
HUDSON RIVER BEACHES

Figure 6-1

6.3.1. Category A: Potential Improvements to Existing Sites



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Hudson River Beach Sites Under Review
HUDSON RIVER BEACHES

Figure 6-2

6.3.1 Category A: Potential Improvements to Existing Swimming Sites

SAUGERTIES VILLAGE BEACH

Village of Saugerties

Ulster County

River Mile 102.5

Ownership: Village of Saugerties

***This analysis is offered to guide potential development of a beach if the site owner wishes to pursue it. No action will be taken by the State of New York to develop swimming at this site without the consent and support of the site owner.**

Beach Conditions: The Village of Saugerties has a small and popular park and beach on a tributary to the Hudson, the Esopus Creek, only a few hundred feet West of the tidal river. The beach, located two blocks from the Village center, is a logical destination, especially for youth, who can walk or bicycle to the facility from home. It is a guarded beach, with a small, old bathhouse and a designated sand beach, with a roped swimming enclosure with floating docks. Access is from Route 9W and from local streets. While parking at the site can only accommodate approximately 30 cars, local street parking can provide for overflow. Family groups use the park on weekends and senior citizens frequent the Park, to enjoy the outdoors and to watch children at play. The facility is ideally located to provide an important community service.

A small impoundment is created by a dam on the Esopus Creek, which keeps the water level constant, though Creek currents maintain good water circulation. Sand, augmented by occasional replenishment provides a good beach surface. Slopes are moderate, marked as 9 feet to 12 feet depths, though no diving is permitted from floats anchored approximately 125 feet off shore. There is one lifeguard station at this "one-bay" beach. No entrance control is provided at this small Park. Those learning to use small, non-motorized boats also use the park in the off-season and to access the Creek by canoe and kayak.

Village representatives indicate that there is an occasional weed control problem, though this condition was not observed at the time of this study. What was apparent, however, is that the Park's bathhouse will require rehabilitation in the near future, to keep the facility operating. Additionally, the bathhouse and some of the other facilities could use cosmetic improvements and nearby landscaping to increase the overall attractiveness of the Park, which is located at the South entrance to downtown. Additionally, the impromptu parking off Route 9W could be redesigned so that the use of these few spaces will not contribute to traffic problems along this busy route. Angle parking that can only be entered in a southbound direction may be a solution for this road front section of the Park.

Facility Budget Estimate: The cost of refurbishing this site has not been evaluated, but would include upgrading the bathhouse, landscaping, and parking improvements. Construction costs were estimated to be $125,000.

Tides, Currents, Waves and Wakes. This beach is on a small, controlled segment of the Esopus Creek tributary; consequently waves and currents are not of concern at this site.

ULSTER LANDING COUNTY PARK

Town of Ulster

Ulster County

River Mile 97

Ownership: Ulster County

***This analysis is offered to guide potential development of a beach if the site owner wishes to pursue it. No action will be taken by the State of New York to develop swimming at this site without the consent and support of the site owner.**

Beach Conditions: The beach is located on clean sands from dredged material placement on this shore several decades ago. The Ship Channel, the Barrytown Navigation Reach, is located only approximately 500 feet off shore, so wakes have important effects on the beach. The lifeguards take special notice of ships and barges that can create unusual wave action, and may even ask small children to come nearer to shore on the infrequent occasion when this creates a temporary risk. Large, long period, waves caused by larger ships erode sections of the shore and can move debris on to the beach, which must be periodically cleaned. In contrast, the wave washed beach looks clean and inviting, free of silts and mud.

The beach is served by a well-designed, small bathhouse, comfort station and lifeguard office building. This structure is also well placed to support other activities in the Park. The swimming area has only one bay designated by lemon-lines, and protected from three lifeguard stations. The sand has a gradual slope providing a deeper swimming area, with ample, gradual shallow sections, as well as upland areas that can be used for sunning, volleyball, and other activities.

A row of very popular parking places along the shoreline road offers direct access to the picnic sites. These parking activities may have caused root compaction stressing the row of shoreline trees that provide shade for the picnic sites. This combined with erosion from the waves hitting the River shoreline may have contributed to shoreline retreat, beach loss and the loss of shade trees. Another potential problem exacerbating beach erosion may be a vertical wall constructed near shore to help retain the paved area and support facilities in front of the bathhouse. Engineering proposals have been solicited by the County to protect the

shoreline and row of shade trees. The consultants working with this study suggested further consideration of the recommendations received to date, to assure that the best measures are found to protect this important beach and shoreline. Staff from several agencies contacted during these initial efforts indicated an interest in providing help in solving this erosion problem.

The shoreline configuration, and near shore contours may offer more clues regarding the erosion problem and it's potential solutions. Significant shoals composed of fine-grained sand are located a few hundred feet to the north and to the south of the eroding beach and shoreline. This material may provide another clue regarding the erosion at the beach and may provide sand for replenishment if such action is indicated as needed, feasible and environmentally compatible.

Other Potential Site Uses: Located on Ulster Landing Road (County Route 37), a loop off of Route 9W, this large County Park offers exceptional views of the Hudson and a wide range of activities. The beach is one of the primary attractions of this Park, attracting residents and tourists to this section of the Hudson River. NYSDEC scenic Turkey Point property can be accessed directly from the trails heading north from the beach area. Picnickers are accommodated in a wooded section along the shore to the south of the beach, or at a group shelter to the north of the beach. Court games and other sports facilities are provided in the Park, as well as substantial parking facilities, located a few hundred feet inland from the beach. The park is also heavily used by boaters off-shore who enjoy swimming and by personal watercraft users (jet skiers) for launching.

Facility Budget Estimate: The cost of refurbishing this site has not been fully evaluated but would include erosion control and sand replenishment. Tentative costs for construction and rehabilitation are estimated to be $150,000-500,000.

Tides, Currents, Waves and Wakes. The site is open to currents and wakes from the not very distant ship channel, adding to erosion potential and requiring added vigilance for lifeguards. Wind from the north or south, and less so from the east, can add to occasional wave conditions. On the other hand water circulation is excellent. The channel current at Ulster Landing is 2.4 fps, maximum tidal range is 4.2 feet.

KINGSTON POINT BEACH

City of Kingston

Ulster County

River Mile 92

Ownership: City of Kingston

***This analysis is offered to guide potential development of a beach if the site owner wishes to pursue it. No action will be taken by the State of New York to develop swimming at this site without the consent and support of the site owner.**

Beach Conditions: A naturally occurring beach, located at the terminus of the original trolley system serving the City, this location was part of an amusement park that offered popular access to the Hudson River for residents and visitors. The spit of land serving as the north shore of the Rondout Creek and harbor, terminating in a lighthouse, traps sand brought downriver by littoral drift, to form this fine beach. Consequently the sand quality is excellent, and the beach is gradual, though a little shallow at low tide. Water chestnut seed pods and bricks are found in the sand. Grading and shifting of sand would help to avoid any hazards that might be created by their presence. The City of Kingston operates the public beach that has been traditionally used at this location since the nineteenth century.

A wide upland sand beach provides excellent areas for sunning and other beach activities, including the launching of sailboards in the off seasons. Two bays are provided for swimming, marked by lemon-lines, each protected by a lifeguard station. A short, heavy timber wall separates the end of the beach from a substantial, paved parking area west of the wall. A contact station, staffed in season, marks the end of Delaware Avenue, which also serves as the entrance road to the Park, and the abrupt beginning of the paved rectangular parking field serving the Park.

While Kingston Point Park features the beach as the centerpiece of Hudson Riverfront rejuvenation, the parking, bathhouse and its concession area, next to the beach indicate the need for update. The layout of the parking lot could be improved. The small building used as a contact station and parking lot entrance,

located at the western end of the parking lot, also needs improvement. The bathhouse interior shows signs of aging and heavy use. Improved services for the handicapped may also be advisable. These features may be updated at modest cost, but their improvements can change the marketable appearance of this major regional tourist destination.

Other Potential Site Uses: A considerable range of park facilities extends to the south of the beach and entrance road. In addition to swimming, the area is also heavily used for launching personal watercraft. Trails and a restored trolley service are linked to the other attractions of the Kingston Urban Cultural Park (a Statewide program for a few selected areas of great historic interest) is located a mile up the Rondout Creek, at the "Strand" section of the Harbor. Formal fields for field and court games are a popular part of this complex, but the Creek and Hudson shore sections of the Park are much more natural in appearance, lending a "greenway" section to the entrance to Kingston Harbor, a popular tour-boat attraction. Access to the historic Rondout lighthouse is also being improved within this scenic riverfront area. The potential of added "Hudson Greenway" shorefront or other scenic open space, located on adjoining lands to the north, may also further enhance these attractions in the future.

Facility Budget Estimate: The cost of refurbishing this site has not been fully evaluated, but would include refurbishing the bathhouse, parking and concession areas as well as improved handicapped accessibility at a cost of approximately $500,000.

Tides, Currents, Waves and Wakes. The bay formed by the Rondout Creek entrance provides an ideal beach location for this northeast-facing beach. It provides both good shelter and sufficient exposure to ensure circulation. Choppy waves caused by winds from the northeast can be experienced due to the width of the River at this location. The channel current at Kingston Point is 2.2 fps, maximum tidal range is 4.2 feet.

PORT EWEN

Town of Esopus

Ulster County

River Mile 90.5

Ownership: Town of Esopus

***This analysis is offered to guide potential development of a beach if the site owner wishes to pursue it. No action will be taken by the State of New York to develop swimming at this site without the consent and support of the site owner.**

Beach Conditions: The hamlet of Port Ewen, located south of Roudout Creek, has much of its Hudson River shoreline on a bay formed by the protective peninsula built at the mouth of the Creek and harbor. The bay is very shallow, with mud flats underlying only one foot of water one half mile from shore. Stable, fine-grained sand, black in color, forms a beach, with somewhat deeper offshore water near the end of Parsell Street.

Though a guarded swimming facility was open at this beach, water chestnut invaded the shallow bay, making operations difficult. Harvesting of the aquatic weed has been attempted, and is still being run by volunteers in an attempt to bring the bay back to its earlier condition. It is unclear if these harvesting operations will prove successful. The shallow, protected bay, nutrient rich sediments and the aggressive nature of water chestnut may be too difficult to surmount. Without control of the aquatic plant problems, it is unlikely that the swimming area can be opened again.

Other Potential Site Uses: A peninsula and protective works for a marina form the southern boundary of this beach. A small park was developed at this beach by the municipality, including a combination bathhouse comfort station, a concession building, fields and courts used for sports and games and a group picnic shelter. Shade trees, landscaping and the parking provided are simple, but suitable for the scale of operations at the Park.

Facility Budget Estimate: Costs for improving this site have not been evaluated due to the significant obstacles presented by the water chestnut.

Tides, Currents, Waves and Wakes. A wide, shallow bay formed by the Rondout Creek and its protective structures to the north and groins protecting a marina to the south, results in fewer waves, from all but the rare wind from the east. This enhanced sheltered position coupled with limited water circulation favors water chestnut growth. The channel current at Port Ewen is 2.2 fps, maximum tidal range is 4.2 feet.

CROTON POINT WESTCHESTER COUNTY PARK

Village of Croton-on-Hudson

Westchester County

River Mile 36

Ownership: Westchester County

***This analysis is offered to guide potential development of a beach if the site owner wishes to pursue it. No action will be taken by the State of New York to develop swimming at this site without the consent and support of the site owner.**

Beach Conditions: The beach faces north, and receives ebb-tidal littoral drift, forming a fine half mile long natural beach that extends well upland as well as underwater. The slopes of the beach are excellent. Water quality and currents at the beach location have not posed any problem during the past decade. Lemon-lines and a second set of warning lines designate two guarded beach sections and buoys have been established to keep small boats out of the swimming area. Non-powered boats are allowed to use sections of the beach outside of the swimming area and in the off-season. Water currents bring in floating debris that is periodically raked and removed. The availability of trained lifeguards and operating budgets has been a problem at this popular beach and at similar parks.

Park operations at Croton Point included a public beach during the mid-20th Century. A very large bathhouse complex and an architecturally interesting concession building served the patrons in this section of the Park. The bathhouse is still in use, supporting existing beach operations, but sections of the bathhouse building and the entire concession structure have been virtually abandoned. The open sections show significant deterioration and possibly vandalism. The entire Park operates out of a construction trailer.

It is apparent that the supporting buildings for this important park and beach must be fully evaluated. Modern practices, brought about by the use of quick-drying swimming suits have made some of these large bathhouse operations obsolete at other beaches. It is uncertain if this cinderblock building is worth rehabilitation with a number of uses being added to its bathhouse function, or if a smaller modern structure would be a better solution for the beach and Park. Other buildings and infrastructure in this area of the Park may also have to be evaluated for future uses.

Croton Point is possibly the most important beach on the Hudson River. It has had great popularity in the past, and is again gaining use with increased awareness of the River by the public. The condition of the beach support facilities, and perhaps other elements of the Park may require strategically important decisions that small increases in maintenance efforts may not be able to fully, or efficiently address.

Other Potential Site Uses: Croton Point has undergone a substantial change during the past three decades. The Park is located on a peninsula with spectacular views of one of the most scenic sections of the Hudson. The area was also the location of a solid waste disposal project operated during the mid-20th Century. This reclaimed site has become one of the most popular County Parks in the State. Located within walking distance from the Metro-North Commuter Railroad Station, and adjoining the Croton-on-the-Hudson exit of an expressway section of Route 9, the Park offers camping, athletic fields, a nature center, trails, and a spectacular beach. Croton point is also the venue for very popular festivals that attract many thousands of people.

Facility Budget Estimate: The cost of improving this site is estimated at $600,000 to $1,000,000 and would include bathhouse improvements.

Tides, Currents, Waves and Wakes. The Croton Point peninsula offers good shelter for this northeast-facing beach from a wide section of the Hudson open to the northwest. A point of land at the northwest corner of Croton Point protects the site from the wake of large vessels, however small boat traffic and wind from the northwest can occasionally cause choppy wave conditions. The channel current at Croton Point is 1.4 fps, maximum tidal range is 3.4 feet.