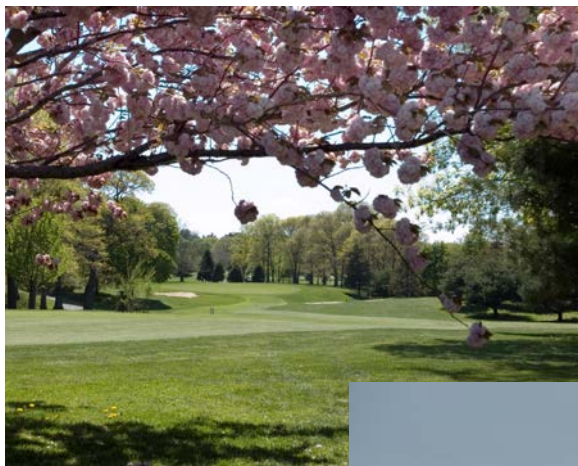


Final Master Plan/Final Environmental Impact Statement

For
Governor Alfred E. Smith/Sunken Meadow State Park
July 15, 2015



Andrew M. Cuomo
Governor

Rose Harvey
Commissioner

Office of Parks, Recreation and Historic
Preservation



SEQR NOTICE OF COMPLETION OF A FINAL EIS

Date of Notice: July 15, 2015

Lead Agency: New York State Office of Parks, Recreation and Historic Preservation (OPRHP)

Title of Action: **Adoption and Implementation of a Master Plan for Governor Alfred E. Smith/Sunken Meadow State Park**

SEQR Status: Type I

Location of Action: Governor Alfred E. Smith/Sunken Meadow State Park is located in the Town of Smithtown in Suffolk County, NY.

This Notice is issued pursuant to Part 617 of the implementing regulations pertaining to Article 8 (State Environmental Quality Review) of the Environmental Conservation Law. A Final Plan and Final Environmental Impact Statement (FEIS) on the proposed action has been prepared and accepted by OPRHP. The Executive Summary of the Master Plan and FEIS describes the proposed action, the environmental setting, alternatives, potential environmental impacts and mitigation and the agency's responses to comments on the Draft Plan/DEIS.

Agencies and the public are afforded the opportunity to consider the FEIS. This consideration period ends on **July 28, 2015**. Copies of the Final Plan/FEIS are available for review at the Park Office; at the offices of the agency contacts; and at and at Smithtown Library District – Smithtown Branch, 1 North Country Rd., Smithtown, NY 11787. The online version of the Master Plan/DEIS is available at the following publically accessible web site: <http://www.nysparks.com/inside-our-agency/master-plans.aspx>.

Agency Contacts:

Wayne Horsley
Regional Director
Long Island Region, NYS OPRHP
Regional Headquarters
625 Belmont Ave.
Babylon NY 11704
(631) 321-3402

Ron Rausch, Director
Environmental Management Bureau
NYS OPRHP
Albany, NY 12238
(518) 474-0409

Or E-mail Comments to: SunkenMeadow.plan@parks.ny.gov

Final Master Plan/
Final Environmental Impact Statement

for

*Governor Alfred E. Smith/Sunken Meadow
State Park*

Town of Smithtown, Suffolk County

Prepared by
The New York State Office of Parks, Recreation and
Historic Preservation

Completed: July 15, 2015

Contact: Wayne Horsley
Regional Director
NYS OPRHP Long Island Region
Regional Headquarters
625 Belmont Ave.
Babylon, NY 11704
Phone 631-321-3402

Ron Rausch, Director
Environmental Management Bureau
NYS OPRHP
Albany, NY 12238
(518) 474-0409

Email: SunkenMeadow.plan@parks.ny.gov

End of Consideration Period: July 28, 2015

This page intentionally left blank

Table of Contents

Table of Contents	v
Acknowledgements	ix
Executive Summary.....	xi
Chapter 1 – Introduction.....	21
Planning and Environmental Review.....	22
Sustainability.....	23
Chapter 2 – Park Background.....	26
The Region.....	26
The Park	28
Chapter 3: Environmental Setting.....	32
Recreational Resources/Activities	32
Scenic Resources	36
Physical Resources.....	36
Natural Resources	41
Cultural Resources	44
Emergency Plans and Services	46
Infrastructure.....	46
Operations and Maintenance.....	48
Chapter 4: Park Vision and Goals	50
Agency Mission Statement	50
Park Vision.....	50
Overall Park Goal	50
Resource Goals	50
Chapter 5: Analysis and Alternatives.....	58
Introduction.....	58
Analysis.....	58
Master Plan Alternatives	58
Selection of the Preferred Master Plan Alternative	58
Chapter 6: The Master Plan	60
Recreation Facility Development and Programs	60
Designations.....	66
Natural Resource Protection	66
Cultural Resource Protection	68
Scenic Resource Protection.....	69
Operations and Infrastructure	69
Implementation	74
Acquisition.....	76
Sustainability.....	76
Programs and Partnerships.....	78
Chapter 7 – Environmental Review.....	80
Introduction.....	80

Environmental Impacts of Alternatives	80
Environmental Impacts Associated with Implementation of Final Master Plan and Proposed Mitigation.....	81
Supplemental Environmental Review.....	88
Coastal Zone Management Program Consistency	89
References.....	110
Appendices	112

List of Figures

1. Vicinity Map
2. Dot Density Map
3. Adjacent Land Uses Map
4. Recreational Resources Map
5. Soil Drainage Map
6. Boundary and Topography Map
7. Slope Analysis Map
8. Soil Type Map
9. Surficial Geology Map
10. Water Resources Map
11. Ecological Communities Map
12. Significant Ecological Communities Map
13. Cultural Resources Map - A
14. Cultural Resources Map - B
15. Building Inventory Map
16. Golf Course Maintenance Area Alternatives Map
17. Parking Field 1 and 2 Alternative Map
18. Parking Field 1 Map
19. Parking Field 2 Map
20. Parking Field 4 Map
21. Parking Field 5 Alternative Map
22. Pedestrian Connections Map
23. Bird Conservation Area Designation Map

List of Tables

Table 1 - Priority Phases	xviii
Table 2 - Recreational Index of Needs for the Service Area of Sunken Meadow State Park	27
Table 3 - List of Invasive Plants, Animals and Invertebrates	42
Table 4 - Ecological Communities Observed in the Park.....	44
Table 5 - Parking Table.....	47
Table 6 - Priority Phases	75

List of Diagrams

Diagram 1 - Aquifers of Long Island.....	40
--	----

List of Appendices

- Appendix A – Analysis and Alternatives
- Appendix B – Park Chronology
- Appendix C – Plants of Governor Alfred E. Smith/Sunken Meadow State Park
- Appendix D – Birds of Governor Alfred E. Smith/Sunken Meadow State Park
- Appendix E – Animals of Governor Alfred E. Smith/Sunken Meadow State Park
- Appendix F – Cultural Resource Review - Categorical Exclusion
- Appendix G – Recreation Facilities Plan
- Appendix H – Infrastructure and Utilities
- Appendix I – 1928 Master Plan Map
- Appendix J – 1944 Development Plan
- Appendix K – 1950 Sunken Meadow Parkway Development Plan
- Appendix L – Trails Assessment Summary
- Appendix M – Trail Assessment - Northwest Section
- Appendix N – Trail Assessment - Northeast Section
- Appendix O – Trail Assessment - Southern Section
- Appendix P – New York State Bird Conservation Area Program Management Guidance
Summary

Acknowledgements

The Alfred E. Smith/Sunken Meadow State Park Final Master Plan/Final Environmental Impact statement is a result of a cooperative effort by many persons. The Office of Parks, Recreation and Historic Preservation (OPRHP) acknowledges the time and effort of each individual, public agency and interest group who participated in the development of the park and this Final Master Plan Document.

Rose Harvey

Commissioner

Tom Alworth

Deputy Commissioner for Natural Resources

Ronald Foley

Regional Director, Long Island Region (retired)

Wayne Horsley

Regional Director, Long Island Region

OPRHP Core Plan Team Members

Regional Staff

Miles Borden – *Volunteer*

Joseph Brodtman – *Assistant Manager*

Katherine Dunn – *Landscape Architect (former)*

Scott Fish – *Capital Facilities Manager*

Robert Guarino - *Acting Assistant Manager (former)*

John Kowalchuk – *Special Assistant to the Commissioner (retired)*

Jeff Mason – *Park Manager*

Bill Mausling – *Senior Landscape Architect*

Annie McIntyre – *Environmental Educator 2*

Ariana Newell - *Natural Resource Steward Biologist (former)*

Miriam Newman-Cruz - *Assistant Manager (retired)*

Albany Staff

Mark Hohengasser - *Park Planner*

Pam Otis –*Environmental Management Bureau Director (retired)*

Ron Rausch - *Environmental Management Bureau Director*

Master Plan Initiative Coordination

Diana Carter – *Planning Bureau Director*

Other OPRHP Staff Contributors

Nathaniel Krish, *Park and Recreation Aide*

Nancy Stoner, *Trails Planner(former)*

Other Contributors

David Flynn - *Smithtown Planning Department*

Executive Summary

Introduction

The Commissioner of the Office of Parks, Recreation and Historic Preservation (OPRHP) is proposing the action of adoption and implementation of a Master Plan for Governor Alfred E. Smith/Sunken Meadow State Park (Park). The Final Master Plan/Environmental Impact Statement (EIS) was written to provide the opportunity for individuals, organizations and other government agencies to participate in the development of a State Park.

A public scoping/information meeting was held on March 3, 2011 to gather information, concerns and issues surrounding the development and management of the Park.

The Commissioner has decided that a Master Plan/EIS is necessary to guide the management and development of the resources at the Park.

Park Background

Sunken Meadow State Park is a day use park, established in the Suffolk County Town of Smithtown. It was established in 1926 to serve the ever expanding population and recreational needs of New York City metropolitan area residents. The Park occupies 1,287.70 acres of land which provide significant opportunities for recreation, including three miles of shoreline access on the Long Island Sound (LIS).

The surrounding land use is comprised almost entirely of residential communities. In addition, Callahans Town Park is located on the western boundary and Nissequogue River State Park and Short Beach Town Park on the eastern boundary. The Park is open year-round and hosts up to 2.3 million people annually and up to 65,000 people daily on peak days. The main attractions at the park include picnicking, swimming beach, golf, relaxing in the park and trail use.

There are several groups that are working in the Park that study, protect and /or rehabilitate park wildlife and their habitat including the NYS Department of Environmental Conservation, the United States Fish and Wildlife Service, Hauppauge High School, The Long Island Sound Study and Sea Grant.

Environmental Setting

Since the creation of the Park, recreational resources have been a very significant component providing patrons opportunity to enjoy the beauty of Long Island. They include; a three-quarter mile long beachside boardwalk for walking and bicycling, 27 holes of golf with a driving range and putting green, 15 miles of trail that allows hiking and mountain biking and a bridle path for horseback riding, playgrounds and softball fields. Water access is available for kayak, canoe and paddle boarding and there are many open areas in the park for a wide variety of other recreational activities.

The Park is formed as part of the Harbor Hill moraine consisting of glacial till which contains unconsolidated sand, gravel, and boulders or “erratics” left behind during the two most recent glacial periods. The topography of the park varies from 5 to 200 feet above sea level. Areas along the shoreline range from flat along the beach, marshes and wetlands too steep along the sandy bluffs of the eastern and western shoreline. Inland, the topography is generally rolling with small peaks and valleys.

Water resources at the park are comprised of the LIS to the north, the spring fed Sunken Meadow Creek which flows directly through the park and includes a low salt marsh complex, and the Nissequogue River which outflows to the LIS at the eastern edge of the park. Each of these water resources offers plentiful opportunity for both recreation and wildlife habitat.

The flora within the park is typical of that found in Long Island's north shore ecosystems. Beachgrass (*Ammophila breviligulata*) is the dominant plant species in the dune areas, while the salt marsh is abundant with cordgrasses (*Spartina spp.*). Although the channel of Sunken Meadow Creek is dominated by large patches of the invasive species, Phragmites, there are some pockets of native plants persisting. Many other invasive species can be found throughout the park.

The fauna is also typical of that found on Long Island's north shore with the exception of Piping Plovers (*Charadrius melodus*) NY State endangered, federally threatened shorebird. Also utilizing the area as a nest site are Common tern (*Sterna hirundo*) and Least terns (*Sterna antillarum*) both NY State threatened colonial nesting birds.

Vision and Goals

Agency Mission Statement

The mission of Parks, Recreation and Historic Preservation is to provide safe and enjoyable recreational and interpretive opportunities for all New York State residents and visitors and to be responsible stewards of our valuable natural, historic and cultural resources.

Park Vision

Governor Alfred E. Smith/Sunken Meadow State Park will continue to be a place for visitors to enjoy recreational opportunities while, at the same time, affording visitors the chance to enjoy and appreciate the resources of Long Island's North Shore.

Overall Park Goal

To welcome more than 1.5 million people each year to enjoy family outings, picnic, play golf, swim, hike, run, bike, and learn from the natural and cultural resources of Governor Alfred E. Smith/Sunken Meadow State Park.

Other, more specific goals concerning individual park resources, access, maintenance, operations and development have been developed to provide clarity and guidance concerning the use and development of the park. These goals focus on preserving and protecting both the park resources and recreational opportunities while providing guidance and direction for the master plan. These detailed goals can be found in Chapter 4 of the Master Plan.

Analysis & Alternatives

The Master Plan presents a series of "preferred alternatives" for future development and operation of Sunken Meadow State Park. Cumulatively, the actions described below present OPRHP's long-term vision for the enhancement of the park.

The Master Plan

The Master Plan considers the historic, natural and recreational resources of the park and responds to recreational needs and safety of park patrons, protection of cultural and natural resources and

principles of sustainability. The plan sets forth a long-term vision to guide future development of new and enhanced park facilities. The initiation of each specific action will be determined by the level of funding available to OPRHP in future years. The items in the following list are more extensively described in Chapter 6 – The Master Plan. The alternatives and analysis used to arrive at these decisions are depicted in Appendix A – Alternatives and Analysis.

Recreation Facility Development and Programs

Swimming Beach - The swimming beach will remain as is. The guarded swimming opportunities will remain in their present location.

Picnicking - The East Orchard bathrooms will be rehabilitated. To address the need for additional picnicking, a portion of Parking Field 2 will be used to expand the adjacent picnic area. Shade/rain shelters will be constructed in this area for patron use.

Picnic Pavilions - The existing pavilion, located in the East Orchard Picnic Area will be placed on the reservation system. An additional pavilion will be constructed in the East/West Orchard Picnic Area for large group rental.

Kayaking/Canoeing/Paddle boarding/Windsurfing - To improve water access for park patrons and protect the surrounding maritime grassland habitat, changes will be made to improve and consolidate the access points for kayak/canoe/paddle boards on Sunken Meadow Creek. Windsurfing access to the Sound will remain unchanged with access provided to the Sound from the shoreline.

Scout Camping - Primitive group camping opportunities will be provided adjacent to Parking Field 5 to scouting groups wishing to use the park for park service projects.

SCUBA Diving - Areas of the park will be designated for SCUBA access providing additional opportunities for SCUBA diving.

Fishing - The current fishing opportunities along Sunken Meadow Creek and the shoreline will remain in place unless significant changes to fish habitat take place as a result of the Sunken Meadow Creek naturalization.

Fauna and Flora Observation - Education and interpretation will be provided at key locations throughout the park to assist patrons with flora and fauna identification and further their appreciation for wildlife.

Astronomy/Star Gazing - The use of existing facilities will remain an activity allowed by permit. The park will continue to allow evening access to patrons during certain astronomical events.

Model Airplanes - Opportunities will remain in Parking Field 2 during the off season by permit until development plans are implemented. Any further additional seasonal expansion will be considered at Nissequogue River State Park.

Softball - Operational demands at the park can not accommodate the expansion of softball. All maintained softball fields will continue to be maintained with improvements taking place in the near future. Softball fields that are not regularly maintained and other open areas will remain available for informal softball games and other activities.

Soccer - Undesignated soccer opportunities will be allowed in open grassy areas throughout the park. A designated soccer field will not be constructed in the park.

Disc Golf - A disc golf course will be allowed in the park if it is constructed and maintained by an outside organization and does not interfere with other activities in the park.

Mini Golf - Consideration will be given to the construction of a mini golf course to the northwest of the traffic circle if funding and staffing levels improve. Until that time, a mini golf will not be constructed in the park.

Golfing - Courses will continue to serve mid-level golfers. Improvements include rehabilitating and expanding the irrigation system, pave cart paths and service roads where needed, upgrade electrical system, expand golf cart storage area, install lightning in shelters, replace sand bunkers, and plant native trees suitable for a golf course.

Driving Range - To improve accessibility to the driving range, a plan will be developed to make the range more accessible to patrons with limited abilities.

Beach Volleyball - Volleyball will continue to be allowed on the beach. Patrons must provide their own equipment.

Motor Boat Launch - The motor boat launch at Nissequogue River State Park will be dredged and provide public access to the Sound. A motor boat launch will not be constructed in the park.

Spray Park - A spray park will be constructed for children in the West Orchard Picnic Area.

Kite Flying - The park will continue to allow patrons to fly kites year-round in Parking Field 2 when available, on the shoreline outside of the swim beach and on open grass areas in the picnic area.

Tennis Courts - Tennis courts will not be constructed in the park.

Cross Country Running Course - The cross country running course will remain in its present layout.

Bicycle and Pedestrian Access – Improvements will be made to the bicycle and pedestrian access opportunities from Sunken Meadow Parkway, Callahan’s Beach Park and to Route 25A.

Hiking and Mountain Biking - OPRHP will partner with local mountain biking and hiking groups to improve the trail system.

Equestrian Access - Equestrian use will remain on the Bridle Path and Parking Field 5 will remain the designated trailhead.

Dog Walking - On-leash dog walking opportunities will remain in their present location. Trail signage will be installed at access points identifying the trail conditions at each location.

Long Island Greenbelt Trail - The Greenbelt Trail will receive maintenance on portions identified as having erosion. Trail blazes will be placed along this trail to provide patrons with improved guidance and direction. Extension of this trail will be considered during the trail planning process.

Cross Country Skiing and Snowshoeing - Skiing and snowshoeing is allowed all trails in the park.

Trailheads and Trail Signage - A trail signage plan will be developed for the park. Intersections will be clearly marked, and trail blazes, and directional signage will be placed along all trails. The designated trailheads in the park will include Parking Fields 2 3, 4 and 5.

Pedestrian Connectivity - Connections to the surrounding communities are improved and the usage of non-motorized transportation to the park is encouraged. Connections to Callahan’s Beach Park, Nissequogue River State Park and Route 25A will be improved to allow pedestrians convenient access to the park. Connections will also be investigated to the Long Island Railroad station as well as the Long Island Expressway. Connections inside the park will also be improved including the connection between the golf course area and the Parking Field 3 area, and connecting Parking Field 4 with Old Dock Road.

Daybreak Area Trails - The trails located in the Daybreak Area will receive improvements including maintenance, layout and signage. Connections to the adjacent Callahan's Beach Park will be improved to encourage bicycle and pedestrian access from surrounding neighborhoods.

Kings Bluff Area Trails - The trails in the King's Bluff Area will be improved to meet sustainable OPRHP trail guidelines. OPRHP will coordinate with local trail groups to develop a maintenance plan for these trails and where needed, reroute trails with erosion. Efforts will be made to reduce the quantity of these access points and the associated erosion by closure, revegetation and education.

A multi-use pathway will be constructed to connect Old Dock Road to the Overlook Area in the park. This pathway will be a main pedestrian corridor which will provide a greater connection to Nissequogue River State Park and Kings Park.

South Trails - The trails in the southern portion of the park will be reevaluated by OPRHP and local trail groups to provide a sustainable, clearly organized trail network.

Designations

Bird Conservation Area (BCA) – To continue protecting bird habitat, a BCA will be created which encompasses much of the park that is undeveloped, portions of low development, and open areas conducive to birds such as in the golf course.

Natural Resource Protection

Shoreline Erosion - Shoreline protection and nourishment will continue during dredging operations in the Nissequogue River as material becomes available.

Sunken Meadow Creek – Tidal flow will remain for the entire creek. Efforts will be made to encourage naturalization after the former dike eroded as a result of Hurricane Sandy.

Sunken Meadow Creek Bank Protection - OPRHP will coordinate with the Town of Smithtown to explore the construction of a bank stabilization project previously developed for the Kings Park Bluff.

Stream Water Quality - Water quality in Sunken Meadow Creek will continue to be monitored. Best Management Practices to address stormwater runoff will be used on projects involving parking lot modifications or improvements. Integrated Pest Management (IPM) principles will continue to be followed at the golf course, using an environmentally conscious approach to the management of pests such as insects and weeds.

Wetlands - Wetland monitoring and protection will continue. OPRHP will encourage additional research projects and develop an interpretation and education program.

Invasive Species - An Invasive Species Management Plan will be developed for the park. In the meantime efforts will focus on spread prevention, as well as early detection and rapid removal of any new invasive species occurring in the park.

Fish and Wildlife Resources - OPRHP will continue to implement park policies concerning fish and wildlife. In addition management guidance will be followed to the greatest extent possible to preserve and enhance bird habitat within the BCA.

Rare and Endangered Species - OPRHP will continue to monitor and protect rare and endangered species by addressing patron and wildlife impacts. Education and interpretive programming will be improved to convey information to patrons. The management plan for rare and endangered species will be updated to include changes which have taken place in the park.

Cultural Resource Protection

Historic Resources - Structures that are eligible for the National Register of Historic Places (NRE) include the Main Bathhouse, the toll plaza and the Park Managers residence. OPRHP will coordinate with the State Historic Preservation Office (SHPO) to ensure the historic integrity, character or themes are kept upon designing and starting construction projects on these facilities.

Former Fish Hatchery Area - Park staff will reach out to local history groups to gain a greater understanding of what this area once was and its significance. Interpretive programming and signage may be developed to educate patrons depending on the information collected.

Archaeological Resources - Any proposed project that could result in ground disturbance and potentially affect the cultural resources of the park will require consultation with the Field Services Bureau to determine if a site-specific archeological survey is needed.

Education and Interpretation

The interpretative programming in the park will be improved to educate patrons of the many resources the park has to offer. Themes to be included are natural resources, cultural resources and the Sunken Meadow Creek naturalization process. Other themes may be included as the programming develops. Education and interpretation will be included in the Main Bathhouse improvements.

Scenic Resource Protection

Overlook Area - The overlook area, located to the east of East Orchard Picnic Area will receive selective pruning and removal of the trees to improve the view of the LIS.

Operations and Infrastructure

Main Bathhouse - The main bathhouse will be improved to meet the year-round demands at the park. Improvements include the following items;

- Reapportion space for the park office, Park Police office, life guard office and break room.
- Construct a visitor orientation/visitor center area.
- Improve restrooms, changing/shower area and outdoor lighting.
- Construct an education and interpretation area.
- Improve sewage system.
- Expand concession operation into the former concessions stand.
- Restore historic integrity of this National Register of Historic Places Eligible structure.

Park Maintenance Area - To improve the operation of the maintenance area, a plan will be developed which improves interior secure storage capacity, covered or enclosed storage for equipment, a salt/sand storage shed for winter supplies and an improved entranceway from Kohr Road for staff, deliveries and emergency vehicles to improve access to the park during times of heavy use.

Toll Plaza - The toll plaza will be replaced with a plaza which meets the needs of park staff, patrons and delivery vehicles.

East Concessions Building (Parking Field 3) - The concession building will be rehabilitated and a long term maintenance plan developed.

West Concessions Building (Parking Field 2) - A stairway will be constructed for event goers to access the beach.

Golf Course Maintenance Area - The golf course maintenance area will be relocated across Naples Ave near the golf course entrance. The current maintenance area will be used for golf activities and events.

Shade/Rain Shelters - Shade/Rain shelters will be provided at key locations in open picnic areas for people to use for picnicking. They will also be constructed adjacent to playgrounds for parents to use while supervising their children on the playground.

Boardwalk - Benches with backrests will be provided along the boardwalk through a memorial bench program. Aging waterlines will be replaced to reduce leakage and staff time maintaining the system. Low level, Dark Skies compliant lighting will be added to key areas of high use along the boardwalk.

Golf Course Roadway - To reduce vehicular and pedestrian conflict, a multi-use pathway will be developed between the roadway and the bluff to provide an area for pedestrian activity away from the golf course roadway.

Parking, Roads and Bridges

Parking Field 2 - The west portion of Parking Field 2 will be removed to expand the adjacent picnic area. Shade and rain shelters are constructed in this area and stormwater runoff issues are addressed. The northwest portion of the parking field will be separated by a landscaped buffer from the main area and designated for concession parking. Parking Field 2 will be open to patrons seasonally. Existing recreational uses taking place in this area will remain and should be coordinated through the park manager.

Parking Field 4 - Parking Field 4 will be designated as a trailhead.

Parking Field 5 - Parking Field will be improved to serve BOCES, Scouting groups and other patrons more effectively. This area will also continue to serve the Suffolk Water Authority wells and cellular phone tower.

Pavement and bridges - Parking Fields 2, 3, 4 and sections of the park roadways will be milled and repaved. The bridges over Route 25A and Sunken Meadow Creek will be rehabilitated. A new pedestrian bridge will be constructed adjacent to the Sunken Meadow Creek roadway bridge.

Utilities

Drinking Water - An investigation into the water system and potential leaks will take place. Replacement will take place as indicated by the investigation.

Wastewater - Wastewater systems for the main bathhouse and the East/ West Orchard Picnic Areas will be replaced.

Electric - The electric system throughout the park will be evaluated and upgraded as required. Permanent emergency generators will be provided for main facilities including the bathhouse, maintenance area, golf course irrigation system, and concession buildings as appropriate.

Outdoor Lighting - Low level, Dark Skies compliant lighting will be provided in areas of high use around the bathhouse/park office. Lighting will be installed in portions of Parking Field 1 adjacent to the bathhouse/park office and adjacent to the West Pavilion in Parking Field 2.

Cellular Phone Service – Additional cell phone carrier services will be considered for the cell phone tower in Parking Field 5.

Emergency Address System - An emergency address system will be installed at various high use locations throughout the park.

Stormwater Drainage - The stormwater system will be assessed and improved or cleaned where appropriate. Natural stormwater filtration will be considered during site designs throughout the park.

Landscaping - A planting plan will be developed for the park, consistent with OPRHP's Policy on Native Plants (<http://nysparks.com/inside-our-agency/documents/PolicyOnNativePlantPolicy.pdf>).

Implementation

The Master Plan sets forth OPRHP's vision for capital improvements and operational enhancements to Sunken Meadow State Park for the next ten to fifteen years. The agency has not developed detailed cost estimates for each of the proposed actions; however, cumulatively they will cost millions of dollars to implement. The pace and sequencing of recommended actions will be determined by the availability of funding, which is a function of the amount of OPRHP's annual capital budget and the need to balance investments throughout the entire State Park System. The master plan will be reviewed annually to select projects that will be added to the park's budget for implementation and to assess the progress of plan implementation.

The implementation of the Master Plan for the park is divided into three priority phases. The priority groupings described below are conceptual and subject to reorganization based on available funding and/or labor for specific components in any given group.

Table 1 - Priority Phases

Implementation Priorities	<u>Description/Development Component</u>
Immediate	Establish the Bird Conservation Area
Priority 1:	Continue Main Bathhouse improvements Golf Course rehabilitation/improvements Golf Course Maintenance Area construction Toll Plaza replacement Initiate the design of Parking Field 2 improvements Improve outdoor lighting East Orchard Picnic Area improvements Rehabilitate East Orchard restrooms Main Concessions Building Rehabilitation Roadway and parking lot repaving Reestablish pedestrian access over Sunken Meadow Creek Develop an emergency response grid map Designate trailheads Develop partnerships for trail planning, design and maintenance Develop a trail signage plan Develop a plan for Park Maintenance Area improvements Implement the Parking Field 2/Picnic Area plan

Golf Clubhouse renovation

Priority 2:

- Improve Park Maintenance Building/Area
- Install an emergency address system
- Spray park construction
- East Concessions Building rehabilitation
- SCUBA diving area designation
- Trail improvements/maintenance
- Dog walking area signage improvements
- Develop partnership for former Fish Hatchery Area research
- West Concessions Building beach access
- Develop educational programming
- Pedestrian Connectivity – Along Naples Ave
- Pedestrian Connectivity – To Nissequogue River State Park
- Pedestrian Connectivity – Along Parkway
- Develop an Invasive Species Management Plan
- Implement BCA management guidance
- Electrical system improvements
- Water system investigation

Priority 3:

- Scout Camping Area construction
- Driving Range accessibility improvements
- Replace East/West Orchard Picnic Area wastewater system
- Playground improvements
- Disc golf course construction
- Fishing access improvements
- Stormwater drainage improvements
- Parking Field 5 improvements
- Kayaking/canoeing/paddle boarding/windsurfing launch improvements
- Shoreline stabilization
- Continue educational programming
- Continue trail improvements/maintenance
- Develop a plan to improve multimodal connections
- Park landscaping improvements
- Prune Overlook Area

Environmental Impacts

The master plan for Governor Alfred E. Smith/Sunken Meadow State Park seeks to offer improvements to existing natural resource protection strategies and recreation development while delivering additional protection of sensitive natural resources within the park. Planning for new facilities in the park reflects this, and the proposed location of new or expanded facilities avoids sensitive resources to the extent practicable. The implementation of the master plan will have some negative and positive impacts to natural upland, wetland, aquatic, scenic, and other resources. All negative impacts will be mitigated through design and management techniques.

Chapter 1 – Introduction

The New York State Office of Parks, Recreation and Historic Preservation (OPRHP) administers over 200 state parks and historic sites encompassing more than 330,000 acres of parkland. Under Section 3.02 of the Parks, Recreation & Historic Preservation Law, OPRHP is directed “...to conserve, protect and enhance the natural, ecological, historic, cultural and recreational resources contained therein and to provide for the public enjoyment of and access to these resources in a manner which will protect them for future generations.” Master planning is a critical element in the process to meet the substantial responsibilities to provide recreation while at the same time protecting and interpreting resources. The Master Plan process explores the parks’ or sites’ existing physical, natural, cultural, recreational and structural resources. It evaluates the condition of these resources to provide recreation and interpretive opportunities within healthy and productive environments. The process calls for the development and consideration of alternatives that enhance the stewardship of natural, cultural and historic resources and improve the recreational opportunities and experiences offered at the park. The master plan is the preferred selection of alternatives that best meet OPRHP’s mission and the vision for the park or site.

OPRHP has determined that the preparation of a master plan for Sunken Meadow State Park will further its mission to provide safe and enjoyable recreational and interpretive opportunities for all New York State residents and visitors and to be responsible stewards of our valuable natural, historic and cultural resources.

Establishment of the park

Many of the Long Island State Parks were established to serve the ever expanding population and recreational needs of New York City metropolitan area residents. Long Island provided significant opportunities for recreation and provided vast areas for shoreline access.

Governor Alfred E. Smith/Sunken Meadow State Park was formed with the acquisition of 200 acres, in 1926, from the late George and Antoinette Lamb. In 1928, the State purchased an additional 2,000 feet of beach frontage. The town of Smithtown also conveyed approximately 400 feet of beach front to the State. In 1931, the park acreage increased to 500 acres and significant improvements were made to the park facilities. From 1931 through the late 1950s, smaller parcels of land adjacent to the park were purchased. Sizeable acquisitions ceased until 1960 with the purchase of approximately 300 acres for three golf courses and a driving range. The majority of this land was from the acquisition of two large estates. Since that time, several other smaller parcels have been acquired for a total of 1,287.70 acres of land and over two and a half miles of shoreline. See Appendix B - Park Chronology for more information.

Planning that has been done in the past

A comprehensive plan for a Long Island Park Region was developed with the State Park Plan of 1924. The plan identified key information about the geography and demography of Long Island, noting its proximity to the New York City metropolitan area. The Long Island park plan was very ambitious and recommended significant public access to the shoreline and increased recreational opportunities. Up to this point, many parks and recreational opportunities on Long Island were reserved solely for local resident use. After the initial plan for the Long Island park region, the Long Island Park Commission began purchasing land for the development of State Parks.

After the initial acquisition of land for Sunken Meadow in 1926, a plan was developed for the park. This plan included picnic areas, a camping area, a playground, a parking area and beach access via a boardwalk across Sunken Meadow Creek. In 1928, a second plan was developed showing the

proposed Sunken Meadow Parkway extension and causeway across Sunken Meadow Creek to a new and significantly larger parking lot adjacent to the beach (Appendix H). Throughout the 1930s and 1940s, automobile and roadway improvements enhanced patron access to the park increasing the need for expansion of park facilities and planning efforts. In 1950s, a third plan was developed showing significant expansion to the park facilities (Appendix I). This plan laid out much of the general framework for what is seen today (NHT, 1975). Planning and design efforts occurred regularly in an attempt to keep up with patron interests and their sheer volume. Since that time, other planning efforts have been undertaken for the expansion or improvement of specific areas of the park including the golf course and driving range which was completed in 1963. In 2012, a Recreation Facility Plan was developed by Cashin and Associates P.C. that addresses many of the recreational components in the park. Recommendations from that plan have been incorporated into the master plan.

Until the completion of this document, a comprehensive master plan which takes into consideration natural, cultural and recreational resources had not been conducted for the park.

The park has been included within regional natural resource planning efforts as part of the Smithtown Bay Important Bird Area (IBA) and designated as a Nissequogue River Long Island Sound Stewardship Site, which increase opportunities for natural resource protection planning and implementation.

Several local and regional plans have been written which recognize the park's significance including the following;

- The 2008 Nissequogue River Stewardship Action Plan written by the Regional Plan Association. (www.rpa.org/nissequogue/)
- The 1989 Town of Smithtown Local Waterfront Revitalization Program (LWRP) (<http://www.nyswaterfronts.com/LWRP.asp>)
- The 2006 Long Island North Shore Heritage Area written by Peter J. Smith & Company, Inc. (<http://www.linsha.org/linsha/management-plan-and-environmental-review>)
- The Long Island Sound Coastal Management Program written by the NYS Department of State, Division of Coastal Resources and Waterfront Revitalization in 1999. (http://www.nyswaterfronts.com/downloads/pdfs/lis_cmp/index.htm)
- The Long Island Sound Study Habitat Restoration Initiative written by The Connecticut DEC and the NYS DEC, 2002 (<http://longislandsoundstudy.net/2004/12/long-island-sound-habitat-restoration-manual/>)

Planning and Environmental Review

The environmental review of proposed master plans for state park facilities is conducted in accordance with the State Environmental Quality Review Act (SEQR). Under SEQR, agencies consider environmental impacts with social and economic factors early in decision making and the planning/project design process. Land use or resource management plans are considered Type I actions under SEQR, or likely to have a significant impact on the environment and require preparation of an Environmental Impact Statement (EIS). OPRHP fully integrates the planning and environmental review processes. This document serves as both the Master Plan and the EIS for Sunken Meadow State Park.

Guiding Principles and Policies

Overarching OPRHP program principles, policies, and goals and objectives provide a foundation for planning, development, operation, and management decisions made during the master plan process. The following sections summarize current directives considered throughout the planning process for Sunken Meadow State Park.

The OPRHP planning process adheres to three basic principles:

- Planning must be coordinated and provide for public participation: Cooperation among appropriate governmental organizations, the public at large, special interest groups and the private sector is not only desirable but necessary.
- Planning is a continuing process: Inferences for the classification and management of park resources must be constantly reevaluated in light of new information, changing needs and priorities, and resource character.
- Planning must be comprehensive: The information base, and pertinent additional research, should support the planning process and should encompass relevant social, economic and physical factors relating to the management and operation of the park and its resources.

OPRHP Policies

OPRHP has developed a number of agency-wide policies to address management issues commonly faced by the park system. Policies cover topics such as the management of trees and other vegetation, pesticide use, wildfire and controlled burns, oil, gas and mineral rights, wildlife management and native plants. Please visit our website to view our Agency policies.

<http://nysparks.com/environment/documents.aspx>

Sustainability

Sustainability is a philosophy on how to improve, operate and maintain State Parks and Historic Sites, while at the same time, minimizing or reducing the impacts State Parks and Historic Sites have on the natural environment.

Sustainability looks at the environment that makes up a holistic system rather than the individual parts to maximize energy efficiency and minimize environmental impact; reduce use of fossil fuels; reduce or eliminate hazardous substances; protect biodiversity and ecosystems; and use resources carefully, respectfully and efficiently to meet current needs without compromising the needs of other living creatures and the use of those resources by future generations.

OPRHP is committed to reducing its impact on the environment and to becoming more carbon neutral by adopting more sustainable practices in park development, improvement, operation and maintenance. Sustainable practices and alternatives were considered in the planning process and incorporated throughout the Master Plan.

Ecosystem-Based Management

OPRHP has embraced the principles of ecosystem-based management (EBM) that support master plans in providing direction for the conservation and protection of coastal and water shed ecosystems. The principles of EBM are included and represented in the master plan. These principles are: to start with a place-based focus; base management decisions on the best available science; have measurable objectives to direct and evaluate performance; use adaptive management to respond to new knowledge and changing conditions; recognize interconnections within and among ecosystems;

and, involve stakeholders to incorporate local knowledge. An EBM approach to management ensures that decisions are made holistically focusing not on a single species or resource, but considering all parts of the ecosystem, including humans.

Chapter 2 – Park Background

The Region

New York State is divided into 12 Park regions. Eleven of these regions are under the jurisdiction of the Office of Parks, Recreation and Historic Preservation (OPRHP). The twelfth region is composed of the Adirondack and Catskill Forest Preserves and is administered by the Department of Environmental Conservation (DEC). Long Island State Parks, including Governor Alfred E. Smith/Sunken Meadow State Park, are located in Region 9.

Location and Access

The park has a single vehicular entrance at the intersection of Sunken Meadow Parkway and New York State Route 25A. There are several designated and undesignated pedestrian access points surrounding the park. Many provide direct access to the trail system while others provide access to the park roadways from the surrounding residential subdivisions. A Long Island Railroad station and a bus stop on the Suffolk County Transit system are located approximately 1½ miles away from the park. Access to the park is also provided from the Long Island Greenbelt Trail and along the Long Island Sound shoreline. Many walkers, runners and dog owners enter the park through the Kings Park Bluff Town Park and Old Dock Road on the eastern boundary via the Greenbelt Trail. The primary means of access to the park is by personal vehicle. See Figure 1 – Location Map.

Economic Contribution

In March 2009, a study prepared for Parks & Trails New York by the Political Economy Research Institute (PERI), University of Massachusetts-Amherst, found that the combination of annual state and visitor spending at all New York State Parks supports up to \$1.9 billion in economic output and business sales and up to 20,000 jobs throughout the state. Out of the \$1.9 billion the Long Island region alone supports \$410,000,000 in economic output and approximately 4,000 jobs and New York City creating \$61,000,000 and 716 jobs. State expenditures were \$253,100,000 for operating expenses and \$87,000,000 for capital expenditures. Visitor expenditures within the service area were estimated to be between \$946,000,000 and \$1,948,000,000 annually.

Ecosystem Services

Ecosystems within state parks provide many support services to communities, such as reducing negative effects of pollution, supporting soil quality and providing erosion control, protecting water quality, providing flood and storm protection, and supporting critical ecosystems and wildlife habitats. These irreplaceable “ecosystems services” are essential for sustaining economies and communities over time. State parks also provide affordable recreation opportunities, preserve open space and areas of historic importance, and can influence businesses to locate near parks that contribute to a higher quality of life.

Recreational Needs Assessment

Sunken Meadow State Park attracts primarily local users on the weekdays with additional visitors from surrounding counties overwhelming the park on summer weekends. Given its location on Long Island, the service area for the park includes seven counties and boroughs; Kings, Queens, Richmond, Suffolk, Nassau, Bronx and New York, with a total population of nearly 11 million people. See Figure 2 – Dot Density Map for more information on the service area.

According to the 2014 Statewide Comprehensive Outdoor Recreation Plan (SCORP), picnicking, playground use and other general outdoor activities identified as “relaxing in the park” continues to be the recreation activity enjoyed by most New York residents. This is followed by walking/jogging, visiting museums/historic sites, swimming, and biking. Walking/jogging has the highest total of activity days followed by relaxing in parks, swimming, visiting museums/historic sites, and biking (OPRHP 2009). Picnicking and general outdoor recreation are intense weekend activities at Sunken Meadow.

The Relative Index of Needs in SCORP ranks recreational needs in a county by assigning a numerical scale (10 being the highest need and 1 being the lowest) to an activity by considering the supply of recreation facilities and the level of participation and estimating how that level of participation will change in the future. The Recreation Index of Need (RIN) for the service area of Sunken Meadow State Park shows the RIN numbers for the seven boroughs and counties in the service area.

Using a formula that includes the RIN numbers and the activity days within each county, a weighted average score is produced for each activity. These weighted scores illustrate that the activities with the highest relative index of need in the service area are as follows: hiking, biking, cross-country skiing, snowmobiling, downhill skiing, field games, camping, and visiting historic sites. (See Table 2) Using these numbers these are the activities that will, over the period 2005 to 2025, experience the greatest growth in the service area relative to the existing supply of resources and conditions.

Table 2 - Recreational Index of Needs for the Service Area of Sunken Meadow State Park

Activity	King s	Queen s	Richmon d	Suffol k	Nassa u	Bron x	New York	Weighte d Average
Relaxing in the Park	10	10	10	6	7	8	10	8.8
Swimming	7	8	7	5	6	7	7	6.4
Biking	10	10	10	8	9	10	10	9.7
Golfing	7	6	6	6	6	6	6	6.2
Walking for pleasure	10	10	10	6	7	10	10	9.5
Tennis	6	6	6	7	5	6	6	6.0
Court Games	7	7	5	5	7	7	7	6.7
Field Games	10	10	10	5	6	9	10	9.1
Visiting Historic Sites	10	10	9	5	6	8	9	8.9
Camping	10	10	10	8	10	10	10	9.5
Hiking	10	10	10	9	10	10	10	9.9
Boating	6	6	7	5	5	6	6	5.5
Fishing	6	6	7	5	6	6	6	5.8
Local Winter	9	8	8	7	5	10	10	8.2
X-Country Skiing	10	10	10	10	10	10	10	10
Downhill Skiing	10	10	10	8	9	10	10	9.8
Snowmobile	10	10	10	8	10	10	10	9.4

Recreational Needs from Public Comment

The comments received verbally and in writing at the public information meeting and subsequently by post mail and email weighed somewhat equally towards recreation and resource protection. This may indicate a general public desire to continue the recreational activities in the park while protecting the natural and cultural settings in which they reside.

Of the comments that were related to recreation, a comparison of the RIN index reveals that several of the needs expressed by the public are the same as those with the highest RIN scores and can be met at the park including: hiking, biking, cross country skiing, fishing, field games and visiting historic sites. Downhill skiing, snowmobiling and camping activities will not be accommodated at the park and local winter activities and cross-country skiing can only take place as conditions allow. In addition, running is a popular activity in the park that is not specifically listed in the RIN chart but which can be accommodated at this park.

The Park

Park Boundaries

The park occupies 1,287.70 acres within the Town of Smithtown. The park's north land boundary is comprised of the Long Island Sound shoreline. The park is bordered by Callahan's Beach Road, Callahan's Town Park and Route 25A on the west. On the eastern boundary is the Kings Park Bluff Town of Smithtown Park and Old Dock Road. The southern boundary is flanked by Kings Park residential areas.

In addition to the park boundary that's located above water, OPRHP owns land under Long Island Sound. One mile off shore and three miles in width or approximately 1,800 acres are part of the park and considered "*state-owned land underwater*". See Figure 6 – Park Boundary and Topography Map.

Surrounding Land Uses

The park is surrounded almost entirely by residential communities. Besides residential land uses, the Callahan's Town Park is located on the western boundary and Nissequogue River State Park and Short Beach Town Park on the eastern boundary. See Figure 3 – Adjacent Land Use Map.

Programs and Partnerships

Programs

Long Island North Shore Heritage Area (LINSHA)

A Heritage Area in New York State is an OPRHP designation created to honor history, celebrate the present, and plan the future of our communities that have proven significance. The LINSHA management plan, which was approved in 2006, calls for the protection, preservation and enhancement of the natural, cultural and historic resources throughout the North Shore area. The LINSHA supports responsible economic development which is compatible with these resources. Within LINSHA, the park is located in the Maritime Coast zone. See www.linsha.org/ for more information.

Local Waterfront Revitalization Program (LWRP)

Sunken Meadow State Park is located within the Town of Smithtown LWRP boundary. The Smithtown LWRP was approved by local, state and federal officials in 1989 and provides guidance and direction and establishes objectives which will promote the beneficial use of coastal resources and limit adverse impacts. All actions within the LWRP need to be consistent with its policies. Updates to the program can be found at www.smithtowninfo.com/PlanningDepartment/.

NYS DEC Scenic River Classification

The coastal segment of the Nissequogue River, one of four major tidal rivers on Long Island, and the largest tributary to the Long Island Sound has been officially designated by NYS DEC as a “Scenic and Recreational River” (Article 15, Title 27 of the Environmental Conservation Law).

Approximately one and four-tenths miles from the dam at the outlet of New Mill Pond to the pedestrian bridge south of Route 25/25A including its tributaries and ponds have received this classification due to their scenic qualities. Preservation and restoration of its natural, scenic, and recreational qualities is encouraged. More information on scenic river classification can be found at www.dec.ny.gov/lands/32739.html.

New York State Significant Coastal Fish and Wildlife Habitat

The Nissequogue River and its inlet beaches have been designated Significant Coastal Fish and Wildlife Habitats (SCFWH) by the New York State Department of State (DOS). The Nissequogue River also represents one of the largest coastal wetland areas on the north shore of Long Island. The SCFWH consists of two distinct areas totaling approximately 82 acres. The first area comprises approximately two-thirds of the habitat area, and consists of vegetated dredged material placement areas along with the adjoining beach and dunes to the east of the mouth in Smithtown’s Short Beach Town Park. The second area to the west of the mouth in or adjacent to Sunken Meadow State Park comprises approximately one-third of the habitat area (NYS DOS 2005). In order to protect and preserve SCFWH, land and water uses or development shall not be undertaken if such actions would destroy or significantly impair the viability of a habitat. Additional information regarding review of impacts on SCFWH may be found in Chapter 7. See the DOS webpage

<http://www.dos.ny.gov/opd/programs/consistency/scfwhabitats.html#li> for more information.

Partnerships

Many partnerships exist either directly or indirectly with other agencies, local towns, groups and businesses. These partnerships enhance services to park patrons, help protect and study the parks resources and provide educational and recreational opportunities.

Concessionaire contracts are established through the bidding process for food and catering services and for the management of the golf pro shop which offers services such as golf lessons, golf cart rental and the management of the driving range.

There are several groups that are working in the park to study, protect and /or rehabilitate park wildlife and their habitat. The NYS Department of Environmental Conservation and the United States Fish and Wildlife Service (USFWS) work in the park to insure that the public is following the laws and guidelines as they apply to fishing, endangered species and park flora and fauna. A science class from Hauppauge High School works with the park to provide information on the Sunken Meadow Creek habitat. Other agencies involved in this project providing services and/or funding are staff from the Long Island Sound Study, Sea Grant and the Long Island Region’s own Environmental Education Department.

Suffolk County has provided oversight and funding for dredging projects. The most recent project opened up the mouth of the Nissequogue River to the East and provided needed sand replenishment to the Sunken Meadow beachfront.

The Smithtown Veterans Organization in conjunction with the Suffolk County Police coordinates a summer youth program for teens in the evenings at Field 3.

To protect and improve the Nissequogue River watershed, in which a portion of the park is located, The Nissequogue River Watershed Steering Committee was formed. The committee formed in 2005 is comprised of various stakeholders including local, state and federal government agencies, local citizens, advocacy groups and the private sector. The Steering Committee is divided into four subcommittees – Water Quality, Education/Outreach, Land Use/Open Space and Habitat. Each subcommittee is responsible for developing action items to manage and protect the watershed.

The committee is coordinated by Regional Plan Association and has received funding from the New York State Department of Environmental Conservation and the National Fish and Wildlife Foundation Long Island Sound Futures Fund. For more information on the Nissequogue River Watershed Steering Committee, please see

<http://www.rpa.org/nissequogue/about/participants.html>

The park has partnered with Audubon International to meet the criteria needed to have the golf course certified in the Audubon Cooperative Sanctuary Program. The Long Island Greenbelt Trail ends at the park and is maintained by volunteers from the Long Island Greenbelt Trail Conference, enabling park patron access for hiking and improved recreational opportunities. Additionally, a number of other volunteer groups and businesses perform beach cleanup events at the park throughout the year.

All of these groups and organizations provide partnerships that contribute significantly to the support of the park and added benefit to the public.

Chapter 3: Environmental Setting

Recreational Resources/Activities

The recreational resources at the park have evolved and expanded to meet the needs of park patrons. To serve the heavy volume of patrons and the demand for additional recreation, land was acquired between 1930 and 1965 to expand recreational facilities. Since the creation of the park, the most popular activities include picnicking, swimming and relaxing in the park. Recreational resources the park has to offer include: a three-quarter mile long beachside boardwalk for walking and bicycling, 27 holes of golf with a driving range and putting green, 15 miles of trail that allows hiking and mountain biking and a bridle path for horseback riding, playgrounds and softball fields. Water access is available for kayak, canoe and paddle boarding and there are many open areas in the park for a wide variety of other recreational activities.

Swimming Beaches

The park has almost three miles of shoreline on the LIS. A three-quarter mile swim beach is provided and available for use from Memorial Day to mid-September in guarded areas. On hot summer days, the beach can have thousands of patrons using it for swimming, relaxing, walking and sporting activities. Forty-five lifeguards are on duty at any time during the summer months. The bathhouse serves park patrons and includes restrooms, rental lockers, water fountains and food concessions.

Boating

Non-motorized boating is allowed year round from the Sunken Meadow Creek launch. Patrons wishing to kayak, paddle board, or canoe must park in Field 3 during park hours for access to the Sunken Meadow Creek launch. A parking pass is required from the park office when the field is closed. Patrons wishing to wind-surf can park in any available parking lot and access the sound from the beach. Motorized boat launching is not provided in the park. Patrons wishing to launch motorized boats can use the boat launch at the nearby Nissequogue River State Park, which is open from April to mid-October.

Stargazing

Patrons wishing to stargaze must purchase a permit at the park office. During certain astronomical events, the park allows evening access for all patrons.

Fishing

Fishing is allowed year-round from the shore outside of the designated swim area and on Sunken Meadow Creek, downstream from the entrance bridge. A permit is needed from the park office for night fishing.

Day use areas

East Orchard Picnic Area

The park has two picnic areas which are open year-round. The East Orchard Picnic Area has a comfort station, pavilion and over 1,000 picnic sites. Pedestal grills, hot charcoal collection bins, trash cans, and water fountains are provided for patron use.

West Orchard Picnic Area

The West Orchard Picnic Area also has over 1,000 picnic sites. A comfort station, two playgrounds, recreational courts/fields, pedestal grills and water fountains are provided for patron use. It, along with the East Orchard Picnic Area, is accessed from Parking Field 4. Each of these picnic areas are heavily used throughout most of the warm months.

Field 5 Picnic Area

The area surrounding Parking Field 5 is a former picnic area. In the recent years this area has received minimal usage by patrons and is presently used for overflow parking and parking for the BOCES center. Additionally, municipal wells have been located in this area and a cell phone tower was constructed for public safety and shared resource wireless telecommunications.

Field/Court Games

Several courts and fields are located throughout the park including softball fields, soccer fields and four basketball courts. Organized group use requires a permit available at the park office. Court and field facilities are available for use year-round. Open mowed areas throughout the park are regularly used for a wide variety of field games including soccer, cricket, kite flying, bocce, Frisbee and many other recreational activities. See Figure 4 – Recreational Resource Map for more information.

Trails

Hiking

Hiking is a significant recreational use and allowed year-round on all trails. Many trails are provided throughout the rolling woodlands and along the shoreline of the sound providing scenic vistas and allowing patron access to several different ecological communities. Several of these trails are also used for cross country running competitions and other special events.

Cross-Country Running

Cross-country running is a very popular activity in the park and is allowed year-round. The park's grounds provide an excellent venue for cross-country running, and host competitions for many cross-country teams from local high schools and runners' clubs. A 5-kilometer course, featuring the aptly-named "Cardiac Hill", is regarded as one of the most difficult cross-country courses in the United States. The park also hosts collegiate level championship races, state championships and a five-mile race.

Mountain Biking

Mountain biking is allowed year-round on all trails with the exception of the Long Island Greenbelt Trail.

Bicycling

Bicycling is allowed year-round in the park. Bicycling is permitted on the boardwalk during park hours from September 15 to May 15. From May 15 to September 15, bicycling is only permitted on the boardwalk weekdays before 9 am.

Equestrian

Equestrian opportunities are available year-round on the Bridle Path. Designated parking is provided in Parking Field 5. Horses are not permitted in picnic areas or on trails other than the Bridle Path.

Cross-Country Skiing and Snowshoeing

Cross-country skiing and snowshoeing are allowed throughout the park as conditions allow. Trails are not groomed for winter use. Skiing and snowshoeing are not permitted on the golf course or driving range.

Long Island Greenbelt Trail

The Long Island Greenbelt Trail is a designated National Recreation Trail. Opened in 1978 and 32 miles long, the Greenbelt Trail passes through approximately 12,000 acres of open land, including Sunken Meadow, Caleb Smith, Connetquot and Heckscher State Parks, as well as numerous county and town properties. The Greenbelt Trail allows hiking.

Dog Walking Trails

Dog walking is allowed on trails in designated dog walking areas in the eastern portion of the park. These trails include a portion of the Greenbelt Trail and an undesignated trail forming a 1.25-mile loop. Access to these trails is provided from the upper parking lot adjacent to the Smithtown boat launch and off of Old Dock Road. See Figure 4 – Recreational Use Map.

Golf Courses

Golf course architect Alfred H. Tull (1897-1982) designed what are today the Red and Green Courses in 1964. Tull, who designed the Yellow Course and redesigned the Blue Course at Bethpage State Park in the 1950s, was noted for laying out golf courses without consulting topographical maps. Only after his routing of the course was complete did he overlay his plan on topographical maps. The result seems to be golf courses which make maximum use of the existing terrain. In the case of Sunken Meadow State Park that terrain is somewhat hilly and variable, surrounded by mature woodlands; resulting in an attractive and relaxing outdoor experience for golfers. The view of the Long Island Sound from the golf driving range is stunning in its beauty.

The irrigation system is a single row system with additional connections at various locations where drainage or coverage challenges had to be met. Due to the irrigation challenges associated with the present system, the play conditions suffer.

The use of electric motorized golf carts was introduced in 1997, necessitating the construction of golf cart paths. Both the Red and Green course have paved golf cart paths while the Blue course does not. Through heavy use, the designated pathway has seen significant erosion in certain locations. To reduce the effects of erosion from golf carts, carts are not allowed on the Blue course cart path during wet conditions. To address these issues, the network of cart paths should be expanded and improved so that turf damage is minimized and erosion to the pathways is reduced.

Today, in the hierarchy of state park golf courses in the region, the Sunken Meadow courses are intended to serve those golfers at a moderate skill level. While maintenance and operation of the golf facilities should be at an excellent level, they need not be maintained at championship level. The courses should provide an enjoyable outing with moderate challenges, but should not be punishing for those who make errant shots.

Vegetation planted in courses, particularly trees, should be native species that are compatible with golf course management standards. While fairways should be wide enough to be forgiving, tree and shrub lines will provide separation of fairways and protection for golfers from balls struck from neighboring tees and fairways.

The application of chemicals on the golf courses for treatment of disease, weeds, and for plant growth regulation will be limited to the most efficacious products available – those being chemicals which have the lowest relative negative environmental impact while producing the best desired results. A data-based Integrated Pest Management (IPM) program specific to the Sunken Meadow golf courses will be developed, implemented, properly monitored, and documented in an annual report.

The park also has a driving range which can accommodate up to 23 users and is 300 yards in length. It is probably one of the most picturesque driving ranges on Long Island as golfers are provided an unobstructed view of the LIS while practicing.

Audubon International Cooperative Sanctuary Program for Golf Courses

The park's three nine-hole golf courses have been designated Audubon International certified golf courses. The Audubon International Cooperative Sanctuary Program for Golf Courses is an education and certification program that helps golf courses protect our environment and preserve the natural heritage of the game of golf. The program serves as a vital resource for golf courses by: helping people enhance the valuable natural areas and wildlife habitats that golf courses provide; improving efficiency; and minimizing potentially harmful impacts of golf course operations.

Special Event Permits

Special events and certain activities that take place in the park require a permit. Patrons wishing to partake in such activities must submit a permit application to the park manager for approval. The following items require a permit at the park. For a complete listing of permits, please visit the OPRHP webpage at <http://www.nysparks.state.ny.us/inside-our-agency/public-documents.aspx>

- Night fishing
- Star gazing
- Equestrian activities
- Pavilion rental
- Special events
- Orienteering
- Geocache placement
- Metal detecting
- Radio controlled planes
- Cross-country running groups
- Sporting events
- Other group activities

Environmental Educational and Interpretation

Educational panels are provided on the boardwalk by the main concession educating park patrons about the endangered sea turtles that can be found in the waters around Long Island. OPRHP does not currently provide environmental education programming at the park.

Scenic Resources

Vistas

Scenic vistas are prominent along the shoreline of the LIS. Upon entering the park on Route 25A from the east, visitors have one of the most impressive vistas of the LIS on Long Island. The shore and sandy bluff tops provide long distance views of the sound and the Connecticut shore. In addition to the many scenic views along the shore there are many scenic interior views. These include areas around the Sunken Meadow Creek which provides many scenic vistas of the low salt marsh and a wide variety of wildlife. At the outlet of the creek, patrons have many scenic views of the tidal flats.

The golf course and driving range are also recognized for their scenic qualities. Manicured landscaping and mature trees create a very scenic environment for golfers. The views from the driving range focus the golfer's eye on the distant sound.

At the headwaters of the Sunken Meadow Creek are a series of interconnected historic fish rearing ponds. While unmaintained and over grown, these ponds and associated wildlife create a very scenic, secluded area for patrons to experience nature.

Physical Resources

Geology

Long Island is formed by two glacial moraines. These moraines consist of glacial till containing unconsolidated sand, gravel, and boulders or “erratics” left behind during the two most recent glacial periods. The most recent moraine, known as the Harbor Hill moraine, was created during the Wisconsin glaciation, approximately 21,000 years ago. Sunken Meadow State Park is situated directly on this moraine, which abuts the north shore of Long Island at certain points. See Figure 5 – Soil Drainage Map

Topography

The topography of the park varies from 5 to 200 feet above sea level. Areas along the shoreline range from flat along the beach and in marshes and wetlands to steep along the sandy bluffs of the eastern and western shoreline. Inland, the topography is generally rolling with small peaks and valleys. Development of facilities has taken place on the less hilly areas while trails have been constructed on some of the rolling terrain. See Figure 6 – Boundary and Topography Map and Figure 7 – Slope Analysis Map.

Soils

Soils in the park are primarily comprised of various mixtures of sand, silt, loam and gravel. The largest soil type classifications in the park are Carver and Plymouth sands, Plymouth loamy sands, and Riverhead sandy loam. These soils encompass approximately 1,060 acres of the park and are generally well drained but are highly erodible, especially with heavy foot traffic and storm water runoff. For a list of soil types and their locations, see Figure 8 – Soils Map and Figure 9 – Surficial Geology Map.

Water

Long Island Sound (LIS)

Sunken Meadow State Park's northern boundary is over 2.5 miles of shoreline along LIS, an estuary where fresh water from the land and rivers and salt water from the Atlantic Ocean meet to create a highly productive ecosystem. In 1987, LIS was designated as a National Estuary. LIS has 1,320 square miles of surface water and a watershed of 16,820 square miles. It is 110 miles long and 21 miles at its widest point with over 600 miles of shoreline and an average depth of 63 feet. It is estimated that \$5.5 billion is generated per year from services and resources it provides. LIS supports important commercial and recreational fishing, boating and tourism and is a major commercial waterway. More than 8 million people live in the LIS watershed, and the associated development has increased some types of pollution, altered land surfaces, reduced open spaces, and restricted access to the sound (US Environmental Protection Agency (EPA) 2009).

The sound supports a great variety of coastal habitats including tidal and freshwater wetlands, submerged aquatic vegetation such as eelgrass beds, beaches, dunes, cliffs and bluffs, estuarine embayments, coastal and inland forests, riverine migratory corridors, shellfish reefs, intertidal flats and rocky intertidal habitats. More than 120 fish species occur here and more than 125 species of birds rely on the sound for food and habitat (Ibid.).

Water Quality in the Atlantic Ocean/Long Island Sound Watershed

Water quality in the Atlantic Ocean/Long Island Sound Watershed experiences considerable impact and stress from a variety of sources throughout the densely populated urban area. In spite of these impacts, the waters of the basin remain a rich and valuable recreational, ecological and economic resource. Primary water quality issues in the watershed include low dissolved oxygen (hypoxia) in the LIS that limits aquatic species including lobster, elevated pathogen levels that result in shell fishing restrictions in some waters, algal growth in the south shore embayment which discourages recreational uses, a legacy of toxic contamination from industrial use and other sources that result in fish consumption advisories, municipal wastewater and combined sewer overflow discharges for New York City and other municipalities and urban/stormwater runoff (DEC, 2014). A number of watershed-based estuary management programs which involve stakeholders from throughout the watershed have been established to manage actions to address these issues. These efforts include the Long Island Sound Study, the New York-New Jersey Harbor Estuary Program, the Peconic Estuary Program and the South Shore Estuary Reserve.

For more information on the health and water quality of LIS, please see the following link.

<http://longislandsoundstudy.net/>

Sunken Meadow Creek

The Sunken Meadow Creek is a spring fed waterway that is over two miles long and flows eastward merging with the tidal waters of LIS. It is bordered by over 110 acres of estuarine habitat, comprised of open water and vegetated wetlands, including 89 acres of low salt marsh. The creek has seen significant modifications through the past 70 years, including fish rearing ponds at its headwaters. Between 1955 and 1957, a new creek channel was dredged and the water flow was shifted from its natural position to accommodate park expansion. Nearing its outlet into the Nissequogue River, a dike was constructed in 1957 that reduced tidal exchange into the creek. This reduction in tidal flow also reduced the salinity of the estuarine marsh over the past 60 years, causing a significant shift in the ecology of the system. On Oct. 29, 2012, Hurricane Sandy significantly impacted the region,

including Sunken Meadow Creek. The storm surge created a large breach in the berm and restored tidal flow to the creek. The water level in the previously tidally restricted side of the creek now rises and falls 2-3' with the tide. Water clarity and salinity have increased as a result of the tidal flushing. The invasive reed, *Phragmites*, does not tolerate high salinities well, so it is anticipated that the *Phragmites* cover will decrease and allow the native salt marsh plants to expand. Fish passage is now unhindered, allowing unrestricted movement to the far reaches of the creek. Freshwater fish such as Pumpkinseed Sunfish are no longer found in the high salinities near the driving and pedestrian bridges. Their habitat has been pushed farther upstream.

Nissequogue River

The Nissequogue River outlet sits to the east of the park and is the only major tidal river draining into LIS from Long Island in which the coastal portion remains in relatively undisturbed condition. The Nissequogue River outlet creates the largest coastal wetland on the north shore. This nine-mile long spring fed river has a 40-square mile watershed, including approximately 1,235 acres of the park's land and most of Smithtown. It has several very diverse habitats, including tidal flats, coastal forests, freshwater wetlands, and a red maple black gum swamp.

The river contributes significantly to the both the scenic and biological qualities of the area. Plans such as the Nissequogue River Stewardship Action Plan (<http://www.rpa.org/nissequogue>) have identified the river's significance to the area. As discussed in Chapter 2 the river provides important habitat for waterfowl as well as various aquatic species. Due to ongoing protection efforts, the river is considered an exemplary riverine habitat.

DEC has classified the Nissequogue River as a Class C river. Class C rivers support recreational opportunities including motor boating, non-motorized boating, wildlife viewing, and fishing. This classification does not support swimming nor does it meet drinking water standards (DEC 2011). The freshwater portion of the Nissequogue River is designated Class C (TS) meaning it supports trout spawning; the remainder of the River is designated Class C(T), meaning it supports trout populations. The only Class B (clean enough for primary and secondary contact recreation) waters in the watershed are those found in a portion of Sunken Meadow Creek (Ibid.). To maintain navigation channels and motor boating opportunities, the mouth of the Nissequogue River is periodically dredged by Suffolk County Government.

Wetlands

Low Salt Marsh Wetland Complex

The low salt marsh is a coastal marsh community located on Sunken Meadow Creek within the park and extends quite a distance up the tidal Nissequogue River outside of the park boundary. It is of fair to good quality and is a large example (382 acres in total, 81 acres in the park) (NYNHP 2004 database), and Sunken Meadow Creek. This is a federally regulated tidal wetland. Low salt marshes occur in sheltered areas of the seacoast and represent one zone of a coastal salt marsh ecosystem. On Long Island, low salt marshes are more often found on the south shore making this occurrence on the north shore particularly unique. The marsh supports many important ecological functions including water filtration, erosion control, flood water storage and provides significant habitat for a wide variety of animals and insects.

This salt marsh has been moderately impacted by development and historic ditching along much of its length, and from major parking lot expansion of Parking Fields 2, 3 and possibly 4. Additional impacts to the wetland are from the invasive non-native plant, *Phragmites australis* ("Phragmites" or

common reed). This invasive plant aggressively spreads throughout the wetland, shading out native plants such as *Spartina* species. It also impacts the habitat of wetland animals, reptiles and insects as it continues to grow and expand.

Two other small State regulated wetlands are located in the uppermost areas of Sunken Meadow Creek and were created as a result of the former private fish rearing ponds. See Figure 10 – Water Resources.

Shoreline

There is a total of 69 acres of the maritime beach/dunes ecological community within the park. Approximately 16 acres of this is actively used as the swimming beach, and from an ecological standpoint is substantially altered. The two and three-quarter miles of shoreline are used for a variety of recreational activities including swimming, walking, fishing and wildlife viewing. The dune area located at the east end is stabilized by American beachgrass. The dunes are also vegetated by several other coastal species, including seaside goldenrod, dusty miller, and beach pea. Additionally, the beach provides habitat for the state endangered/federally threatened Piping Plover, and colonial nesting birds such as the state threatened Common Tern and Least Tern. The shallow maritime waters that form the northern border of the park provide suitable feeding ground for several species of wading and shorebirds that nest in the area, as well as migratory birds. Sportsmen have the opportunity to fish for such species as bluefish, snappers, tautog, fluke, striped bass, weakfish and Atlantic mackerel.

Groundwater

The park is located above the Lloyd Upper Glacial and Magothy aquifers. The Magothy, the largest of Long Island's aquifers, is a significant source of fresh water for Long Island residents including half of Suffolk County. It consists of glacial sand deposits alternating with clay reaching a thickness of approximately 1,100 feet and is located 0 to 600 feet below the land surface.

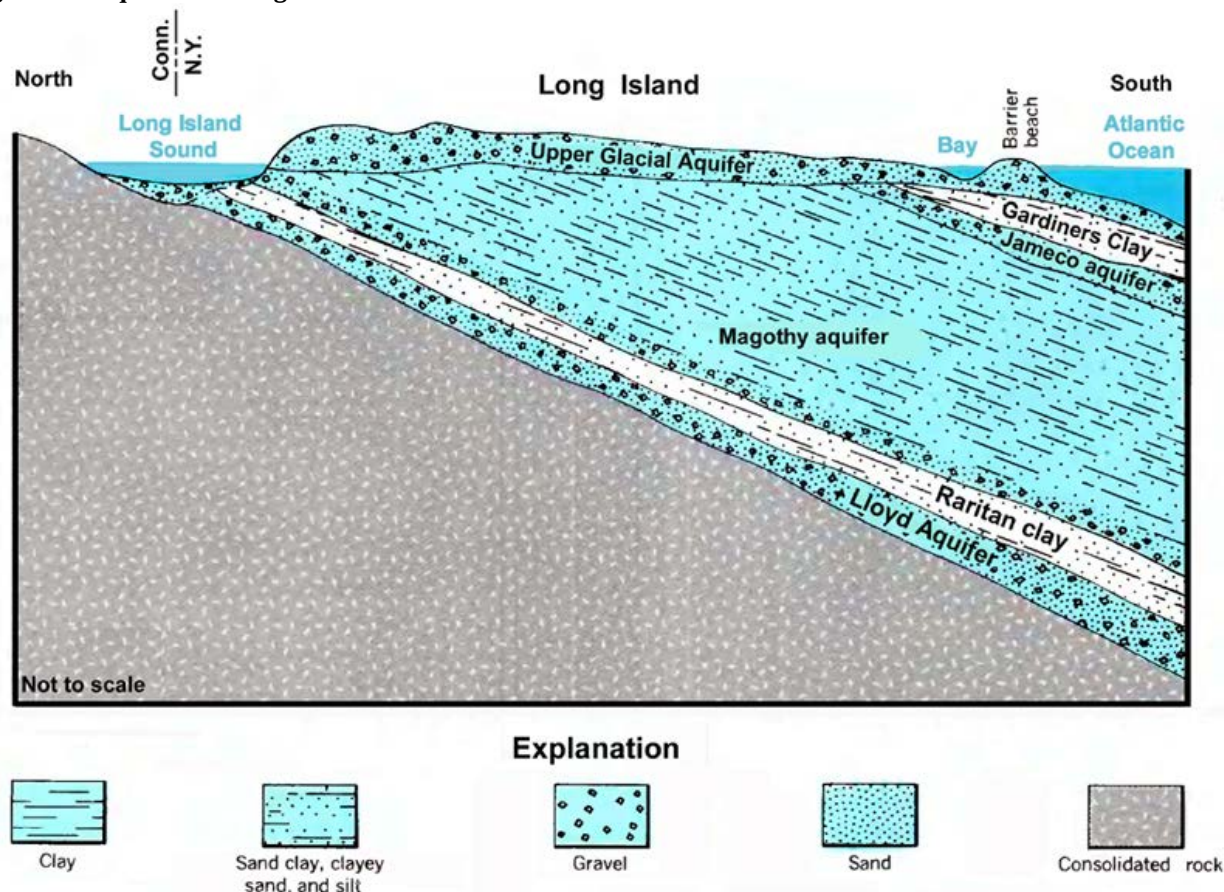
The Suffolk County Water Authority owns two wells, located near parking Field 5, which connect to the Magothy aquifer. This aquifer provides the park and approximately half of Suffolk County residents with clean, potable water.

The Lloyd Aquifer is the deepest and oldest of Long Island's aquifers. It is a sand and gravel formation ranging in thickness from 0 to 500 feet. It is located 200 to 1,800 feet below the surface. The water contained in the Lloyd aquifer is about 6,000 years old. Not many wells tap this formation and New York Environmental Conservation Law §15-1528 established a moratorium on the use of water from this formation in order to maintain it for future generations.

The Upper Glacial Aquifer is an unconfined aquifer directly underlying the ground surface. The Upper Glacial aquifer was formed during the last ice age. Almost all of Long Island's drinking water is from groundwater with surface water an insignificant contributor. All of the aquifers have been designated jointly as the Nassau Suffolk Sole Source Aquifer System by the US EPA (EPA, 2010). For more information on Long Islands aquifers, please see the following websites;

<http://www.dec.ny.gov/lands/36183.html>,

<http://www.epa.gov/region02/water/aquifer/nasssuff/nassau.htm>

Diagram 1 - Aquifers of Long Island

Source - <http://www.dec.ny.gov/lands/36183.html>

Air

The Clean Air Act and Amendments of 1990 define a "non-attainment area" as a locality where air pollution levels persistently exceed National Ambient Air Quality Standards or that contributes to the ambient air quality in a nearby area that fails to meet standards. The park is located in the New York, New Jersey, Connecticut, and Long Island non-attainment area for failing to meet the National Ambient Air Quality Standard for air pollutants, specifically, ozone (EPA 2008).

For more information on New York's air quality standards and what is being done to improve them, please visit the following website. <http://www.dec.ny.gov/chemical/42228.html>

Climate

Long Island has a climate similar to other coastal areas of the Northeastern United States. It has warm, humid summers and cold winters. The Atlantic Ocean helps bring afternoon sea breezes that temper the heat in the warmer months and limit the frequency and severity of thunderstorms. Prevailing winds at the park are generally from the south to southwest.

The average yearly snowfall totals range from approximately 20 to 35 inches, with the north shore and western parts averaging more than the south shore and the east end. In any given winter, some parts of the island could see up to 75 inches. In 1996, portions of the island received a record of 91 inches. There are also some very quiet winters, in which most parts of the island could see less than 10 inches.

Long Island is somewhat vulnerable to hurricanes. Its location and cool waters tend to weaken storms to below hurricane strength by the time they reach Long Island, although despite this, some storms have made landfall at Category 1 or greater (TWC, 2005). In recent years, with Hurricane Irene and Sandy, Long Island has seen significant impacts. With climate change, it is anticipated by climatologists that these types of strong storms will become more prevalent.

Natural Resources

The New York Natural Heritage Program (NHP) surveyed the park for ecological communities and selected rare species, and the report by Evans et al. (2002) compiles all of the NHP data known at the time. In 2008, a botanical survey was conducted along Sunken Meadow Creek (Lamont et al. 2008). Since 2008, surveys have gathered information on the fish, turtles, macro- invertebrates, and water quality of the creek.

Flora

The wide variety of ecological communities supports a large diversity of plant species. The flora within the park is typical of that found in Long Island's north shore ecosystems. Beachgrass (*Ammophila breviligulata*) is the dominant plant species in the dune areas, while the salt marsh is abundant with cordgrasses (*Spartina spp.*). Although the channel of Sunken Meadow Creek is dominated by large patches of Phragmites, there are some pockets of native plants persisting, including cordgrasses (*Spartina alternifolia*, *S. patens*) and marsh elder (*Iva frutescens*). The coastal oak-hickory forest also includes black cherry, sassafras, eastern red cedar, catbriar, Virginia creeper and hay-scented fern.

The results of the 2008 botanical survey and a list of plant species documented by state parks staff can be found in Appendix C - Plants of Governor Alfred E. Smith/Sunken Meadow State Park

Rare Plants

No populations of rare plant species are currently known to exist in the park and only one historical record (spikerush, *Eleocharis tenuis* var. *pseudoptera*) has been documented here. Surveys, during 2000-2002 and in 2008, did not locate any rare plant populations. This does not mean that no rare plants are present, only that none were found during these limited surveys (Evans et al. 2002) See Appendix G – Rare Species and Significant Natural Communities of Governor Alfred E. Smith/Sunken Meadow State Park for more information.

Invasive Species

As mentioned in the previous section on wetlands, Phragmites/common reed is an invasive, non-native species which has severely impacted the wetlands. Other invasive species in the park include Asiatic bittersweet, Tree of Heaven, Garlic Mustard, Multiflora Rose, Mugwort, and honeysuckles. A complete listing and scientific names can be found in the table below.

Table 3 - List of Invasive Plants, Animals and Invertebrates

Common Name	Scientific Name
Norway Maple	<i>Acer platanoides</i>
Tree of Heaven	<i>Ailanthus altissima</i>
Garlic Mustard	<i>Alliaria petiolata</i>
Mugwort	<i>Artemisia vulgaris</i>
Asiatic Bittersweet	<i>Celastrus orbiculatus</i>
Japanese Honeysuckle	<i>Lonicera japonica</i>
Morrow's Honeysuckle	<i>Lonicera morrowi</i>
Common Reed	<i>Phragmites australis</i>
Bradford Pear	<i>Pyrus calleryana</i>
Multiflora Rose	<i>Rosa multiflora</i>
Asian Shore Crab	<i>Hemigrapsus sanguineus</i>
Common House Cat	<i>Felis catus</i>

Fauna

For the most part, the park's wildlife is typical of the region and the suburban setting. The park encompasses a very diverse range of habitats, from maritime dunes, saltwater marsh and beach habitats to the oak hickory forests and conifer plantations. The varied habitats provides for a wide range of mammal, bird, fish, amphibian, reptile, and insect species that are generally found in the coastal areas of the northeastern United States. Common inhabitants include white-tailed deer, red fox, raccoons, gray squirrels, chipmunks, diamondback terrapins, box turtles, garter snakes, green frogs, and horseshoe crabs. Some less commonly seen animals call the park home, such as river otter and spotted salamanders. These habitats also support a wide variety of birds that includes waterfowl, shorebirds, wading birds, passerines, and raptors. Over 200 species can be found in the park, depending upon the season, making it a popular spot for birders. For a complete listing of birds found in the park, please see Appendix D – Birds of Governor Alfred E. Smith/Sunken Meadow State Park and Appendix E – Animals of Governor Alfred E. Smith/Sunken Meadow State Park.

Deer Management

The deer population at the park appears to be increasing and may require management in the future. Potential impacts need to be assessed and a management strategy developed in the event future control is required. White-tailed deer could become a problem in the park as they have no natural predators in this area and hunting is not permitted within the park. Overabundance of deer can cause damage to the herbaceous and shrub layers of the forest and woodland areas and to ornamental plantings.

Rare, Threatened, Endangered and Special Concern Species

Rare Animals

The eastern end of the beachfront, a sparsely vegetated sand spit, has been the nest site for Piping Plovers (*Charadrius melodus*), a shorebird that is a federally-listed threatened and state-listed endangered species. Also utilizing the area as a nest site are Common tern (*Sterna hirundo*) and Least terns (*Sterna antillarum*), both state-listed threatened colonial nesting birds. All three species are surveyed annually as part of the Long Island Colonial Water bird and Piping Plover Survey.

Sea turtles are also found in LIS waters off Caumsett State Park's shore. Loggerhead (*Caretta caretta*), Kemp's Ridley or Atlantic (*Lepidochelys kempii*), and green (*Chelonia mydas*) sea turtles are all likely inhabitants of sound waters. All species of sea turtles found in Long Island waters are state, federally and globally endangered. Marine mammals such as bottlenose dolphins, harbor porpoises and seals can also be found within the sound.

Ecological Communities

There are ten community types found at Sunken Meadow State Park which represent three classification systems and seven subsystems. 430 acres of disturbed land are typed as "developed." Areas labeled "Developed" include both developed and/or artificially maintained areas that from an ecological standpoint are functionally similar. These areas include building sites, picnic areas, playgrounds and playing fields, golf courses, openings that are repeatedly mowed during the course of the summer and paved roads. See Figure 11 – Ecological Communities.

Two significant natural communities are present in the park, low salt marsh and maritime dunes. These two significant natural communities are both located along its coastline. Although small in comparison to other examples throughout the state, the maritime dunes at the park have a number of high quality areas. The low salt marsh within the park is of good quality and is very large, extending beyond the park boundaries down the tidal Nissequogue River. This salt marsh has been moderately impacted by development and historic ditching practices along much of its length. See Figure 12 – Significant Ecological Communities. For more information on ecological communities, please visit the following website; <http://www.dec.ny.gov/animals/29384.html>

Table 4 - Ecological Communities Observed in the Park.

Significant natural communities are shown in bold italics and additional acreage of these may occur outside the park.

Note: 130 acres not surveyed.

System	Subsystem	Community Type	Acres
Terrestrial	Forested Uplands	Coastal oak-hickory forest	484
		Maritime pitch pine dune woodland	4
		Maritime beach	38
	Barrens and Woodlands	<i>Maritime dunes</i>	<i>31</i>
		Successional shrubland	26
		Successional old field	1
	Open Uplands	Conifer plantation	<1
		Developed	430
		Terrestrial Cultural	
Estuarine	Estuarine Subtidal	Tidal creek	56
	Estuarine Intertidal	<i>Low salt marsh</i>	<i>81</i>
Marine	Marine Subtidal	Marine eelgrass meadow	6
Total Acres			1157

Source: (Evans, Novak, Weldy, 2002)

Cultural Resources

Historic

History of the park

The initial land acquisition for the park took place in 1926 with the purchase of 200 acres. Throughout the early years in the park's development it was increasingly evident that the regional population, over 6.5 million people at that time, was in dire need of additional public recreation facilities. To provide public facilities for swimming, picnicking and other day use a small bathhouse, parking lot, walkway and footbridge over Sunken Meadow Creek was constructed. The park opened to the public in 1927. In 1928, The Town of Smithtown gave the State 400 feet of prime beachfront for inclusion into the Sunken Meadow boundary. In 1930, a causeway was constructed over Sunken Meadow Creek connecting the beach to the mainland and significantly increasing the visitation. See Appendix H – 1928 Master Plan Map.

Through the next decade, attendance regularly grew. Parking lots were expanded and facilities improved to handle the ever expanding population increase on Long Island and meet the demands for recreational activities. The beachfront was expanded both through acquisition of adjacent land and the widening of the beachfront.

During the Great Depression, funding for the park became scarce and projects ceased. Soon after, ongoing projects were completed including improvements to the beachfront. As a result of these improvements, attendance continued to climb.

Generally, through the 1930's yearly attendance grew at a rate faster than the park infrastructure and facilities. Each improvement made to the park brought significantly higher attendance. Despite expansions to the parking fields, they were regularly full and in need of additional spaces.

During World War II, most projects at the park ceased, allowing construction materials to aid the ongoing war efforts. Post war planning continued for the park and included filling in six acres of Sunken Meadow Creek to expand parking once again, the construction of a new boardwalk, walkways, fencing and an expansion to the water system. After WWII, a significant amount of attention went towards maintaining the existing infrastructure which was deferred during the war.

After the war, the already high attendance at the park nearly doubled and facilities were all overtaxed. Post war construction at the park did not begin as soon as expected due to an unusually rainy season, high costs and a shortage of materials.

During the 1950's construction efforts on Long Island were primarily focused on the parkways. Significant improvements to the park were fewer than in its early years during this period, however, still ongoing. Meanwhile, the means for getting patrons to the park were expanding and improving. In 1957, a five-mile section of the Sunken Meadow Parkway was opened allowing convenient park access to a greater quantity of people. Attendance this year reached a new record of 900,000 due to the parkways and the ever-improving facilities.

In 1958, the permanent toll booths, the service entrance at the park entrance, completion of an 800-foot extension of boardwalk to the west of the central mall, completion of the west refreshment stand and comfort station and the adjacent plaza were constructed. The ongoing progress on landscaping and seeding in the picnic areas continued.

During the early 1960s additional land was acquired for the construction of the golf courses. In 1961 construction began on two nine-hole golf courses at the western end of the property. Throughout the next two years, the construction of courses and the clubhouse was finished. Additional improvements at the park included the enlargement of a parking field, the construction of the east refreshment stand/comfort station and the installation of additional utilities and landscaping. A third nine-hole golf course was constructed adjacent to the first two in 1964.

During the 1970s and 1980s, the park remained heavily used. However, minimal expansion took place throughout this time. Projects focused on maintaining the present infrastructure and upkeep of the park.

In 1993, the Commissioner of New York State Parks, Orin Lehman proposed changing the name of the park to Governor Alfred E. Smith State Park in honor of his creating Long Island parks. The initial proposal to drop the Sunken Meadow from the name drew criticism and a compromise was reached which combined the names together. In recognition of the history of Sunken Meadow as a geographic identifier dating to the 1600s, the two names were combined to Governor Alfred E. Smith/Sunken Meadow State Park. (Blakelock, Chester R.)

Historic Structures

There are structures in the park that are historically significant and, as a result are considered National Register of Historic Places Eligible (NRE) including the bathhouse, the park manager's house and the Sunken Meadow Parkway. Other structures are potentially eligible and include the maintenance barns and the fish rearing pond area. Additional research is needed to determine if these structures/sites are eligible. Adjacent to the park, Nissequogue River State Park, formerly Kings Park State Hospital/Psychiatric Center has 56 buildings and 5 other structures which meet National Register criteria and are NRE. See Figures 13 and 14 – Cultural Resources Map A and B.

There are two historic structures in the vicinity of the park which are on the National Register of Historic Places, the Obadah Smith House and the Ketchum House. More information on these two historic structures can be found at <http://www.nps.gov/history/nr/publications/bulletins/nrb15/>.

Archeological

Archeological documentation in the park is limited. Archeological sites surrounding the park indicate that there is both a pre-contact (Native American) and historic (Euro-American) component to the archaeological sites near the park. Environmental factors such as proximity to the coastline, Sunken Meadow Creek and Nissequogue River increase the potential for archeological sensitivity in the park and surrounding area.

Emergency Plans and Services

Fire/Ambulance/Rescue

The park falls within the jurisdiction of the Kings Park Fire District. All fire, heavy rescue and medical emergency services are provided by the Kings Park Fire Department. Open water and river rescue services are jointly provided by the Kings Park Fire Department marine unit, Town of Smithtown Harbor Master boats, Suffolk County Police Marine units and U.S. Coast Guard (Eaton Neck Station).

Police

The park is under the jurisdiction of the New York State Park Police – Long Island Region. The park has a zone station located in the park that Park Police patrols originate from. Patrols include Nissequogue River State Park, Caleb Smith State Park and other Long Island State Parks as needed.

The park is also served by the local municipality police departments of Smithtown, the Suffolk County Sheriff's Department and the New York State Police.

Emergency Response

In the event of an evacuation of the park, the Incident Command System, a standardized, on-scene, all-hazard incident management process, is utilized with assignments originating from the park manager to park staff. The park's All Hazard Emergency Plan is also consulted. During severe weather, staff evacuate the swim beach and other areas as needed addressing patrons via bullhorns directing them to a safer area. The NYS Park Police, local police or fire departments are notified as needed.

Infrastructure

Utilities

Telephone service is provided throughout the park by both local utility owned and park-owned lines. To improve cell phone service in the park for staff, patrons and the local community, a cell phone tower is scheduled for construction in Parking Field 5.

Electric service is provided throughout the park by the Long Island Power Authority. For aesthetic and maintenance reasons, all electric lines in the park are buried.

Potable water is supplied to the park by the Suffolk County Water Authority. The golf course irrigation system is supplied by two on site wells.

All sanitary waste is treated by 15 subsurface treatment systems throughout the park. Many of the systems are original and have exceeded their life expectancy. The system at Field 3 was replaced in 2007 and the system at the West Concessions Building was replaced in 2011.

There are twelve DEC regulated petroleum bulk storage tanks located throughout the park. The park is a permitted facility which currently meets all petroleum storage regulations.

For more information on park utilities and infrastructure, please see Appendix P.

Roads and Bridges

Sunken Meadow State Park is accessed from the south via the Sunken Meadow Parkway. The main entrance road extends from the parkway north to Parking Fields 1 and 2. There are five spurs off the main road; the first spur to the east is to Parking Field 5. The second spur is to the east and provides access to the maintenance area, the third leads to Parking Field 4. Just north of Sunken Meadow Creek is a road that runs east and west. To the east is Parking Field 3 and to the west is the golf course and driving range. This network of roads consists of 3.65 miles and is maintained by OPRHP. Additionally, there are two vehicular bridges and 0.85 miles of service road maintained by park staff.

Parking Areas

Table 5 - Parking Table

Parking Lot	Quantity	Type	Condition
Field 1	1860	Asphalt	Excellent
Field 2	2260	Asphalt	Poor
Field 3	1170	Asphalt	Excellent
Field 4	1080	Asphalt	Fair/Good
Field 5	405	Asphalt	Poor
Golf Course	270	Asphalt	Good
Parking Capacity Total	<u>7045</u>		

Groin

A groin was constructed using large boulders on the beach shore in the 1930s or early 1940s to reduce erosion. This groin is approximately 250 feet in length and reduces the velocity of the west to east wave action and associated sand migration. A historic seawall is located beneath the groin and extends inland beneath the sand.

Boardwalk

The park has a 0.75-mile boardwalk along the beach. Through the past several years it has seen significant improvements including new decking. Improvements to the water system, located beneath the boardwalk are ongoing. The boardwalk connects the West Pavilion, the Main Concessions Stand, Park Office/Bathhouse and the East Beach Concessions Stand and is heavily used by walkers, runners, bicyclists and for access to the beachfront.

Accessibility

The park is in compliance with the American's with Disabilities Act (ADA). As issues arise, the park coordinates with the regional office to resolve them. New or substantially renovated park facilities are designed and constructed in accordance with ADA regulations.

Operations and Maintenance

Park Season and Hours

The park is open from sunrise to sunset year-round. The golf courses are open year round, weather permitting. The clubhouse opens one hour before the first tee time (sunrise) from March until November. The last tee off is approximately 1.5 hours before sunset. Winter golf hours, from the end of November until the end of March, are 9:00 AM until 3:00 PM daily. The driving range is open all year, weather permitting.

Beaches

Swimming is allowed from June to mid-September, 9:00 am until 7:00 pm daily. Reduced swim hours are in effect pre-season from Memorial Day until the end of June and in the post season, following Labor Day.

The Nissequogue River outlet is periodically dredged by Suffolk County Government for navigational purposes. The sand removed from the outlet is used to replenish the beach at the park and restore sand lost to the erosional forces of the sound.

Buildings

There are 28 buildings located throughout the park, many of these buildings were constructed in the 1950s and 1960s and need significant updates, improvements or replacements to meet the current demands of the park. Where feasible, the adaptive reuse of existing structures promotes sustainability and is a cost effective approach to providing visitor services. See Figure 14 – Building Inventory Map and Appendix I for more information on existing structures within the park.

Maintenance Facilities

Park Maintenance Area

The park maintenance area is accessed from the main entrance road and serves all general park related maintenance operations. The maintenance building is used to maintain equipment, store regularly used supplies and tools and serves as the office and break room for maintenance staff. The significant maintenance demands at Sunken Meadow require a considerable amount of equipment. Due to space limitations within the building, much of this equipment is stored outside and exposed to the elements, which causes premature deterioration, resulting in increased maintenance and upkeep.

Golf Course Maintenance Area

The golf course maintenance area is located to the east of the clubhouse. It serves as the main maintenance facility for all golf course related operations. The majority of this building is used to facilitate the day to day operations of the course while a smaller portion is used for golf cart charging and storage. Maintenance equipment, such as mowers, tractors and other golf course related equipment, is stored in this area. Due to limited covered storage, this equipment is stored outside and

exposed to the elements, which causes premature deterioration, resulting in increased maintenance and upkeep.

Sustainability Programs

Solid Waste Management and Recycling Programs

Recycling is promoted throughout the park through the distribution of educational flyers and display of posters. The recycling of disposable items is currently conducted off site at a recovery facility for sorting. Recycling bins for bottles and cans are located near the main bathhouse for patron use. The park office recycles paper products, aluminum, plastic and glass. The park maintenance shop recycles their scrap metal and used oils. For more information on recycling opportunities please visit the following website. http://www.citizenscampaign.org/special_features/long-island-recycling.asp

Chapter 4: Park Vision and Goals

Agency Mission Statement

The mission of Parks, Recreation and Historic Preservation is to provide safe and enjoyable recreational and interpretive opportunities for all New York State residents and visitors and to be responsible stewards of our valuable natural, historic and cultural resources.

Park Vision

Governor Alfred E. Smith/Sunken Meadow State Park will continue to be a place for visitors to enjoy recreational opportunities while, at the same time, affording visitors the chance to enjoy and appreciate the resources of Long Island's north shore.

Overall Park Goal

To welcome more than 1.5 million people each year to enjoy family outings, picnic, play golf, swim, hike, run, bike, and learn from the natural and cultural resources of Governor Alfred E. Smith/Sunken Meadow State Park.

Resource Goals

Recreation Resources

Goal

Understand the importance of and the need for outdoor recreation and provide facilities and programming for active and passive recreation enhanced by the park's natural and cultural resources.

Objectives

- Enhance existing recreational opportunities including but not limited to the following;
 - Improve bicycle and pedestrian pathways.
 - Improve trail system, trail signage and create a trail map.
 - Designate and improve a limited number of water access points on Sunken Meadow Creek to protect the marshland.
- Improve the picnic opportunities.
- Provide year-round facilities and programs for public recreation.
- Determine suitable activities for underutilized areas of the park.
 - Parking Field 2
 - Parking Field 5
- Maintain court and field activities.
- Maintain a pleasing and healthy beach for swimming.
- Develop a water trail connecting various parks and features.
- Implement programs and facilities that are consistent with the role of OPRHP and with regional and local needs and demands as identified in the Statewide Comprehensive Outdoor Recreation Plan (SCORP), and other federal, state and local plans and programs.
- Identify recreational activities that provide opportunities to experience, and are compatible with the park's natural and cultural resources and patron interests.
- Provide appropriate support facilities for recreational activities.

Natural Resources

Goal

Protect, preserve and interpret the significant natural resources including North Shore woodlands, maritime dunes and marshland throughout Governor Alfred E. Smith/Sunken Meadow State Park State Park.

Objectives

- Identify areas with environmental sensitivity and design programs and facilities that will provide interpretation without impacting the resources.
- Use native plants in the park and encourage the propagation of indigenous, non-invasive plants.
- Control and/or eliminate invasive species.
- Protect and maintain habitat for rare, threatened, endangered or protected plant and animal species and community types.
- Maintain, restore and/or enhance the natural environment, where appropriate, to improve the quality of natural resources and support biodiversity of plant and animal species.
- Develop management strategies for the unique natural resource areas of the park, including significant communities.
- Protect the park's natural resources by managing threats including ATV's, deer, geese, feral cats, harmful insects, pollutants and stormwater runoff.
- Apply the principles of ecosystem-based management (EBM) to operational and resource protection activities within the park.
- Consider native animal species and their habitat when developing new landscaping.
- Prioritize invasive species control according to habitats which are affected.
- Use OPRHP's Invasive Species Unit to help educate park staff in the identification and prevention of invasive species in the park.
- Support low impact erosion control along beach.
- Control poison ivy where appropriate.

Cultural Resources

Goal

Protect, preserve and interpret important historic structures, landscapes and archaeological resources within Governor Alfred E. Smith/Sunken Meadow State Park State Park.

Objectives

- Identify and protect archaeologically sensitive areas.
- Maintain, protect and restore important historic landscapes, views and vistas.
- Preserve significant historic structures and identify new uses for vacant and underutilized buildings that are compatible with their historic function.
 - Develop a plan to restore the historic integrity of the main bathhouse and determine uses for its underutilized space.
- Develop and coordinate programs and activities that interpret the history and culture associated with the park.
 - Consider historic interpretive trails in portions of the park.

Scenic Resources

Goal

Protect the scenic quality of the park; especially the open views, vistas and picturesque landscape.

Objectives

- Reopen overgrown scenic and historic viewing points throughout the park.
- Design and locate activities, structures and infrastructure that fit into the park's setting and minimize visual impacts.
- Enhance landscaping throughout the park.
- Provide greater opportunities to view landscapes and other natural features.
 - Develop designated viewing areas along Sunken Meadow Creek.
 - Consider improving scenic vistas at the park entrance, the former fire tower location and the overlook area.

Open Space Protection

Goal

Protect open space within and adjacent to the park through acquisition, designation of special use areas, and coordination with existing partners.

Objectives

- Research connectivity to Nissequogue River State Park and other open spaces.
- Research protection strategies for adjacent undeveloped land.
- Coordinate with local government to protect buffer zones provided between developed land and parkland to the maximum extent possible.

Access

Goal

Provide appropriate access to the park and its natural, recreational and cultural resources in a manner that ensures the safety and security of park patrons and its resources.

Objectives

- Improve access for emergency vehicles, delivery vehicles and staff.
 - Consider allowing access from Kohr Road through maintenance facility.
- Improve access to Nissequogue River State Park.
 - Explore access opportunities for pedestrian traffic.
- Provide and maintain a safe entrance and exit to the park from local roads.
 - Consider safety improvements around toll plaza
- Improve the trail systems that link parking areas and neighborhoods to the natural, cultural and recreational resources.
- Provide and maintain appropriate public access to areas designated for public use.
- Improve access to the park resources for persons with disabilities in accordance with the Americans with Disabilities Act Accessibility Guidelines (ADAAG).

- Control illegal access to the park by motorized vehicles.
- Conduct a traffic study near the Sunken Meadow Creek crossing.

Education and Interpretation

Goal

Provide opportunities for education and interpretation of the natural, cultural and recreational resources of the park.

Objectives

- Develop educational programs regarding the park’s cultural resources focusing on the major eras of the park including but not limited to; Native American, Revolutionary War, and the Colonial period.
- Develop educational programs and media that focus on the park’s natural, cultural and physical resources and educate the public of their importance. Areas of focus include the following; Flora, Fauna, Ecological Communities, Sunken Meadow Creek, Climate Change, Resource Conservation and Geology.
- Provide guided and self-guided interpretive programs designed for the general public and for organized groups, in natural areas as well as at the various historic structures.
- Develop programs that are compatible and encourage stewardship of park resources.
- Provide a year-round interpretive program.
- Foster partnerships with local environmental and historic/cultural organizations, to provide interpretive programs designed for park visitors and groups.
- Develop interpretive signage that is cohesive in its aesthetic throughout the park.
- Connect educational opportunities to recreation in park.
 - o Consider constructing educational panels on trails
 - o Consider the development of educational opportunities such as “Guide by cell phone”

Operation and Maintenance

Goal

Operate and maintain the park in a safe, clean and sustainable manner that protects the natural and cultural resources of the park and the welfare of the park patrons.

Objectives

- Replace high maintenance items with more sustainable, low maintenance items.
- Control illegal ATV access and reduce access points.
- Develop a volunteer maintenance plan for activities such as litter clean up, invasive species removal and trail maintenance.
- Minimize the impacts of events on neighbors.
- Employ new technologies to collect fees.

Sustainability

Goal

Protect the natural systems of the park and the region through the implementation of sustainable and environmentally sensitive management and operation actions.

Objectives

- Use green technology in construction and renovation of facilities.
 - Consider solar powered lighting for future projects.
- Improve stormwater management.
 - Consider the construction of bio-swales and rain gardens.
- Improve and expand sustainable park operation practices and reduce energy consumption.
 - Consider reducing mowing where appropriate.
 - Consider replacing park vehicles and maintenance equipment with those that are more efficient and/or do not use fossil fuels.
- Improve recycling opportunities.
 - Provide containers for collecting recyclable bottles and cans.
 - Improve recycling from park staff and concessionaire.
- Educate patrons regarding sustainable practices.
 - Consider providing additional educational information and interpretive programming.

Facility Development and Capital Investment

Goal

Provide quality facilities consistent with the park's design aesthetic and sustainable/green building practices.

Objectives

- Identify potential uses for vacant or underutilized buildings in the park.
 - Consider additional uses for the main bathhouse, meeting the needs of park administration functions, staff and park patrons.
 - Reapportion space in the bathhouse complex for the park office, Park Police office and life guard office.
- Reestablish pedestrian access across Sunken Meadow Creek.
- Establish a schedule to perform preventative maintenance on existing buildings, structures, roads, and infrastructure.
- Expand reservable group picnic opportunities
 - Consider placing the open shelter in the picnic area on the reservation system.
- Provide new or improved public restroom facilities in appropriate locations making use of existing resources when possible.
 - Improve main bathhouse restrooms.
 - Consider improving picnic area restrooms.
- Improve pedestrian circulation in the park.
 - Consider the development of a multi-use trail along the golf course roadway and from the bathhouse to the park entrance.

- Redevelop the toll plaza
 - Develop an attractive, welcoming entrance.
- Improve signage on park roads and trails.
 - Use OPRHP/DOT/NPS standards for the development of a signage plan.
 - Designate funding for new park signage.
 - Eliminate redundant signs in the park.
- Develop a multi-year capital facilities plan for the park.
- Provide low level lighting near the park office to improve visibility in the evening.

Communication and Partnership

Goal

Foster and enhance existing partnerships and explore opportunities to develop new partnerships with other organizations, colleges and universities, federal, state and local agencies, not-for-profit groups and the private sector that will benefit the park and its operation.

Objectives

- Develop partnerships for maintaining facilities and conducting programs.
 - Consider additional partnerships for trail maintenance, education and litter clean up.
- Conduct outreach efforts in the surrounding communities to bolster relationships and volunteerism.
- Enhance opportunities for input regarding park management and development from the public.
 - Implement park surveys.
 - Improve ease of access to park office.
- Continue to promote regional tourism.
- Improve communication systems in the park.
 - Explore the development of an emergency broadcast system in high use areas of the park.
 - Explore the expansion of cell phone service in the park.
- Improve internet connections to improve staff communication.
- Coordinate with federal, state and local agencies in the management and stewardship of the natural, cultural and recreational resources of the park.

Inventory, Monitoring and Research

Goal

Encourage inventory, monitoring and scientific research of the park's natural and cultural resources.

Objectives

- Continue to monitor the water quality of Sunken Meadow Creek and Long Island Sound.
- Assess the impact of deer on park ecosystems.
- Continue and enhance programs that inventory, research and monitor park resources.
- Continue to monitor rare and endangered species.
 - Study the impacts of predators on rare and threatened wildlife.
- Map and monitor invasive species and evaluate the effectiveness of control.

- Assure that all inventory, monitoring and research programs are compatible with the protection of the park resources and that findings are incorporated into the OPRHP research tracking system.
- Monitor the impact of recreation on natural resource protection goals.
- Promote research that complements the other goals for the park.
- Develop and implement a monitoring program that measures conditions and changes within the park.

Chapter 5: Analysis and Alternatives

Introduction

This section describes how resource information contained in Chapter 2 – Park Background and Chapter 3 – Environmental Setting is analyzed and outlines the process for the development of alternatives.

Analysis

The resource and inventory information was analyzed, identifying opportunities and limits of the resources and existing facilities. The findings from this analysis were used in developing and defining element alternatives pertaining to the stewardship of resources, recreation opportunities, and facility development.

A number of matrices were used as tools to assist in the evaluation and development of alternatives for categories such as resource stewardship strategies, designation areas, recreation element alternatives, and facility development and operation alternatives. These matrices describe the various element alternatives, the considerations for each element alternative, and the selected preferred element alternative (see Appendix A). The compilation of the preferred element alternatives from all categories constitutes a master plan alternative.

Master Plan Alternatives

There are two master plan alternatives that have been developed in this plan. The first is the status quo alternative and consists of all the status quo elements from the matrices in Appendix A. This alternative proposes no changes to facility development/restoration, patron programs, resource protection strategies or management and operation within the park.

The second alternative is the Preferred Master Plan alternative and is the compilation of the preferred element alternatives. While there are a plethora of combinations of element alternatives that could comprise a master plan alternative, the alternative selected as the preferred alternative and proposed as the Final master plan in Chapter 6 was determined to be the one that best met the vision and goals outlined in Chapter 4.

Selection of the Preferred Master Plan Alternative

In analyzing the status quo alternative and other alternatives, an emphasis was placed on improving the experience for the park patron. The park functions well in its current configuration, however, OPRHP staff have indicated areas where changes and improvements can be made that will enhance the user experience and the variety of recreation options available at the park.

The preferred alternative improves recreational opportunities by enhancing the overall trail system including layout, signage and designating trailheads. Pedestrian connections will be improved throughout the park and to the surrounding communities to encourage pedestrian access and physical fitness, a spray park will be constructed in the West Orchard Picnic Area and picnicking opportunities will be expanded near Parking Fields 1, 2 and 5. The kayak/canoe/paddle boarding launch area will see minor improvements and if constructed and maintained by and outside organization, a disc golf course will be allowed in the park. Recreational elements including court games, dog walking, fishing and swimming will remain the same. Open fields will be increased in

Parking Field 2 providing additional space for field-related recreation. Model airplane flying will remain the same until Parking Field 2 development plans are implemented.

The preferred alternative improves on the status quo in terms of natural resource protection by recommending a plan be developed to control invasive species, continuing monitoring and protection of rare and endangered species, and establishing a Bird Conservation Area.

Cultural resources will continue to be protected through the review standards set forth by OPRHP and its Division for Historic Preservation.

Educational and interpretive opportunities are improved from the status quo by promoting the vision and goals set forth in Chapter 4. Park patrons will see enhanced educational and interpretive information about the significant natural and cultural resources throughout the park. Additionally, an unused space inside the main bathhouse will be dedicated to education and interpretation.

Operations and infrastructure are improved over the status quo alternative by significantly improving the main bathhouse building which includes the park office, park police office, changing rooms, restrooms, first aid station and adding an educational and interpretive component to the area. A reservable picnic shelter will be constructed in the Old Orchard Picnic Area and the existing picnic shelter will be improved and placed on the reservation system. To assist golf course operations, the golf course maintenance area will be moved to a suitable location. The park maintenance area will see improvements which will protect equipment and materials and address staff needs.

In choosing the master plan over the status quo, OPRHP is making a commitment to improvements and changes in the park which will be in the interest of users and staff, and will have a positive impact on recreation and the natural and cultural resources.

Chapter 6: The Master Plan

This chapter provides a description of what will be done in the park in terms of recreation resource development, management and operations and resource protection. Through analysis of existing issues, public comment, recreational trends and environmental considerations a direction has been developed for the facilities, activities and resources in the park. The actions described here are based on the analysis in Appendix A and the preferred alternatives.

Recreation Facility Development and Programs

Sunken Meadow State Park is heavily used and is a very significant recreational resource both locally, for the New York City area and throughout the region. It is used regularly throughout the year and receives particularly heavy use on warm summer weekends. The following list provides a description of activities and how they will be implemented in the park.

Swimming Beach

The swimming beach will remain as is. The guarded swimming opportunities will remain in their present location. Operational constraints as well as resource protection do not warrant the expansion of the guarded swim beach. OPRHP policy does not allow unguarded swimming facilities on OPRHP parkland.

Picnicking

The East Orchard bathrooms will be rehabilitated. To address the need for additional picnicking, a portion of Parking Field 2 will be used to expand the adjacent picnic area. Parking Field 5 will be rehabilitated to include suitable overflow parking and picnicking and the west portion of Parking Field 2 will be removed to expand picnicking and sports fields. Picnicking will also be expanded between Field 2 and the Sound. Shade/rain shelters will be constructed in this area for patron use. Parking Field 3 will be reduced in size to provide additional picnic space and play area. See Appendix G – Recreation Facility Plan for more information.



Parking Field 1



Parking Field 2



Parking Field 5

Picnic Pavilions

The existing pavilion, located in the East Orchard Picnic Area will be placed on the reservation system. The enclosed room will be adapted for food preparation and warming. An additional pavilion will be constructed in the East/West Orchard Picnic Area for large group rental.

Kayaking/Canoeing/Paddle boarding/Windsurfing

To improve water access for park patrons and protect the surrounding maritime grassland habitat, changes will be made to improve and consolidate the access points for kayak/canoe/paddle boards on Sunken Meadow Creek. Windsurfing access to the Sound will remain unchanged with access provided to the Sound from the shoreline.

Scout Camping – Backpack

Primitive group camping opportunities will be provided to scouting groups wishing to use the park for park service projects. Scout camping activities will be based out of the Parking Field 5 area with minimal development provided for this activity. Scout groups wishing to use the park must contact the park manager and submit a park use permit application.

SCUBA Diving

Areas of the park will be designated for SCUBA access providing additional opportunities for SCUBA diving and improving wildlife habitat in the creek.

Fishing

After the breach of the Sunken Meadow Creek dike, the habitat of the creek has changed. Fishing access along the creek will be reevaluated to provide suitable fishing opportunities for patrons. A fishing pier is possible if permitted by the NYS Department of Conservation.

Fauna and Flora Observation and Photography

Education and interpretation will be provided at key locations throughout the park to assist patrons with flora and fauna identification and further their appreciation for wildlife. Additionally, the naturalization of Sunken Meadow Creek will improve opportunities to view native flora and fauna typically found in tidal marshlands. Appropriate seating and/or small shade pavilions will be provided at appropriate locations.

Astronomy/Star Gazing

The permitted use of existing facilities will remain. Additional lighting in the park will be considerate of the requirements needed for this activity. The park will continue to allow evening access to patrons during certain astronomical events.

Model Airplanes

Opportunities will remain in the Parking Field 2 until its redevelopment. (See page 84 of Appendix G – Recreation Facilities Plan) Any further additional seasonal expansion will be considered at Nissequogue River State Park.

Softball

Operational demands at the park do not warrant the expansion of softball. All maintained softball fields will continue to be maintained. Informal softball fields and open areas will remain available

for informal softball games and other activities. One designated but often unused softball field adjacent to Field 3 will be removed to allow space for additional development. (See Page 85 of Appendix G - Recreation Facilities Plan)

Soccer

Undesignated soccer opportunities will be allowed in open grassy areas throughout the park. The creation of a designated soccer field will limit the flexibility needed at this park to provide various activities for a wide variety of user groups. A designated soccer field will not be constructed in the park.

Disc Golf

A disc golf course will be allowed in the park if it is constructed and maintained by an outside organization and does not interfere with other activities in the park.

Mini Golf

Considerations will be given to the construction of a mini golf course to the northwest of the traffic circle if funding and staffing levels improve. Until that time, a mini golf will not be constructed in the park.

Golfing

Courses will continue to serve mid-level golfers. Improvements made to the existing course features will raise course standards and improve the quality of play for patrons. Improvements include rehabilitating and expanding the irrigation system, pave cart paths and service roads where needed, upgrade electrical system, expand golf cart storage area, install lightning in shelters, replace sand bunkers, make courses ADA accessible, and plant trees suitable for a golf course.

Driving Range

To improve accessibility to the driving range, a plan will be developed to make the range more accessible to patrons with limited abilities.

Beach Volleyball

Volleyball will continue to be allowed on the beach. Patrons must provide their own equipment.

Motor Boat Launch

The motor boat launch at Nissequogue River State Park will be dredged and provide public access to the Sound. A motor boat launch will not be constructed in the park.

Kite Flying

The park will continue to allow patrons to fly kites year-round in Parking Field 2 when available, on the shoreline outside of the swim beach and on open grass areas in the picnic area.

Tennis Courts

Town and County parks, public schools and the private sector will continue to serve the local demand for tennis. Tennis courts will not be constructed in the park unless as a secondary use to overflow parking areas.

Skateboarding

Small areas in the park can be designated/designed for skateboarding activities and used interchangeably for seating.

Inline Skating

The park will allow inline skaters the same rules as bicycle riders within the park.

Basketball

Additional basketball courts will be considered during the design phase for picnic area improvements.

Badminton/Volleyball/Croquet

Areas of suitable sizes will be provided between other amenities/facilities. Patrons shall provide their own equipment.

Bocce Ball

A sand bocce ball court will be constructed. Patrons shall provide their own equipment.

Shuffleboard

Consideration will be given to the creation of shuffleboard courts adjacent to picnic areas and/or the boardwalk for both day and evening users.

Gardening/Labyrinth

If private funding for construction and long term maintenance is provided, the park will consider allowing the construction of a garden or labyrinth in an appropriate location.

Geocaching

Geocaching will be allowed in the park by permit. Patrons must contact the park manager.

Ice Skating

A portion of a parking field can be used off season for an ice skating rink if operated and maintained by a concessionaire.

Bandshell/Amphitheater/Stage

A small bandshell, and/or amphitheater with a concessions stand will be constructed adjacent to Parking Field 1 for day and evening use. See page 84 and 85 of Appendix G – Recreation Facilities Plan.

Playgrounds

Upon the replacement of existing playgrounds, the location will be evaluated to determine if a better suited location exists within picnic areas or adjacent to play fields. Shade structures, seating for guardian, universal accessibility and poured in place surfacing will be considered upon the design. See Appendix G - Recreation Facilities Plan for more information.

Spray Ground

A spray park will be constructed for children in the West Orchard Picnic Area. Constructing a spray park at this location will serve a significant need and reduce the volume of patrons traveling from the picnic area to the beach and increase recreational diversity in the area. Design development and permitting will be coordinated with the NYS Department of Health as needed. See page 87 of Appendix G – Recreation Facilities Plan.

Trails and Pedestrian Connectivity

Pedestrian Connectivity

Connections to the surrounding communities will be improved and the usage of non-motorized transportation to the park encouraged. Connections to Callahan's Beach Park, Nissequogue River State Park and Route 25A will be improved to allow pedestrians convenient access to the park. Connections will also be investigated to the Long Island Railroad station as well as the Long Island Expressway. Connections inside the park will also be improved and include improving the connection between the golf course area and the Parking Field 3 area and connecting Parking Field 4 with Old Dock Road. See Figure 19 – Pedestrian Connectivity Map for more information.

Cross Country Running Course

The cross country running course will remain in its present layout. The park will continue to improve the trail surfacing where needed by including asphalt millings to improve stability, traction and durability of the surface. Regular maintenance by park staff will be provided to the course during the cross country running season. Groups wishing to provide maintenance to these trails during the off season must contact the park manager.

Hiking and Mountain Biking

OPRHP will partner with local mountain biking and hiking groups to improve the trail system. A well thought out layout for multiple uses will be developed which takes advantage of the existing sustainable trails, relocates unsustainable sections of trails and revegetates all relocated trails per OPRHP Guidelines for Closing Trail. Trail maps and signage will be improved per the OPRHP Trail Signage Guidelines to aid trail users and reduce confusion on the trail system. See Figure 19 – Pedestrian Connectivity Map and Figure 4 – Recreational Resources Map for more information.

Equestrian Access

Equestrian usage at the park is minimal. Topography and wetlands limit the size of new development and expansion of this activity is not recommended. Equestrian use will remain on the Bridal Path and Parking Field 5 will remain the designated trailhead.

Dog Walking

On-leash dog walking opportunities will remain in their present location. Trail signage will be installed at access points identifying the trail conditions at each location. Access to the dog walking area from Kohr Road allows patrons use of open trails with a slight grade. Access from the Smithtown boat launch area provides a more rugged experience along the bluff for patrons and their dogs. Poison Ivy located along these trails will be investigated and controlled as appropriate. See Figure 4- Recreational Resources Map for more information.

Long Island Greenbelt Trail

The Greenbelt Trail will receive maintenance on portions identified as having erosion. Trail blazes will be placed along this trail to provide patrons with improved guidance and direction. Park staff will coordinate with The Long Island Trail Conference to assist with these improvements.

Cross County Skiing and Snowshoeing

Skiing and snowshoeing is allowed all trails in the park. The limited season and conditions on Long Island does not warrant the expansion of this activity or trail grooming. However, trail signage and map improvements will be provided to help guide patrons to appropriate locations for their abilities.

Trailheads and Trail Signage

A trail signage plan will be developed for the park. Intersections will be clearly marked and trail blazes or directional signage placed along all trails. The designated trailheads in the park will include Parking Fields 2, 3, 4 and 5. Park signage will be developed in accordance to the Trail Signage Guidelines for the New York State Park System. For additional information on these guidelines, please visit the following webpage. <http://nysparks.com/recreation/trails/technical-assistance.aspx>

At these designated trailheads trail and emergency contact information will be provided for patrons. This information will help patrons determine if the trail is suitable for their level of recreational activity and give them a general understanding of what they may experience along those trails.

Daybreak Area Trails

The trails located in the Daybreak Area will receive improvements including maintenance, layout and signage. Connections to the adjacent Callahan's Beach Park will be improved to encourage bicycle and pedestrian access from surrounding neighborhoods and physical fitness. Education and interpretive opportunities exist in this area for both cultural and natural resources and will be further investigated upon detailed trail planning efforts. Trail planning efforts for this area will include OPRHP staff and local trail groups to assist with a clear, well organized and sustainable multi-use, trail that includes key natural and cultural resources, significant scenic vistas and connects to other pedestrian paths/trails in the park. Trails will be signed in accordance to the Trail Signage Guidelines.

Kings Park Bluff Area Trails

The trails in the King's Park Bluff Area will be improved to meet sustainable OPRHP trail guidelines. OPRHP will coordinate with local trail groups to develop a maintenance plan for these trails and where needed, reroute trails with erosion. Patrons access the shoreline from the bluff top at several points along the bluff. Efforts will be made to reduce the quantity of these access points and the associated erosion by closure, revegetation and education. Efforts will be made to consolidate access points to the most appropriate locations. This may be done in conjunction with the erosion control project proposed by the Town of Smithtown. Poison Ivy will be monitored and controlled as appropriate along these trails.

A multi-use pathway will be constructed to connect Old Dock Road to the Overlook Area in the park. This pathway will be a main pedestrian corridor which will provide a greater connection to Nissequogue River State Park and Kings Park. See Figure 19 – Pedestrian Connectivity Map for more information.

South Trails

The trails in the southern portion of the park will be reevaluated by OPRHP and local trail groups to provide a sustainable, clearly organized trail network. Appropriate connections to both internal and external points will be made to improve patron access and circulation. The designated uses for these trails include hiking, mountain biking, skiing and snowshoeing. Parking Field 5 will be the designated trailhead. Access to the trails located to the south of Route 25A will be provided near the former fire tower access which has the greatest visibility. Appropriate pedestrian crossing signage, striping and other methods to designate and formalize this crossing should be considered to improve access to these trails.

Multi-Modal Connections

A connection to the Long Island Railroad (LIRR) will be made and/or supply information to people taking the train on how to get to the park. OPRHP will coordinate with the LIRR to place information on their webpage. Information will also be placed on the Sunken Meadow Facebook page. Pathways to the park should be developed and promoted to encourage multimodal transportation to the park. The park will outreach to the NYS Department of Transportation to determine appropriate and effective methods to improve these opportunities.

Designations

Bird Conservation Area

Undeveloped portions of the park and the majority of the golf courses are designated as a Bird Conservation Area. The BCA designation provides a level of recognition on a statewide level which adds to the overall significance of the park relative to other parks and open spaces within the state. Such designation will encourage the public not only to support or visit the park because of the bird species that may exist there but also to be more sensitive to their habitats during their stay. The BCA designation will not prohibit existing or future recreation uses or operational needs. Instead, the BCA designation will inform the planning process for future actions in the Park. All projects not included in this master plan will be reviewed through SEQR.

If the BCA law is modified in the future, the designation will be reevaluated. See Figure 23 – Bird Conservation Area Map for more information.

Natural Resource Protection

Water Management and Protection

Shoreline Erosion

Shoreline protection and nourishment will continue. OPRHP will continue to place the spoils from County led dredging operations in the Nissequogue River on the shoreline as they become available. When they become unavailable, parks will reconsider shoreline management strategies. To protect the bluff, the placement of spoils will be expanded to include both sides of the jetty.

Former Sunken Meadow Creek Dike

Hurricane Sandy eroded the former dike located on Sunken Meadow Creek. This dike not only impounded fresh water from Sunken Meadow Creek, but it provided pedestrian access across the

creek. This pedestrian access will be reestablished by the construction of a bridge. To restore natural estuary conditions along the creek, the dike will not be reconstructed.

Sunken Meadow Creek Bank Protection

OPRHP will coordinate with the Town of Smithtown to explore the construction of a bank stabilization project previously developed for the Kings Park Bluff. Points along the bluff receiving significant erosion from patrons will receive improvements to both educate patrons, direct access to the water and protect the bluff.

Stream Water Quality

Water quality in Sunken Meadow Creek will continue to be monitored. The most significant threat to water quality from the park is stormwater containing oil and other fluids leaked from parked cars. This stormwater flows into culverts and then to the creek. Best Management Practices to address stormwater runoff, such as porous pavement, stabilized soil or other means of naturally filtering water will be used on projects involving parking lot modifications or improvements.

As part of its commitment to protecting water quality, Integrated Pest Management (IPM) principles are followed at the golf course, using an environmentally conscious approach to the management of pests such as insects and weeds. Sunken Meadow Creek is monitored regularly by OPRHP and local partners to protect its quality and identify any water quality concerns in a timely manner. For more information on IPM please visit the following link;
<http://www.epa.gov/opp00001/factsheets/ipm.htm>.

Due to the breach of the Sunken Meadow Creek dike, water quality along the creek will continue to improve. Regular tidal flow in this area has cleansed natural contaminants caused by bird and other wildlife which had reduced water quality upstream from the dike.

Wetlands

Wetland monitoring and protection will continue. OPRHP will encourage additional research projects and develop an interpretation and education program to assist patrons with actions they can undertake to protect this and any other wetland. The 2012 breach of the Sunken Meadow Creek dike has greatly enhanced the quality of the wetland and is fundamentally restoring the natural habitat.

Invasive Species

An Invasive Species Management Plan will be developed for Sunken Meadow State Park based on the OPRHP template and implement the plan. The statewide invasive species management plan contains protocols for identifying, controlling and eradicating invasive species in any park in the OPRHP system. Completion of such a plan for Sunken Meadow State Park and its implementation will give clear direction to park staff that will be dealing with invasives. The main goals of the plan will be to keep portions of the park free of invasive species and in particular to identify core areas that are invasive free zones. The plan will have sections specifically dealing with the issue as it pertains to the park as well as sections describing invasive species management in general throughout the state.

Fish and Wildlife Resources

OPRHP will continue to implement park policies concerning wildlife. Current policies and programs dealing with wildlife resources at the park are adequate and effective. The park will continue its relationship with OPRHP partners as a part of these policies to advance OPRHP's wildlife

management goals. These include the conservation and enhancement of native wildlife species and plant and animal biodiversity, the protection of the health and safety of park staff, visitors, and wildlife from harm, diseases, and other risks associated with wildlife, and the protection of facilities and grounds from wildlife-related damage on a case by case basis.

Rare and Endangered Species

OPRHP will continue to monitor and protect rare and endangered species by addressing patron and wildlife impacts. Education and interpretive programming will be improved to convey information to patrons about these species and the impacts to their habitat. The management plan for rare and endangered species will be updated to include changes which have taken place in the park.

Cultural Resource Protection

Historic Resources

Structures that are NRE include the Main Bathhouse, the toll plaza and the Park Managers residence. OPRHP will coordinate with the State Historic Preservation Office (SHPO) to ensure the historic integrity, character or themes are kept upon starting construction projects on these facilities.

Former Fish Hatchery Area

There is limited knowledge of the former fish hatchery area. Because of the limited information known about this area, park staff will outreach to local history groups to gain a greater understanding of what this area once was and its significance. Upon developing that research, interpretive programming and signage may be developed to educate patrons depending on the information collected. The historic integrity of the area has been retained through the years and with additional research, this area may be considered NRE.

Archaeological Resources

Any proposed project that could result in ground disturbance and potentially affect the cultural resources of the park will require consultation with the Field Services Bureau to determine if a site-specific archeological survey is needed. A list of the types of projects that are considered categorical exclusions and therefore will not require surveys includes:

- Bridge repair or replacement involving the same abutment.
- Repair/replacement of below grade utilities such as septic systems, water lines, electric lines and fuel supply lines.
- Trail construction on slopes greater than 12% and trail maintenance where no change in width, depth, vertical alignment, or drainage is to occur.
- Culvert replacement in the same location.
- Repaving or regrading of roadways or pathways where no change in width, surface material, depth, vertical alignment, or drainage is to occur.
- Repair of erosional issues/washouts due to flooding where the repair work will not extend beyond the erosional area.
- Removal of root balls from downed trees.
- Removal of invasive species that does not entail grubbing or grading.

- Repair/replacement of existing curbing or sidewalks in kind.
- Developed areas of the park
- Areas of cut and fill.
- Education and Interpretation

The interpretative programming in the park will be improved to educate patrons of the many resources the park has to offer. Themes to be included are natural resources, cultural resources and the naturalization of Sunken Meadow Creek. Other themes may be included as the programming develops. Education and interpretation will be included in the Main Bathhouse improvements

Scenic Resource Protection

The overlook area, located to the east of East Orchard Picnic Area will receive selective pruning and removal of the trees allowing patrons views from a former significant vista point of the Long Island Sound. Other scenic areas in the parks interior that have trees and shrubbery will be left to naturalize.

Operations and Infrastructure

Main Bathhouse

The main bathhouse, which includes the park office and Park Police office was constructed between 1932 and 1934 and has seen significant use through the years. As a result, improvements will be made to enhance patron and staff use of the facility. Improvements will make use of space in the bathhouse not presently used and provide additional and improved facilities to meet the year-round demands at the park. Improvements include the following items;

- Reapportion space for the park office, Park Police office and life guard office to improve park operations.
- Construct a visitor orientation/visitor center area in the former locker room area
- Enlarge and improve the women's restroom providing additional facilities.
- Reconfigure and improve the men's restroom.
- Improve the changing/shower area.
- Improve the winter restrooms
- Construct an education and interpretation area with classroom space.
- Construct a new life guard and park police offices. Park Police office will have a new vehicle entrance.
- Construct an employee break room.
- Enhance the entrance to the park office to improve patron access and visibility.
- Restoration/renovation of restrooms, showers, first aid office and the life guard offices
- Improve sewage system.
- Expand concession operation into the former concessions stand.

- Restore historic integrity of this National Register of Historic Places Eligible structure.
- Install exterior low level lighting on walkways.
- Install shielded parking lot lighting in the portion of Parking Field 1 closest to the Main Bathhouse.

Because the bathhouse is NRE, the State Historic Preservation Office will be review bathhouse design plans and provide guidance for restoration. For more information please see Figure 15 – Building Inventory Map.

Park Maintenance Area

To improve the operation of the maintenance area, a plan will be developed which improves interior secure storage capacity, covered or enclosed storage for equipment, a salt/sand storage shed for winter supplies and an improved entranceway from Kohr Road for staff, deliveries and emergency vehicles to improve access to the park during times of heavy use.

Toll Plaza

The toll plaza will be replaced with a plaza which meets the needs of park staff, patrons and delivery vehicles. Design development will include the use of architectural details which portray the Sunken Meadow Parkway and the park. Architectural details will be consistent with the character of the past while integrating current toll plaza design standards and improved technologies. Because the toll plaza is NRE, the State Historic Preservation Office will be review design plans and provide guidance for replacement.

Boardwalk

Benches with backrests will be provided along the boardwalk through a memorial bench program. Patrons wishing to purchase a bench for the boardwalk may contact the park office for more information. Aging waterlines will be replaced to reduce leakage and staff time maintaining the system. Low level, Dark Skies compliant lighting will be added to key areas of high use along the boardwalk to enhance the park patron experience during times of low light.

Golf Course Maintenance Area

To assist with park operations, provide increased storage opportunities and remove a service area from a high visibility public use area, the golf course maintenance area will be relocated across Naples Ave near the golf course entrance. The current maintenance area will be used for golf activities and events. As part of this project, the golf course irrigation pumps will require moving and fuel tanks removed.

Golf Course Roadway – Naples Ave

To reduce vehicular and pedestrian conflict, a multi-use pathway will be developed between the roadway and the bluff to provide an area for pedestrian activity away from the golf course roadway.

East Concessions Building (Parking Field 3)

The concession building will be rehabilitated and a long term maintenance plan developed.

West Concessions Building (Parking Field 2)

Access to the beach will be improved and conflicts reduced between concession events and patrons using the boardwalk. OPRHP will construct a stairway for event goers to access the beach reducing impacts of patrons using the boardwalk.

Shade/Rain Shelters

Shade/Rain shelters will be provided at key locations in open picnic areas for people to use for picnicking. They will also be constructed adjacent to playgrounds for parents to use while supervising their children on the playground.

Bandshell

A bandshell/amphitheater will be constructed at the east end of Parking Field 1 for large group events.

East/West Orchard Picnic Area (Parking Field 4)

The existing pavilion will be placed on the reservation system for group rental. The enclosed portion will be adapted for food preparation and warming. A concessions stand, comfort station, playground and a spray ground will be constructed adjacent to this area. Two additional rental pavilions will be constructed in the East Orchard Area and two constructed in the West Orchard Area. See pages 86 and 87 of the Recreation Facilities Plan for more detailed information.



West Orchard



East Orchard



Bandshell

Parking, Roads and Bridges

Parking Field 4

To improve access to trails in the middle section of the park, Parking Field 4 will be designated as a trailhead. Park directional signage will be updated to indicate all new trailhead locations.

Parking Field 5

The Parking Field 5 area will be improved to serve BOCES, Scouting groups and other patrons more effectively. It will be paved and striped to assist vehicular traffic and designated as a trailhead for trails in the southern portion of the park. This area will also continue to serve the Suffolk Water Authority wells and provide suitable space for a cellular phone tower.

Pavement and bridges

Parking Fields 2, 3, 4 and sections of the park roadways will be milled and repaved. The vehicular bridges over Route 25A and Sunken Meadow Creek will be rehabilitated. Upon the construction of a separate pedestrian bridge over Sunken Meadow Creek downstream from the vehicular bridge, the sidewalk will be removed from the vehicular bridge and the vehicle lanes widened. A pedestrian bridge in place of the former dike near the mouth of the creek will also be constructed that will continue to provide tidal flow in the creek but reestablish access for recreation purposes.

Parking Field 2

To meet the significant demand for picnicking and field opportunities, the small, adjacent picnic area is expanded into a portion of Parking Field 2. Reinforced grass will allow for recreational activities much of the year and overflow parking during peak demand days. The northwest portion of the parking field will be separated by a landscaped buffer from the main area and designated for concession parking. Existing recreational uses taking place in this area will remain until redevelopment and should be coordinated through the park manager. See Appendix G - Recreation Facilities Plan for more information.



Parking Field 2

Roadway Signage

Roadway directional signage will be reevaluated and a plan developed to assist patrons of all ethnicities throughout the park.

Mowed lawn areas

The park currently manages lawn for the high volume of patrons and recreational uses. Recreational demands warrant the need to expand mowing slightly with the inclusion of additional picnicking opportunities in Parking Field 2

Utilities

Drinking Water

An investigation into the system and potential leaks will take place. Replacement will take place as indicated by the investigation.

Wastewater

Wastewater systems for the main bathhouse and the East/ West Orchard Picnic Areas will be replaced.

Electric

The electric system throughout the park will be investigated. Upgrades to the system will be made as required. Permanent emergency generators will be provided for main facilities including the bathhouse, maintenance area, golf course irrigation system, and concession buildings as appropriate.

Outdoor Lighting

The park is primarily a day-use park; however, to enhance patron experience during low light and evening events, low level lighting will be provided in areas of high use around the bathhouse/park office. Lighting will be installed in portions of Parking Field 1 adjacent to the bathhouse/park office and adjacent to the West Pavilion in Parking Field 2. To reduce the impact of lighting on the surrounding area, strategies to minimize light pollution will be used during the design of these lighting systems. Renewable energy opportunities will be considered during the design of additional park lighting.

Cellular Phone Service

Plans are currently underway to provide additional cellular phone service in the area by constructing a cell phone tower in Parking Field 5.

Emergency Address System

An emergency address system will be installed at various high use locations throughout the park, including the swim beach and picnic areas, to assist staff and protect patrons during emergency events.

Stormwater Drainage

To improve the water quality and drainage in the park, the stormwater system will be assessed and improved or cleaned where appropriate. Natural stormwater filtration will be considered during site designs throughout the park.

Landscaping

A planting plan will be developed for the park. Vegetation will be planted at key locations to eliminate picnicking from areas around parking fields and roads. Historic trees will be replaced upon death, damage or disease.

Implementation

Timeline

The Master Plan sets forth OPRHP's vision for capital improvements and operational enhancements to Sunken Meadow State Park for the next ten to fifteen years. The agency has not developed detailed cost estimates for each of the proposed actions; however, cumulatively they will cost millions of dollars to implement. The pace and sequencing of recommended actions will be determined by the availability of funding, which is a function of the size of OPRHP's annual capital budget and the need to balance investments throughout the entire State Park System. The master plan will be reviewed annually to select projects that will be added to the park's budget for implementation and to assess the progress of plan implementation.

The implementation of the Master Plan for the park is divided into three priority phases. The priority groupings described below are conceptual and subject to reorganization based on available funding and/or labor for specific components in any given group.

Table 6 - Priority Phases

<u>Implementation Priorities</u>	<u>Description/Development Component</u>
Priority 1:	Main Bathhouse improvements Golf Course rehabilitation/improvements Golf Course Maintenance Area construction Reestablish the pedestrian connection across Sunken Meadow Creek Toll Plaza replacement Initiate the design of Parking Field 2 improvements Improve outdoor lighting East Orchard Picnic Area improvements Rehabilitate East Orchard restrooms Main Concessions Building Rehabilitation Roadway and parking lot repaving Develop an emergency response grid map Designate trailheads Develop partnerships for trail planning, design and maintenance Develop a trail signage plan Develop a plan for Park Maintenance Area improvements Implement the Parking Field 2/Picnic Area plan Golf Clubhouse renovation Boardwalk improvements and bench installation
Priority 2:	Improve Park Maintenance Building/Area Install an emergency address system Spray park construction East Concessions Building rehabilitation SCUBA diving area designation Trail improvements/maintenance Dog walking area signage improvements Develop partnership for former Fish Hatchery Area research West Concessions Building beach access Develop educational programming Pedestrian Connectivity – Along Naples Ave Pedestrian Connectivity – To Nissequogue River State Park Pedestrian Connectivity – Along Parkway Develop an Invasive Species Management Plan Electrical system improvements Water system investigation Bridge rehabilitation
Priority 3:	Scout Camping Area construction Driving Range accessibility improvements Replace East/West Orchard Picnic Area wastewater system Playground improvements/shade shelters

Disc golf course construction
Fishing access improvements
Stormwater drainage improvements
Parking Field 5 improvements
Kayaking/canoeing/paddle boarding/windsurfing launch improvements
Shoreline stabilization
Continue educational programming
Continue trail improvements/maintenance
Develop a plan to improve multimodal connections
Park landscaping improvements
Second pedestrian bridge over Sunken Meadow Creek
Prune Overlook Area

Acquisition

To enhance recreational opportunities, protect the parks current resources and/or improve connectivity between parkland, OPRHP will consider acquisition opportunities as they arise.

Sustainability

In keeping with a strong commitment to sustainability, OPRHP will continue to increase the incorporation of sustainable practices into its daily operations. In addition, OPRHP will implement the following measures in the park.

- New construction - Continue to consider green materials and concepts including the use of natural lighting, energy efficient electric fixtures, low flow water fixtures, efficient heating and cooling systems and recycled products.
- Parking Lots, Roads and Pathways – During the design of the new day use parking lot and new/renovated pathways, sustainable surfacing options will be considered. During the renovation of existing roads and parking lots, stormwater filtration options will be considered. Parking Field 2 will replace the existing asphalt with reinforced soil for overflow parking.
- Adaptive Reuse of Structures – The reuse of historic structures may take place. Structures may house interpretive information.
- Vehicles and equipment – Alternative fueled and energy efficient vehicles and equipment will be considered upon replacement or purchase.
- Renewable Energy – Renewable and energy efficient options will be considered during the construction or renovation of all structures. The agency will explore the harnessing of renewable energy sources, such as solar panels and geothermal heating systems.

If proposals are received for renewable energy generation projects by outside sources, they will be considered.

- Maintenance – The use of alternative fueled equipment and alternative fuels such as solar, electric and propane fueled equipment and bio-based products (including soy based chain-saw oil and biodegradable products) will be considered. The proper storage and disposal of

chemicals and fuels, limiting the storage of chemicals on site to the quantity which can be used in one year, and the proper clean-up of spills shall all remain a high priority for the park maintenance staff. The recycling of used oils, batteries and metal will be continued.

- Trails – Sustainable trail construction practices will be utilized to reduce erosion due to water runoff and recreational use while reducing the need for maintenance. Portions of trails which have significant erosion may be rerouted. The former corridor will then be rehabilitated to minimized ongoing erosion from water. Efforts will be made to reduce or consolidate the erosional impacts from patron use and the Long Island Sound along the Kings Park Bluff.
- Pedestrian and bicycle pathways – Pathways will be constructed to encourage pedestrian access to the park, reducing the impacts from vehicle use.
- Waste disposal – Visitors and staff will be encouraged to participate in solid waste reduction and recycling programs. Signage will be considered to encourage visitors to recycle at designated recycling stations in the park. Park staff will continue to recycle.
- Water Conservation – The park will continue water conservation measures including the use of low flow fixtures on new construction and renovated facilities. The use of green infrastructure techniques such as rain barrels can be used to minimize water use and reduce runoff. Existing infrastructure will be inspected for leaks and repairs made as needed.
- Wastewater – Wastewater is minimized through the use of low flow fixtures in renovations or new construction. Outdated water treatment systems will be upgraded to improve wastewater treatment.
- Stormwater management – Enhance stormwater management throughout the park to protect water quality in the Sunken Meadow Creek and Long Island Sound. New site designs will consider green stormwater management techniques.
- Vegetation - If plantings are needed, native species will be used where possible to reduce water and maintenance requirements. The reduction of mowing will be considered where appropriate and impacts to recreation will not take place.
- Education – Staff will educate visitors on the park’s sustainable features as they develop. As the educational programming develops in the park, staff will begin to include information to educate patrons on what they can do to lead a more sustainable lifestyle.
- Energy Efficiency – existing systems will be audited and re-commissioned to improve energy efficiency. New construction or rehabilitated structures will use energy efficient products.
- Pest Control – The use of pesticides will be in accordance with the Agency’s Pesticide Reduction Policy. (<http://nysparks.com/inside-our-agency/public-documents.aspx>) Integrated Pest Management (IPM) and organic pest control methods will be utilized for golf course maintenance as recommended by “*Reducing chemical use on golf course turf: Redefining IPM*” (Portness, Grant, Rossi; 2009)
- Waste Reduction – A concerted effort will continue to be made to reduce office/administrative/concessionaire waste, construction and yard/food waste. Recycling bins will be placed in key high traffic areas for patron use.
- Multimodal Connections - A connection to the LIRR will be made and/or supply information to people taking the train on how to get to the park. OPRHP will coordinate with the LIRR to place information on their webpage. Information will also be placed on the Sunken Meadow

Facebook page. Pathways to the park should be developed and promoted to encourage multimodal transportation to the park. The park will outreach to the NYS Department of Transportation to determine appropriate and effective methods to improve these opportunities.

Programs and Partnerships

Sunken Meadow State Park staff continue to be committed to partnering with groups that are interested in furthering the mission of the park. The park staff are also interested in working with other outside planning groups to further the park's contribution to and participation in the recreation resources of the area.

The park currently does not have a dedicated Friends Group. If patrons are interested in creating a Friends Group for the park which includes local user groups, please contact the park manager.

The park, through the regional office, continues to reach out to the larger service area to encourage individuals, groups and agencies to contribute to the park where appropriate.

The park will continue to work with state and federal agencies, such as NYS DEC, NYS Department of Transportation, the Army Corps of Engineers (ACOE), the US Fish and Wildlife Service (USFWS), Suffolk County government, the Town of Smithtown and Kings Park.

The park will continue partnerships with The Smithtown Veterans Organization and the Suffolk County Police who coordinate the summer youth program for teens in the evenings at Field 3. Partnerships with local volunteer groups and businesses will continue to be fostered for litter and beach clean-up events throughout the year.

The park will continue its partnership with the Hauppauge High School who provides research and valuable information on Sunken Meadow Creek which aid in its restoration. Other partners involved in Sunken Meadow Creek restoration provide services and/or funding include the Long Island Sound Study, DEC, USFWS and Sea Grant. The park will also continue its partnership with the Long Island Sound Study and the Island Sound Stewardship Initiative to restore and protect the water quality of The Nissequogue River and Long Island Sound.

OPRHP staff will outreach to local trail groups such as the Long Island Trail Conference and the Concerned Long Island Mountain Bicyclists (CLIMB) to provide assistance with trail planning, signage, design, construction and maintenance.

There are several groups that are working in the park that are here to study, protect and /or rehabilitate park wildlife and their habitat. The NYS Department of Environmental Conservation and the United States Fish and Wildlife Service (USFWS) work in the park to insure that the public is following the laws and guidelines as they apply to fishing, endangered species and park flora and fauna.

Ecosystem-based Management

The master plan and the implementation of the master plan preferred alternatives will be consistent with ecosystem-based management (EBM). EBM is an emerging, integrated approach to managing natural resources and human activities that applies certain components to balance human social and economic needs with the preservation, restoration and enhancement of ecosystems. The EBM approach has six components: 1) placed based, 2) science based, 3) has measurable objectives, 4) uses adaptive management, 5) recognizes interconnections, and 6) increases stakeholder involvement. Master planning is very consistent with the principles of EBM and the agency has

formulated this master plan based on the knowledge of the local ecosystem. The public was also involved early in the planning process and the local knowledge and comment helped to inform the various types of recreational and natural resource decisions made in this plan. It is recognized that the parks resources are connected to adjoining ecosystems and recreational opportunities, and they will be considered in implementation of objectives in this plan. As recreational and natural resources proposals pursuant to the master plan are advanced, and developed they will be based on the best available science using current scientific understanding of impacted ecosystems and the advancement of scientific investigation. Measurable objectives for implementation will provide a basis for gauging the impact of activities on the health of the ecosystem. Further, an ethic of adaptive management will be developed to respond to new knowledge and changing conditions and will allow us to consider how adjustments can be made to reflect new information to accomplish the master plans preferred alternatives and goals.

Chapter 7 – Environmental Review

Introduction

This chapter focuses on environmental impacts and mitigation of adverse effects. For the purposes of SEQR compliance, however, the entire document (Master Plan/FEIS) satisfies the requirements for an environmental impact statement as specified in Part 617, the rules and regulations implementing SEQR. Chapter 6 contains a description of the proposed action. The environmental setting is discussed in Chapter 3. Chapter 5 and Appendix A contain the alternatives analysis.

This chapter has two primary parts: a summary of environmental impacts associated with alternatives, and a more detailed analysis of impacts associated with implementation of the Master Plan, including a discussion of mitigation measures.

Environmental Impacts of Alternatives

Alternatives were developed (Appendix A) for various recreation and support activities at the park, as well as natural resource issues. These alternatives were based on information about existing conditions, an analysis of recommended directions for various activities and constraints, and considerations identified in the resources analysis. The preferred alternative for the entire park (i.e. the Master Plan) consists of the preferred alternative for each identified activity.

Much of the information on the environmental impacts of alternative actions is discussed in Appendix A. This chapter summarizes the findings from the impact analysis which make up the preferred alternative and the Status Quo alternative.

Status Quo

The Status Quo alternative consists of the current facilities, programs and practices as described in the Chapter 3. Under this alternative, current resource protection, operation, and facility management practices would continue. Increasing recreational demands on the park and opportunity for additional conservation of resources would not be addressed, or impacts mitigated.

The Status Quo alternative would not result in any additional adverse environmental impacts. The potential for long-term indirect adverse environmental impacts is likely, however, since there would be no plan to guide use, protection and development of the park. As more visitors use the park, additional demands will be placed on its natural, cultural and recreational resources. Without the guidance provided by the Master Plan, which directs use and development toward areas with higher capacity for such use (and away from the more sensitive areas of the park), the potential for adverse impacts on environmental resources would increase.

Preferred Alternative and the Master Plan

The preferred alternative is the compilation of the preferred recreation activity and support facility options identified in Appendix A. This compilation was subject to a final evaluation (or synthesis) to assure that there was consistency among the various alternatives. This evaluation resulted in the Master Plan (Chapter 6). The plan provides considerable recreational and resource protection benefits. As the agency's mission is to provide safe and enjoyable recreational and interpretive opportunities while being responsible stewards, these aspects are balanced during the master planning process. This chapter identifies potential adverse impacts, both short and long term, as well as ways to, if not eliminate them, minimize them to the fullest extent possible through appropriate mitigation measures. From a long-term perspective, implementation of the Master Plan will result in

a beneficial environmental impact by insuring that the most sensitive areas of the park will be identified, monitored and provided appropriate stewardship. Environmental impacts of the Master Plan are discussed more fully in the rest of this chapter.

Environmental Impacts Associated with Implementation of Final Master Plan and Proposed Mitigation

Recreation Facility Development and Programs

Implementation of the Master Plan will result in substantial beneficial recreation and open space impacts. The plan outlines improvements to recreation facilities and visitor amenities including expansion of picnicking opportunities and rehabilitation/updating of other facilities such as the golf courses, while protecting and improving natural resources.

A spray park will be provided within a developed area of the park. The capital investment and maintenance costs for this are high but it will provide an excellent recreational opportunity, particularly for families with young children. Particular attention will be paid to health and safety precautions to assure safe operation of this facility. Design will be coordinated with the NYS Department of Health (DOH) as required. Pedestrian traffic from the picnic area to the beach may be somewhat decreased since families will be encouraged to spend time in the spray park area.

Picnicking and field opportunities will be expanded in Parking Fields 1 and 2 and reestablished in Parking Field 5. This expansion of recreational facilities will take place in developed areas of the park and will expand much needed activities. The expansion into these areas may slightly impact beach access parking volume during peak demand, however, these projects will greatly improve picnic and recreational opportunities throughout the year.

Education and interpretation will be provided and water access opportunities will be expanded with improvements to the natural environment, i.e. the Sunken Meadow Creek restoration. Trail improvements will be conducted in accordance with standards and impacts will be limited with proper design, construction and erosion controls. Improvements such as low level lighting will improve nighttime activities with very little impact, incorporating dark sky compliant standards. Additional opportunities will be considered if possible in the future, i.e., disc and mini golf. These activities do not usually involve intensive development. As indicated in the recreation plan, diversity in the landscape such as trees, shrubs, and elevated grade changes in and around the fairway can provide for exciting and challenging obstacles, so disc golf courses do not require a lot of clearing. Mini golf, if considered in the future, as currently identified to the northwest of the traffic circle would be in a fairly open, disturbed area. Accessibility to park facilities will be improved, as will connections with other nearby recreation/open space including Nissequogue River State Park and Callahan's Beach. These connections exist but improvements will be made to trails to improve grading, reduce erosion and increase visibility through signage.

Traffic and Access

Access to the park will be improved through toll plaza replacement and adding a number of pedestrian connections. The toll plaza is currently a bottleneck. By redesigning the plaza and installing cashless fee collection, traffic will enter more quickly and smoothly. OPRHP will explore opportunities to make better connections with the LIRR station and other multimodal transportation to encourage use of mass transportation. Impacts on air quality of access improvements are discussed in a separate subsection of this chapter.

Installation of a multi-use trail taking pedestrian use away from the golf course entrance road will encourage pedestrian use and result in less environmental impact than alternatives considered for a new roadway. A pedestrian and emergency access bridge will be installed in place of the former dike and near Parking Field 4 to maintain access and sports activity across the creek.

Land

The Master Plan will result in numerous beneficial impacts while having limited effects on land/land use. The new golf course maintenance area and the bandshell area adjacent to Parking Field 3 are the primary areas of new development, while other improvements will rehabilitate existing facilities, or improve existing trail connections. Changes to Parking Field 2 include the removal of asphalt and the installation of pervious, stabilized soil surfacing and the planting of trees to define areas. New recreation development will primarily take place in the area between Parking Fields 1 and 3 which is an area that is maintained in a relatively open condition. Field 1 will also be slightly reduced in size to allow for additional recreational development. The impact to land will therefore be to a more naturalized condition at Field 2 and taking advantage of existing development and an open recreational area between Fields 1 and 3. Activities in the area of Parking Field 5 will not necessitate new developed areas but the area will be improved to facilitate BOCES and trail use, reestablish picnicking and provide limited primitive camping uses.

Most of the construction work for the pedestrian bridges will occur within the shoreline area once occupied by the dike and on the shoreline of the creek between Parking Field 2 and Parking Field 4.. Construction impacts will be minimized by utilizing BPMs for shoreline areas, including use of coffer dams to isolate the work area and careful erosion control measures.

The golf course maintenance relocation has been carefully sited to balance numerous considerations including land impacts such as minimizing erosion. Additional projects involve primarily rehabilitation or replacement, but may involve physical alteration for construction, such as the wastewater systems. These are necessary actions that will have no long-term adverse impacts.

All projects that involve ground disturbance, whether new or within an existing developed area, will minimize sedimentation and erosion impacts through the use of BPMs as described in the New York State Stormwater Design Manual (DEC 2010) . This includes incorporating information into the project plans on the soil characteristics at each project site and the limitations of soil types with respect to stormwater management and soil characteristics. It also includes the use of various techniques such as silt fencing, preservation of vegetated buffers, and seeding and mulching of disturbed areas as soon as possible after project completion. Pervious pavement, vegetated drainage swales and proper drainage will be used in the design where applicable, to help mitigate water quality impacts from runoff following storm events. Disturbed areas will be restored using native vegetation following construction. Where feasible, to minimize the effects of roof runoff, green design will be used. Projects that will disturb one acre or more will be subject to the State Pollution Discharge Elimination System (SPDES) General Permit for Stormwater Discharge from Construction Activity process. This process will require the preparation of a site-specific Stormwater Pollution Prevention Plan (SWPPP).

Water Resources

Surface/Subsurface

The Sunken Meadow Creek Tidal Marsh Restoration Feasibility Study (OPRHP 2011) was undertaken with the goal of the project to restore tidal flow to major portions of the creek upstream

of a restricting dike/culvert system and to restore tidal wetlands and associated habitat. The feasibility study included an analysis of data and information previously collected by project partners and other organizations as well as the collection of new data on bathymetry, basic water quality, flow rates and ecology. The study also included the assessment of alternatives to modify the dike/culvert system and restore tidal flow to the creek.

The study was developed with the input of partners and OPRHP will continue to seek their input as the project planning proceeds. This team of project partners include: New York State Department of Environmental Conservation, National Oceanic and Atmospheric Administration Restoration Center, Long Island Sound Study (LISS), The Nature Conservancy, U.S. Fish and Wildlife Services and Save the Sound.

In 2012, Hurricane Sandy breached the dike and restored tidal flow to Sunken Meadow Creek.

Surface water modeling for the creek was undertaken as part of the feasibility study. Restoration of flow was estimated to exchange an estimated 21,100,000 cubic feet of water during one high tide cycle. Full tidal exchange has reestablished tidal conditions in the creek as far upstream as the controlling weirs near Route 25A. Salinity levels have increased to levels comparable to that of a typical estuary throughout much of its length. Other water quality parameters associated with tidal waters have also been restored to the creek such as moderation of water temperature, reduction in acidity, increased water circulation and increases in oxygen levels. Overall, impacts to water quality have been beneficial compared to the previously restricted-tidal condition.

Provisions will be included in the creek project for the repair and maintenance of upstream ponds and streams, so that conditions in the upper ponds can remain essentially unchanged and stable.

The area of the creek between the vehicle bridge and the pedestrian bridge is relatively deep because it was excavated and channelized during prior park construction activities. Greater sediment transport has occurred from increased tidal action. The deeper excavated areas of the creek are expected to serve as sinks for sediment accumulation and the filling of these areas will be accelerated until more natural channel depths are achieved consistent with adjoining channel areas. The removal of the dike has resulted in substantially greater volumes of water flushing through the existing tidal portion of the creek. This has caused a redistribution of sediments resulting from changes in water current velocities.

Improving and consolidating the access points for kayak/canoe/paddle boards on Sunken Meadow Creek will provide better access to the creek while protecting creek shoreline by eliminating access where it is inappropriate and protecting the shoreline through erosion control measures where the Creek can be safely accessed. As also identified in the analysis of alternatives, surrounding maritime grassland habitat will be protected in consolidation of access points.

A second pedestrian bridge will be constructed across Sunken Meadow Creek. Construction precautions for bridges will be taken to assure that the Creek water quality and flow are not affected. This will also be subject to permitting and any conditions that may be imposed during that process.

Assessing and improving/cleaning the stormwater system will provide additional safeguards to protect water quality. Natural stormwater filtration will be considered and incorporated wherever possible to improve drainage functioning and reduce hard surfaced drainage. Hard surface paving in the park will be reduced through the implementation of the plan reducing impacts to the stormwater system and improving water quality in porous parking areas.

Saltwater intrusion to groundwater in close proximity to tidal creeks has been an issue noted in other tidal restoration projects. As noted in the feasibility study, the salt content of shallow groundwater in

close proximity to surface waters of the creek will experience higher salt levels. The study indicates that given the steep topography along much of the shoreline adjacent to the creek and the robust groundwater flow towards the creek, saltwater intrusion is expected to be minimal and very localized. Furthermore, the homes along Sunken Meadow Road are serviced by public water and do not utilize shallow on-site wells.

Wetlands

The reestablishment of tidal flow to upstream wetlands and the water quality and habitat value has been greatly improved. This has also increased the resiliency of the wetlands and ability to respond to rising sea level.

The restoration of tidal conditions has reversed the past conditions that favored the spread of the *Phragmites* monoculture by increasing water and soil salinities and providing inundation and drying with the tidal cycles. The increased water movement brought about by the tidal circulation has begun to decrease sedimentation rates in upstream areas, especially in sheltered areas and coves in proximity to the existing *Phragmites* stands. This will lessen the spread of *Phragmites* into shallow creek areas.

Biological Resources/Ecology

The new golf course maintenance facility will be in an area of coastal oak-hickory forest, which was not identified as a significant habitat by the NHP (refer to Fig. 12). The area is adjacent to an existing road and the golf course and does contain previously disturbed area that will be utilized in siting. Regional environmental and /or appropriate Environmental Management Bureau staff will be consulted in site specific planning to identify ways to minimize impact to natural habitat and develop appropriate mitigation of impacts.

Flora

Park-wide landscaping will utilize native plants and enhance aesthetics of the park, and control of invasive plants (refer to subsection below) will also promote survival of native plants.

The naturalization of Sunken Meadow Creek will continue to benefit native plants and help control invasive *Phragmites*. The return of salt water conditions near the shoreline of the creek has adversely affected trees that are salt-intolerant. Trees with root systems in close proximity to the shoreline between the dike and vehicle bridge may be adversely affected and eventually die off. A preliminary review indicates that most of the trees are somewhat salt tolerant and would be able to survive in close proximity to tidal waters. To date, the primary tree impacted by the tidal inflow of water is *Ailanthus altissima* or tree-of-heaven which is an invasive non-native species. Those trees adversely affected could be replaced with native species suitable for growth near salt marsh environments. The overall impact to trees is not expected to be severe or widespread because the highest salinities will occur in the portion of the creek downstream of the vehicle bridge, where there are no extensive wetland woodlands and only scattered adult trees growing in previously disturbed areas. The low salt marsh located in the area is a significant natural community and will be improved through the creek naturalization process.

Fauna

Overall, the proposed Master Plan will result in beneficial impacts to the park's fish and wildlife resources. The restoration of tidal flow to Sunken Meadow Creek has benefited native fish and wildlife. As reported in the Tidal Marsh Restoration Feasibility Study previously cited (OPRHP

2011), the restoration of tidal flow benefits numerous fish by creating additional fish feeding and nursery areas, as well as other habitats for protection of prey and other foods. Species occurring there that may benefit include river herring, sea-run brown trout, Atlantic silverside, Atlantic menhaden, bluefish, striped bass, scup, winter flounder and blackfish. Freshwater species that have been negatively impacted include pumpkinseed sunfish, painted turtles, red-eared sliders, possibly snapping turtles (snapping turtles tolerate brackish water). These animals have retreated upstream to the fresher waters. Red-eared sliders are non-native and the other species are common so this is not a great concern, especially since they are able to retreat. The ongoing tidal flow project includes a recommendation that the upstream weirs and dams along the marsh creek segment be equipped with fish passage capabilities to allow diadromous fish migration to upper ponds.

The tidal restoration has increased the inter-tidal foraging area for shorebirds (including federally threatened Piping Plover) and improved habitat for diamondback terrapin. The inter-tidal areas have been restored and are allowing for the re-establishment of shellfish and other species dependent on an inter-tidal habitat.

Establishing a Bird Conservation Area (BCA) in the park will provide added recognition of the importance of the park for shorebirds, migratory birds and others identified through site evaluation. A Management Guidance Summary and map has been developed for the BCA (see Appendix P and Figure 23) providing specific recommendations for protection of birds, especially those nesting in the park. Additional funds may also be available for bird survey work, construction of kiosks and other educational materials. Development of environmental education information and programs at the park and inclusion of space in the rehabilitated bathhouse for education and interpretation will provide opportunities for learning about the park's wildlife and habitats, and a location for exhibits and displays.

OPRHP will continue to follow its policy on fish and wildlife, and is developing a wildlife manual that will provide additional guidance to facility managers and other staff regarding wildlife issues. Part of this manual will address damage caused by wildlife, and when and how to take action to address such damage concerns.

Most of the proposed new facility developments and improvements are located in areas that are already developed and/or disturbed. These will result in little additional impact on the wildlife in the area. Construction in state parks is usually planned for the late fall and winter when park use is lower and this timing can mitigate disturbance to wildlife by avoiding periods of higher biological activity, such as bird breeding seasons.

Invasive Species

Trail uses, boating and other recreational uses can facilitate the spread of invasive species. Invasive plant seed can be inadvertently introduced on construction equipment and through the use of mulch, imported soil, gravel, and sod. In the past, throughout the state, some invasive plant species have been intentionally planted for erosion control, landscaping, or wildflower projects. Transport of firewood can also be a major pathway for the introduction of invasive species.

BMPs will be implemented to minimize spread of invasive species. Practices such as proper material disposal and equipment cleaning methods limit the potential of invasives to establish in new locations within and beyond a site. Using existing examples, OPRHP will develop BMPs for invasive species control that can be tailored to park-specific projects and operations.

Restoration of tidal flow to Sunken Meadow Creek and continued restoration efforts will help to control *Phragmites* which is a threat to significant habitats in the park. The master plan calls for a

focused approach to invasive species management to prioritize control efforts so that control of invasive species can be done in the most effective manner, from both an ecological and economic perspective. An invasive species management plan will address early detection and rapid response/control for new infestations, in the meantime, current invasive species efforts will continue, including precautions to prevent forest insect pests, such as Asian Long-horned Beetle, and surveying and monitoring for such species. Educational information regarding invasive species should be provided, including brochures, posters, bookmarks and other materials as available.

Cultural/Archeological Resources

The plan will generally have beneficial impacts on historic and cultural resources in the park. The NRE bathhouse is being rehabilitated in consultation with OPRHP's Division for Historic Preservation (DHP) for compliance with Section 14.09 of the State Historic Preservation Act. The toll plaza which is NRE will be replaced but its original features will be documented in accordance with preservation standards. Other structures that may be affected will be evaluated for register eligibility and consultation will take place with DHP regarding any work.

As indicated in Chapter 3, information regarding the park's archeology is limited but site specific surveys will be undertaken for new ground disturbing activities.

Information is not presently provided on the park's historic and cultural resources, but under the master plan education and interpretation of historic and cultural resources will be provided in the rehabilitated bathhouse and along trails as appropriate, such as in the Daybreak Estate area. Additional interpretation regarding the former fish hatchery may also be developed following outreach to gain additional understanding of this cultural resource.

Scenic Resources

Reopening of the overlook at the East Orchard Picnic Area through vegetation management will restore this important viewpoint while resulting in minimal impacts to existing vegetation. It is not feasible at this time to restore other historic vistas. Other development proposed for the park, such as an improved trail link to Callahan's Beach, will be designed so as not to cause adverse impacts to views of the park from the Sound. Impacts of a cell tower in the park have been evaluated under a separate environmental review.

The installation of two aesthetically pleasing pedestrian bridge spans over Sunken Meadow Creek will be compatible with the setting of the park and tidal wetlands. Shoreline hardening, if necessary, can be achieved with natural rock consistent with the north shore setting. Implementation of this alternative will eliminate the adverse appearance of concrete rubble and deteriorated pipe culverts presently at the site.

Public Health and Safety

The Master Plan includes a number of actions that will improve public health and safety. New or substantially rehabilitated facilities will be designed and constructed to meet all applicable health and safety codes including compliance with the Americans with Disabilities Act. Design and rehabilitation of infrastructure systems such as electric, water, and sewer will ensure public health protection. Trail system signage and mapping improvements will improve the safety of trails in coordination with local fire departments. Canoe/kayak access points to the Creek will be consolidated to direct boaters to areas where safe embarking/debarking is more feasible and eliminating or improving areas that are eroded.

Air Quality

Replacing the toll plaza and improving fee collection will facilitate traffic flow, resulting in lower emissions. Improved pedestrian and bicycle connections will encourage patrons to use non-emission modes of transportation. Installation of a multi-use trail taking pedestrian use away from the golf course entrance road will also encourage pedestrian use and less driving. Better connections with the LIRR station and other multimodal transportation will encourage use of mass transportation. Removing a portion of Field 2 and reclaiming it for recreational use will also assist in lowered emissions.

Temporary impacts that may occur as a result of master plan implementation could include minor temporary increases in vehicle exhaust and some generation of dust during construction. Construction of projects proposed in the Master Plan will take place over several years, however, so impacts would be widely spread out both in space and time. Air quality impacts from construction vehicles will be mitigated by assuring that these vehicles are in good running condition and are periodically checked to assure they meet proper emission standards.

Impact on Growth and Character of Community and Neighborhood

The residential properties along the north side of Sunken Meadow Road border the creek, and the lower portions of the yards lie in the 100 year flood zone with base flood elevations of 9 and 10 feet. These shoreline areas are fairly steeply sloped and elevations over 20 feet exist. The properties are experiencing average water levels during high tides that are comparable to the previous elevation of the water. Removal of the dike has provided better flow out of the creek and has reduced the rise in water due to runoff events. If additional tidal flow issues or improvements are identified, OPRHP will continue to coordinate with neighboring landowners to assure mitigation of flooding or erosion issues that would be within the control of OPRHP.

Unavoidable Adverse Effects

Air quality impacts from park vehicles and maintenance activities that may occur through operation of the park over the long term are unavoidable. With this said OPRHP has embraced sustainability and has goals to reduce vehicle emissions and carbon dioxide release through such actions as minimizing vehicle miles traveled and using alternative fuel/high efficiency vehicles. There will also be temporary adverse air and noise impacts (e.g. fugitive dust, noise from construction equipment and vehicles, etc.) associated with construction of proposed improvements. Construction is generally scheduled for periods of low park use to minimize impacts on public use. Construction equipment must also meet air and noise emission standards.

There will be some minimal permanent loss of vegetative cover as a result of construction of the new golf course maintenance building, new or improved pedestrian paths/trails, and other proposed new facilities. As design for improvements proceeds, such impacts will be kept to the minimum necessary to avoid significant impacts. As resources are available OPRHP will plant additional native trees and other plants in appropriate areas to provide more shade and screening and to separate activities.

Irreversible and Irretrievable Commitment of Resources

The planning, development and implementation of a Master Plan including additional infrastructure and expanded facilities has and will involve the irreversible and irretrievable commitment of public resources in the form of time, labor and materials. It will also require a commitment to the long term

operation and maintenance costs of the Park. Master Plan elements have been prioritized and will be phased in over a period of time as funding and other resources are available for implementation.

Growth Inducement

Implementation of the Master Plan will result in improved recreational use of the park but in a manner that is not expected to induce growth of the surrounding area. Recreational use will be carefully managed in an effort to support the vision and goals established to maintain the quality of the park's recreation resources, historic resources and important open space and natural habitats. There will be positive, on-going, economic impacts to the communities surrounding the park, in the form of investment in the communities. Tourism related expenditures, for activities such as day-use, trail activities and special events, are a major element of the economic vitality of nearby communities. Enhanced connections of the park to the community should result in modest enhancement of recreation-related business and sales.

Short-Term Uses and Long-Term Productivity

An important consideration when analyzing the effects of the proposed project is whether it will result in short-term environmental effects (adverse or beneficial) to the detriment of achieving long-term or maximizing productivity of these resources. Implementation of the Master Plan will result in certain short-term disturbances, such as to surface water and groundwater resources, and to the floodplain. Productivity loss for soils would be limited to the disturbed areas affected by land clearing, grading, and construction. Some short-term adverse impacts to plants and fish and wildlife resources could also result. Natural recovery and assisted restoration of vegetation would take place in some areas in the project area after construction activities cease. No significant decreases in the productivity of the area due to construction activities would be expected. Rather, long-term productivity of elements affected in the short term, particularly biological and hydrological functions, will generally be increased. The aquatic environment has already improved through reopening of tidal flow and long-term productivity levels are expected to improve further through implementation of the Master Plan.

Implementation of the Master Plan could create a long-term increase to economic productivity by providing improved park and recreational activities that have a positive impact on the area. Long-term economic benefit could accrue to existing businesses that rely on visitors to the park, thus having a potential modest increase in revenue and jobs.

Supplemental Environmental Review

Portions of this Master Plan/EIS are somewhat general or conceptual. Decisions regarding the type and extent of certain actions will be dependent on the findings from more specific studies or analysis still to be completed. For example, if additional changes are needed to modify the Sunken Meadow Creek flow, additional analysis and study would be required as design and permit applications are developed. The findings from site specific evaluations to implement Master Plan elements may identify impacts that were not adequately addressed in this plan/EIS. Under such a circumstance, an additional or supplemental environmental review will be required. As part of our responsibility under the State Environmental Quality Review Act, OPRHP will review proposed implementation projects with respect to consistency with this plan and EIS. Projects found by OPRHP to be consistent with the plan and/or previous environmental reviews, such as for the cellular tower which included full build-out of carriers, can go forward without any additional review. Other types of

proposals may require additional review ranging from completion of an environmental assessment form to perhaps a site specific environmental impact statement.

To assist in this consistency evaluation, the following types of actions have been identified as likely to require additional review under SEQR:

- Any new actions not addressed within the Master Plan that do not meet the Type II categories with Part 617, the rules and regulations implementing SEQR;
- Any change from the preferred alternative for recreational and facility elements of the plan which would result in significant environmental impacts;
- Actions discussed in the Master Plan but have not been fully evaluated and/or are not part of the priority phasing plan (e.g., mini golf).
- Any agreements between OPRHP and private entities or other agencies that affect resources in a manner that is not sufficiently addressed in this plan;
- Any proposals for new trails, trail segments or trail uses not identified within this Master Plan.

Coastal Zone Management Program Consistency

As indicated in Chapter 2, the park is within the Smithtown Local Waterfront Revitalization Program (LWRP). For a state agency action, an EIS must address consistency with the applicable coastal policies. Applicable policies are addressed in the following discussion. For detailed information on the coastal program and consistency with applicable policies, please see the following link; http://www.dos.ny.gov/opd/programs/waterfront_revitalization.html.

Development Policies

Policy 2

Facilitate the siting of water-dependent uses and facilities on or adjacent to coastal waters.

Sunken Meadow currently provides both water-dependent and water-enhanced uses. The Master Plan will be consistent with this policy as all of these uses will continue under the proposed plan and will be enhanced as well. Various actions described in the Master Plan support water-dependent recreational uses such as swimming, kayaking, canoeing and sailboarding, fishing, and wildlife viewing.

The hand boat launch will be improved both as a function of controlling erosion and improving the facility for patrons. Wildlife viewing opportunities will be improved through the creation of educational stations at key viewing points. Fishing opportunities will be reevaluated along Sunken Meadow Creek following the breach of the dike and the resulting change of habitat. Swimming opportunities on the Sound will remain the same.

These actions proposed under the master plan are compatible with existing/adjacent uses (park land) and protection of other coastal resources (no actions will negatively impact coastal resources).

Fish and Wildlife Policies

Policy 7

Significant coastal fish and wildlife habitats, as identified on the coastal area map, will be protected, preserved, and where practical, restored so as to maintain their viability as habitats.

The Nissequogue River Significant Coastal Fish and Wildlife Habitat (SCFWH) is important for its coastal wetland ecosystem. The Nissequogue River inlet beaches portion of the SCFWH located adjacent to the park includes the areas used as nesting sites by terns and plovers. The Nissequogue River SCFWH is mostly open water, which serves as important nursery and feeding areas for a variety of fish species, and is used extensively by waterfowl. The Master Plan is designed to have no impact or beneficial impacts on these ecosystems and the fish and wildlife species that they support. The Bird Conservation Area designation will promote recognition of significant birding resources of the park and its waters. Natural resource management of the low salt marsh and maritime beach will promote this policy and repair or prevent impairment of the fish and wildlife habitats. Additional signage will be provided to inform park patrons of the sensitive nature of the nesting area and other threatened/endangered species stewardship activities will continue. Invasive species control priorities will be identified to protect important fish and wildlife resources in and adjacent to coastal waters. Projects will be undertaken to curtail and/or reduce introduction of pollutants into the SCFWHs.

Policy 8

Protect fish and wildlife resources in the coastal area from the introduction of hazardous wastes and other pollutants which bio-accumulate in the food chain or which cause significant sublethal or lethal effect on those resources.

Parking Field 2 will be redeveloped using stabilized turf to control and filter pollutants left from parked cars. Natural filtration of these non-point source vehicular pollutants will take place, slowing run off to Sunken Meadow Creek and LIS. BMPs will be used during the redesign of areas adjacent to parking lots to minimize surface water run-off and increase filtration.

The tidal naturalization of Sunken Meadow Creek as a result of Hurricane Sandy will continue to remove any accumulated pollutants from decades of buildup.

Flooding and Erosion Policies

Policy 11

Buildings and other structures will be sited in the coastal area so as to minimize damage to property and the endangering of human lives caused by flooding and erosion.

A new concession building, bandshell and two comfort stations will be constructed adjacent to Parking Field 1 and 2. These structures will be designed in a manner to minimize damage from flooding during hurricane and tropical storms. Erosion control will be placed at key points along Sunken Meadow Creek to minimize damage to bridges and possible fishing areas or structures. OPRHP is currently undertaking a coastal vulnerability assessment to determine OPRHP facilities and resources that will be subject to increasing flood hazards due to storms and rising sea level. Site-

specific plans will be developed to plan for events and identify needed changes to facility design and placement. Information gained from this study will be used in developing plans for any new or rehabilitated facilities at Sunken Meadow.

Policy 12

Activities or development in the coastal area will be undertaken so as to minimize damage to natural resources and property from flooding and erosion by protecting natural protective features including beaches, dunes, barrier islands and bluffs.

Nesting areas for piping plovers and least terns along the beach will continue to be protected from patron use. No new development is proposed along shoreline beaches or dunes. Trails presently along the top of bluffs will be improved to minimize erosion. Social paths or undesignated trails will be closed to encourage regrowth of vegetation and reduce erosion.

The coastal vulnerability assessment discussed above includes consideration of potential impacts of flooding on natural resources in our parks. Mitigation of these effects will be included in site-specific plans, through such strategies as allowing additional room for beach migration in order to preserve important habitats. Natural protective features may also be enhanced to assure greater resiliency and protection of infrastructure.

Policy 14

Activities and development, including the construction or reconstruction of erosion protection structures, shall be undertaken so that there will be no measurable increase in erosion or flooding at the site of such activities or development, or at other locations.

Two pedestrian bridges across Sunken Meadow Creek are proposed to aid in patron circulation. These new structures will have protective erosion control at their abutments. This erosion control will not impact flow to the creek nor will it impact erosion or flooding. Spoils from adjacent dredging operations conducted by the Town of Smithtown will replace lost sand along the shoreline and aid in the protection of the shoreline and thus having no negative impacts on flooding or erosion. No structures are anticipated to specifically provide for erosion protection. Erosion protection strategies will utilize natural protection to the greatest extent possible.

Policy 15

Mining, excavation or dredging in coastal waters shall not significantly interfere with the natural coastal processes which supply beach materials to land adjacent to such waters and shall be undertaken in a manner which will not cause an increase in erosion of such land.

The Town of Smithtown dredges the Nissequogue River inlet for navigation purposes. Dredge spoils are used to replenish naturally eroding sand from the park shoreline. The replacement of sand on the park shoreline will continue to provide and protect habitat for least terns and piping plovers as well as reestablishing sand along the swim beach for patrons. These types of actions are maintenance in nature and do not significantly interfere with natural coastal processes.

Recreational Policies

Policy 21

Water-dependent and water-enhanced recreation will be encouraged and facilitated, and will be given priority over non-water-related used along the coast.

Providing public swimming opportunities remains a high priority for the park along the beach. To improve water based recreation for children and picnic area users, a spray ground will be constructed in the Old Orchard Picnic area. The existing kayak, wind-board and canoe launch area will be improved to provide convenient access to Sunken Meadow Creek. Scuba diving will be allowed in permitted areas along the creek. Picnicking between Field 2 and the Sound will provide additional access to water-enhanced activities. Allowing scuba diving will also increase water-dependent activities. Improved natural resource viewing and interpretation will increase both water-dependent and enhanced recreation. Improved trail connections will also provide better access for viewing the water. Such opportunities will be given preference near the water with other non-water-related use taking place in areas not prominently featuring water.

Policy 22

Development, when located adjacent to the shore, will provide for water-related recreation, whenever such use is compatible with reasonably anticipated demand for such activities, and is compatible with the primary purpose of the development.

Picnicking and concession facilities along the shore will be constructed to expand and improve existing beach recreational opportunities. Patrons wishing to picnic and use the beach will have convenient access with the construction of additional picnic sites adjacent to the beach. A concession stand, comfort station and bandshell will be constructed adjacent to the beach, picnicking and Parking Field 1 to provide addition opportunities for patron recreation. The construction of these additional amenities is compatible and supports the adjacent uses.

Historic and Scenic Resources Policies

Policy 23

Protect, enhance and restore structures, districts, areas or sites that are of significance in the history, architecture, archaeology or culture of the state, its communities, or the nation.

Education and interpretation which discusses the history and the cultural resources found within the park will be improved.

The NRE Bathhouse is being renovated to make use of areas no longer functional. Throughout the construction, the DHP will be consulted to minimize impacts to the structure.

Policy 25

Protect, restore or enhance natural and man-made resources which are not identified as being of statewide significance, but which contribute to the overall scenic quality of the coastal area.

The overlook area at the park was once a local significant scenic area. Through time, vegetation has blocked the view of the LIS. The master plan recommends improving this scenic vista by selective tree removal. Trails along the bluff tops overlooking the LIS will be rehabilitated to provide a higher quality experience for patrons while keeping access to the scenery and protecting the shoreline from erosion. Shoreline access will remain available for patrons wishing to walk along the water's edge.

The three golf courses and the driving range also provide many scenic vistas which will be protected, when feasible, from views which detract from the scenic nature of the area.

Trail redevelopment will take advantage of the scenic nature of the area. During the design and layout of natural surface trails and paved, multi-use trails, scenery and vistas will be considered to enhance the patron experience.

Water and Air Resources Policies

Policy 31

State coastal area policies and management objectives of approved local waterfront revitalization programs will be considered while reviewing coastal water classifications and while modifying water quality standards; however, those waters already overburdened with contaminants will be recognized as being a development constraint.

The master plan supports the need for public recreational opportunities improving scenic vistas of the LIS, water access and the Town of Smithtown LWRP. Public recreational opportunities are expanded to include additional picnicking, additional field recreation, primitive camping and a bandshell for group activities. The scenic overlook area will be selectively pruned to restore the view of LIS.

Policy 33

Best management practices will be used to ensure the control of stormwater runoff and combined sewer overflows draining into coastal waters.

Stormwater will be managed through the use of porous pavement, rain gardens and other green strategies. Parking Field 2 will be redesigned to reduce, if not eliminate, stormwater runoff. During redesign of parking lots identified in the master plan, stormwater BMPs will be included within the designs. Trails will be redesigned to minimize the volume and velocity of water on trails which will reduce both runoff and erosion. Wastewater systems will continue to be updated to current design standards. Wastewater systems have been evaluated and systems not up to current standards and capacities are being replaced.

Wetlands Policy

Policy 44

Preserve and protect tidal and freshwater wetlands and preserve the benefits derived from these areas.

Tidal flow on Sunken Meadow Creek was reestablished by a breach in the dike as a result of Hurricane Sandy. To enhance the natural habitat of this area, tidal flow will remain in the creek,

enhancing the native, natural habitat which was once in this area. A plan has been established to further improve habitat and reduce invasive species in this area.

Summary

Based on the foregoing coastal policy discussion, it is OPRHP's initial determination that the action will not substantially hinder the achievement of any of the policies and purposes of the Smithtown LWRP

Chapter 8 - Comments and Responses

Introduction

This chapter contains the responses to the comments received by OPRHP on the Draft Master Plan and Draft Environmental Impact Statement (DEIS) for Governor Alfred E. Smith/Sunken Meadow State Park. The Draft Master Plan/DEIS was issued on October 8, 2014. A Public Hearing was held in Kings Park, New York at the Kings Park High School on October 23, 2014. The comment period ended November 14, 2014.

Out of approximately 70 attendees 12 people spoke during the Public Hearing. Their comments were recorded. During the comment period for the Draft Master Plan/DEIS, the Agency received 25 written comments by letter and email. A list of persons providing comments is included at the end of this chapter.

OPRHP appreciates the time and effort that persons interested in the future of Governor Alfred E. Smith/Sunken Meadow State Park have invested in their review and comments on the Draft Master Plan/DEIS and their participation in the public hearing.

The types of comments received included document editing suggestions, requests for clarification of information presented in the document, requests for partnering with the park, recreational expansions, resource improvements and comments related to specific aspects of the plan. All comments were reviewed and organized by categories.

Responses to these comments are found in this section and were considered in revisions found in this Final Master Plan/Final Environmental Impact Statement (FEIS).

Significant Changes to the Draft Master Plan and DEIS in the Final Master Plan and FEIS

The list below provides an overview of the most significant changes made to the Draft Master Plan/DEIS resulting in the Final Master Plan/FEIS.

- The actively managed softball fields will be rehabilitated.
- OPRHP will consider opportunities to expand the Long Island Greenbelt Trail to Parking Field 4 and to the southern portions of the park.
- OPRHP is willing to explore opportunities to allow the Junior Olympic Archery Development (JOAD) to practice within the park.

Responses to Comments

The following section contains a detailed list of comments received from the public during the comment period and public hearings and the responses. The comments are organized by category. Following each category heading there are summarized comments. Following each summarized comment is the Agency's response.

Editorial

Comment: Sunken Meadow Creek is actually a river. The plan should identify it as such.

Response: The United States Geological Survey (USGS) states “there are no official definitions for generic terms as applied to geographic features”. The commonly used name “Sunken Meadow Creek” will continue to be used.

Comment: The master plan map indicates a playground in the West Orchard Picnic Area which is not included in the text.

Response: Thank you. This has been corrected. The playground has been removed from the map.

Recreation

Comment: Replace the playground that was removed from the West Orchard Picnic Area. There should be a playground in each picnic area. If the park isn’t children friendly people won’t be coming to use it.

Response: The play area that was removed was deemed too close to the roadway and was removed to increase the safety in that area. A playground is provided nearby which is in a much more suitable, safe location for children. Additionally, a second playground will be constructed in the area in the future.

Comment: The baseball fields need to be cleaned up.

Response: The baseball fields will be rehabilitated soon.

Comment: The Concerned Long Island Mountain Bicyclists (CLIMB) would like to improve the area of the park that is south of Route 25A that is presently used by ATV’s as a means to curb this illegal activity and provide a sustainable multi-use trail system.

Response: OPRHP is aware of this problem and will continue to take actions including providing additional signage, fencing and patrols. It was deemed by OPRHP staff that the inclusion of additional activities in this area would not curb illegal ATV activities.

Comment: Would it be possible to change the signs on the parkway to allow biking during certain times/dates? The signs presently restrict all bicycle use. If this is not possible, please construct a bicycle and pedestrian pathway.

Response: As part of the master plan, a paved shared use trail will be provided. For safety reasons, the signs will remain in place.

Comment: The Smithtown Junior Olympic Archery Development (JOAD) club would like to use a portion of the park for archery practice and tournaments.

Response: OPRHP is willing to explore these opportunities in the appropriate location.

Comment: The Long Island Orienteering Club uses the Parking Field 5 area and would benefit by the construction of a restroom and an open air pavilion.

Response: The master plan indicates these facilities will be included.

Comment: Please provide signage that permits kayak use on Sunken Meadow Creek.

Response: Signage will be provided which identifies areas open to kayaking that does not impact the ongoing creek rehabilitation project. Specific locations have not presently been identified.

Comment: ATV's are destroying the plant life on the south side of the park. Bring more legal trail uses into this area to minimize this negative activity.

Response: To protect the plant life, additional signage, fencing and patrols will be provided in this area.

Comment: The dog walking trail(s) are not clearly identified. As a result, people walk their dogs, most off leash, on all the trails in that area. Signage should be installed identifying where people can walk their dogs as well as the rules and responsibilities of the dog walkers.

Response: This will be evaluated. Changes will be made as necessary.

Comment: Provide a chipping and sand trap area for practice.

Response: OPRHP is presently awaiting a proposal from the golf course's professional to provide these activities.

Comment: Please include the Long Island Diving Association when designating an area for diving. Diving in Sunken Meadow Creek may or may not be suitable.

Response: The Long Island Diving Association will be consulted.

Comment: The new kayak ramps at Nissequogue River State Park work very well and should be installed at Sunken Meadow to assist older park users with creek access.

Response: OPRHP will explore these opportunities at Sunken Meadow.

Comment: Allow amateur rocket launching in Parking Field 2 along with model airplane use until the parking field is improved.

Response: Patrons interested in model rocket launching require a special permit and must call the regional permit office at 631-321-3515 to request this activity. OPRHP will evaluate the request and then determine if we will be able to authorize this activity.

Comment: Add amenities to the park that support the astronomy club including; electricity, Wi-Fi access, cell service, warming/wind protection shelter.

Response: A separate facility for astronomy will not be constructed, however, these activities and amenities will be considered upon the redevelopment of existing facilities.

Comment: Investigate expanding fishing opportunities to the west of the bridge. This could be an ideal fly fishing area.

Response: These opportunities will be investigated, however, habitat restoration for this area is the agency's first priority.

Comment: Recent maintenance of the park's running and walking trails have been destructive to the surrounding woodlands and have accelerated the course of erosion on and adjacent to the trails. In certain areas, bulldozers have leveled numerous trees, damaged tree roots, widened gullies and deposited large amounts of debris along the trails. This method of maintenance is counterproductive. I request that State Parks review and improve their strategy for maintaining these trails and repair the damage that has already been done.

Response: Bulldozers were used to remove trees which were blown down by Hurricane Sandy. The agency will review its trail maintenance practices in the park.

Comment: Provide 6 to 12 tennis courts in the park.

Response: Tennis courts are provided in other area parks and public facilities and will not be constructed at Sunken Meadow State Park.

Comment: Create an area for a bandshell in the park.

Response: An area has been identified in the plan for a bandshell amphitheater adjacent to Parking Field 3.

Comment: It would be a shame to spoil the landscape that is the park today by clearing forests for an overlook or by building an amphitheater. The funding should be used to rehabilitate the present facilities.

Response: Funds are being used to both rehabilitate existing structures as well as build new ones as demands on the park evolve.

Comment: Mountain bicycling club leaders understand the psychology of their user group. For the mountain bike trails to be successful, they would need to have a certain type of feeling and flow as well as technical difficulty. Will you enlist the services of the local bike club to help design an appealing, safe and sustainable trail system for mountain bicyclists to enjoy at your park?

Response: Park and regional staff will work with the local mountain bicyclists to develop a safe and sustainable trail system for all users.

Comment: The addition of the amphitheater and night shows will have a tremendous negative impact to the community between the noise, additional traffic and then I'm sure the opening of proposed additional gates to let people out into the local roads.

Response: Noise will not have a significant impact on the local residents. The gate which provides access to the maintenance area will only be used by park staff, for deliveries and by emergency personnel only when the toll booths are backed up. These gates will not be used on a regular basis or by the general public.

Comments:

- Any restrictions or regulations that are placed upon divers should be the same as regulations placed on equitable users, such as kayakers and fishermen. SCUBA divers don't really add any more impact than other comparable users and there isn't a valid reason why they should be required to pay fees when the other user groups do not.
- If divers are required to purchase a permit as a revenue generator, why are there no capital expenditures for the activity? The park does not generate any revenue from fishing and yet will expend capital. Additionally, why does OPRHP require multiple permits to go diving when you're not requiring any permits for boating, kayaking, fishing or other recreational activities?

Response: The Long Island Region issues an annual Regional Diving Access Permit for \$65. This permit allows the permit holder to dive at Caumsett, Jones Beach, Orient Beach and Robert Moses.

Other user groups are required to obtain permits and pay fees. Permits are required for fishing as well as surfing, stargazing and remote control airplanes. All permit fees go into the state parks infrastructure fund or patron services fund and are not allocated for specific capital improvements within the parks.

Comment: It would be nice to see a connection between the Long Island Greenbelt Trail and Parking Field 4 and to the southern section of the park.

Response: The park is willing to explore this possibility during improvements to the trail system.

Comment: Emphasis should be placed on the development of pedestrian connectivity from the park to the Kings Park train station. A partnership could be developed similar to what was formed for the Nissequogue River State Park trail extension.

Response: The park is open to working with local trail groups to explore these opportunities.

Safety and Accessibility

Comment: Improve the safety of pedestrians crossing the road by Parking Field 1 by routing traffic towards the rotary and changing the current vehicle flow.

Response: Pedestrian circulation will be moved off of the vehicular bridge to a separate pedestrian bridge. Additional methods to improve the vehicular and pedestrian circulation in this area will be investigated.

Comment: To improve ADA access and user convenience, please provide a beach walkway mat to the Sound from Parking Field 3 for kayakers, as well as others, to use to access/exit the water and beach area.

Response: The park is open to this and presently evaluating methods to fund additional matting.

Comment: Do not place the proposed playground in the Old Orchard Picnic Area near the road as it is currently proposed. Many children are unsupervised.

Response: The safety of the children is the highest priority when siting and designing any playground. The plan does not include the development of a new playground near the road.

Comment: The parks trail maps need to be designed with intersections numbered, trails named and marked clearly both for ease of following the trails as well as notifying your location if lost or injured.

Response: This will be completed as part of the upcoming trails planning activities.

Comment: Having the old metal barbeque grills around are a hazard.

Response: Park staff will investigate this and remove hazardous conditions.

Comment: We have called the NYS Park Police on numerous occasions concerning the illegal dirt bike and ATV trails that are on park property. To date the trails are still intact and the loud noise and disturbance to the many homeowners that border this area continues. In addition, the illegal trails are a danger to the young kids that ride these trails.

- Why has the State allowed these trails to remain?
- Why has the State allowed this dangerous condition to exist when it attracts young kids to enter and use the trails at night and during the day?
- Why has the Draft Environmental Impact Statement failed to address this issue?
- Why has a buffer zone designed to reduce the noise and traffic from the Parkway turned into an illegal ATV trail?
- Is the State going to wait for someone to be seriously hurt or killed until they address this issue?

Response: Parks shares the same concerns and strives to be a good neighbor within the local community. ATV and dirt bike use is curtailed by having park staff inspect remote areas and also to respond to complaints from neighbors. In cases where breaches in fence lines are found, park staff makes the appropriate repair. Sometimes it is difficult to strike a balance between the recreational trail uses and the illegal uses and so in some instances access from the local roads is not closed. However, Park Police do respond to complaints. Unfortunately, ATV's and dirt bikes can go where patrol cars can not go and the riders are able to evade Park Police. Park Police have done the occasional "sting" operation to locate the ATV and dirt bike operators and enforce the Park Rules and Regulations. The park has posted "No Trespassing" signage in areas to discourage ATV's and dirt bikes.

The Master Plan addresses the supported and legal uses within the park. It would be very difficult to address the myriad of illegal uses individually. Suffice it to say, that the Long Island Region would endorse a paragraph or two that acknowledges unauthorized and illegal uses which are addressed by park staff and Park Police as needed. Since all of the State Parks staff are charged with stewardship, encouraging recreational uses that have the least impact on the environment are uses that are offered and regulated. Conversely, uses that cause damage to the environment are the uses that warrant our utmost vigilance. Neighbors, such as the commenter are often parks eyes and ears and we appreciate that the surrounding community is so supportive of our efforts. We are always keenly aware of Robert Moses' legacy. The Principles and Rules which Robert Moses set to writing in 1930 are applicable today. The Long Island Region feels duty bound to honor this noble purpose and to continue to preserve the environment that Robert Moses and others have left in our hands.

Comment: In the past number of years the park has declined in handicap accessibility. The picnic area grounds are in need of maintenance to fill all of the holes that have developed. Please fill in all of these holes and make this area to reduce the likelihood of injury.

Response: The park will investigate opportunities to better meet accessibility requirements in the picnic areas.

Comment: Part of the master plan should look at improving accessibility for people with disabilities.

Response: OPRHP is presently in a partnership with Cornell University to provide a detailed accessibility evaluation of OPRHP parks. Long Island parks will be evaluated in 2015.

Implementation Priorities and Funding

Comment: What is the timeline for implementing the master plan?

Response: The implementation schedule for master plans is generally 5-15 years as funding allows.

Comment: What is the actual length of time for the trail approval process outlined in the plan? What happens during a stalemate where the park manager stalls or refuses to comply with the trails plan implementation because they do not want to deal with a new user group?

Response: There is no set timeframe for the trail approval process. The park manager is very much open to working with all trail user groups to provide a high quality, sustainable trail system.

Comment: Future lighting in the park should use shielding to minimize light pollution.

Response: The master plan recommends the use of Dark Sky compliant lighting to minimize light pollution.

Comment: When can CLIMB expect to be able to start marking the proposed multi-use trails in the park.

Response: A plan will be developed shortly with trail user groups. Upon the completion and review of the plan or segments of the plan, the marking of the proposed trails or reroutes may begin.

Comment: In the Sterling Forest trails plan the hiking club was allowed to create single-track trails that paralleled fire roads, towards the same destination, regardless of the fragmentation that might occur. Will the mountain bicyclist receive the same treatment?

Response: No. with the exception of the Greenbelt Trail and the Bridal Path, all trails are considered multi-use trails.

Comment: Please explain the timeline for the implementation of this trails plan. Minnewaska, Fahnestock and Sterling Forest State Parks all had trails plans done that provided for multi-use trails but several years have gone by and no new opportunities for multi-use exists.

Response: On the ground trail improvements can begin soon after projects are reviewed and approved by OPRHP. Please coordinate with the park manager.

Comment: Do you follow best management practices in sustainable trails design and have people on staff or available as consultants? People who are state park staff who are not expert trail designers with miles of trail building under their belts should not be solely used in the trail approval process.

Response: Agreed. The OPRHP Trail Planner will be involved in the trail planning and review process.

Comment: The trail development and pedestrian connectivity improvements should be a level 1 priority.

Response: Trail planning and development will begin shortly. Larger pedestrian connectivity projects will become a level 1 priority as funding and opportunities allow.

Natural Resources

Comment: To reduce the spread of aquatic invasive species, a wash station should be provided at the kayak launch. Please provide a drinking fountain and possible shower too.

Response: Presently, the closest water source is at the Parking Field 3 comfort station. OPRHP is presently looking for funding opportunities for these types of projects.

Comment: Install permanent erosion control fencing to control the wind-blown sand from the west. This will have a positive impact on the mouth of the Nissequogue River. Over the last 60 years the eastern portion of the beach has grown by over 600 feet due to lack of proper control. (Map provided)

Response: The littoral drift of shoreline material and storm surge are considered to be a significant contributor to shoreline erosion. The control of wind-blown sand, while appropriate in other areas of the park, is not considered a solution to erosion in the areas identified.

Comment: The protection of the coastal resources must be paramount, particularly in the face of climate change and an increase in the frequency and severity of storms.

Response: OPRHP agrees.

Comment: The Draft Plan should address the need to alleviate human disturbance to beach-nesting birds through education of patrons and other key audiences, additional signage, and better enforcement of dog-walking restrictions near nesting areas.

Response: OPRHP is working to address these issues.

Comment: Audubon NY (ANY) recommend adding that Sunken Meadow State Park is located within the Nissequogue River Watershed and Smithtown Bay Important Bird Area (IBA) and the Nissequogue River Long Island Sound Stewardship Site.

Response: Missing text has been added to the master plan.

Comment: ANY respectfully request that certain areas, especially wooded areas along Sunken Meadow Creek, remain undeveloped and managed in a way that prioritizes the protection and stewardship of the important natural resources found in this Park.

Response: Development is not proposed in forested areas along Sunken Meadow Creek. These areas will continue to serve as a natural buffer to the creek.

Comment: ANY suggest adding clarification between the Audubon organizations that are mentioned in Appendix A (first paragraph on page A-28 of Appendix A). We recommend the following changes in the second to last sentence: “The majority of the park and other areas are already recognized by Audubon New York, the state program of the National Audubon Society, as an Important Bird Area (IBA) and the golf course is recognized as an Audubon Cooperative Sanctuary by Audubon International (which is not affiliated with the National Audubon Society).”

Response: This clarification has been added to the plan.

Comment: ANY recommend that kite-flying not be allowed near the Piping Plover and Least Tern area as this can cause birds to flush from eggs and interfere with nesting. We recommend that the Piping Plover nesting area is specifically listed as an area where kite-flying is restricted from April 1st through August 31st.

Response: Kite flying is not allowed in these areas.

Comment: The plan should include better enforcement of dog walking restrictions within the Park. Due to Hurricane Sandy, dog walkers have increased access to sensitive Piping Plover and Least

Tern nesting areas. Dog walkers have been taking their dogs into this area and some have even allowed their dogs into the fenced nesting area during the nesting season. This is highly disruptive to the birds and can lead to destruction of eggs and young or can cause nesting birds to abandon the site, which is a major issue for the survival of plovers. Dogs outside of the fencing also disturb the birds and can lead to lowered reproductive success. Increasing signage and staff at this area of the Park to enforce dog walking restrictions should be a part of this plan.

Response: OPRHP is presently working on these issues.

Comment: Model airplanes can disturb birds because of their size and shape, the altitude and pattern at which they are flown, the noise they create, and the associated human disturbance from users and events. When approving model airplane flying in the State Park, we ask that the disturbance to birds be considered and also used to inform how and when model airplanes are permitted.

Response: OPRHP will monitor these potential disturbances in the Parking Field 2 area where model planes are flown.

Comment: There is a significant amount of run off from the Golf Course affecting several businesses and residents. Will any work be done with the current irrigation improvements to alleviate some of this run off?

Response: OPRHP is unaware of this issue, however, will talk with local businesses and residents to rectify.

Comment: What concrete actions will take place as a result of the Bird Conservation Area designation? I hope it will mean something other than just saying that birds are here.

Response: When development occurs in a Bird Conservation Area, a more thorough look is taken at impacts to birds as well as opportunities to mitigate any potential impacts.

Comment: Will the park provide more osprey nests?

Response: OPRHP is regularly reviews the quantity and locations of osprey nests in the park. Appropriate locations are considered in this process.

Comment: Fish in the creek are not doing well this year as a result of stormwater run-off and the removal of the dike. The removal of the dams along the creek would assist with the health of the freshwater fish.

Response: A plan is being developed looking into this issue.

Comment: Positive comments were received concerning the decision to keep Sunken Meadow Creek open to the Sound fundamentally restoring the area to a natural condition.

Response: Thank you.

Acquisition

Comment:

- To enhance pedestrian connectivity consider purchasing or swapping property to acquire the St. Johnland Nursing Home property.
- Is OPRHP purchasing the St. Johnland property?

Response: OPRHP is evaluating these opportunities.

Education and Interpretation

Comment: The former fish hatchery area should be improved and promoted. Interpretive information discussing the history of the hatchery should be provided.

Response: OPRHP is open to interpretive signage in this area and welcomes proposals and partnerships.

Comment: PTNY urges OPRHP to include opportunities for education and interpretation of the natural world as a whole, a big picture approach to learning about the environment and global environmental issues such as sustainability and climate change. PTNY strongly supports the presence of staff trained in the natural sciences and education.

Response: OPRHP agrees and is presently rehabilitating a portion of the main bathhouse to house this type of educational information.

Operations

Comment: Vacuum the leaves up off of the golf course rather than shred them with a lawn mower to preserve the grass and quality of play.

Response: Leaves are currently raked and blown from the greens. In other portions of the course leaves are also shredded by lawn mowers and/or bagged and removed. These practices will continue, however, opportunities to minimize leaf litter on turf grass will be considered.

Comment: There are a lot of lap swimmers that like to swim in the morning for exercise. This past year park staff have told swimmers they can only swim while a life guard is on duty. Can the life guard hours be extended or if a swimmer has a float attached to them could they be allowed to swim up and down the beach without a life guard?

Response: A lifeguard is required for this activity in the park. The present budget does not allow for expansion of lifeguard duties, however, when the budget is expanded, OPRHP will consider this expansion.

Comment: Post a notice in the clubhouse telling golfers what changes and improvements to expect in the future.

Response: Additional information will be provided.

Comment: Repair the cart paths in the golf course.

Response: OPRHP will improve the cart paths.

Comment: Will more park police presence be provided as a result of the increase in visitors resulting from the implementation of the plan?

Response: Park Police presence will be reevaluated on an “as needed” basis as visitation levels increase.

Comment: Are there any plans to accommodate non-Smithtown resident parking at the east end of the park at Old Dock Road?

Response: OPRHP will coordinate with Smithtown to evaluate and improve this issue.

Comment: Provide access to kayak fishermen for night fishing. Striped Bass only feed at night. Could this opportunity be combined with the existing kayak access permit that the park issues?

Response: For patron safety, night kayaking will not be allowed in the park.

Comment: Could a porta-pottie be provided for the night fishermen? Generally, the bathrooms in the park are locked up after hours eliminating all access to bathrooms in the park.

Response: Due to the multiple fishing access locations around the park, the logistics of providing nighttime bathroom facilities is challenging. Portable restrooms will not be provided for evening fisherman use.

Comment: Additional signage should be provided at the kayak launch identifying to increase safety and identify what may be encountered on a tidal creek and the timeframe in which suitable tidal conditions exist for paddling. The use of personal flotation devices should be encouraged. Less experienced boaters should be directed to the Sound for a safer beach launch. At times when the water is flowing in and out of the creek the conditions are treacherous.

Response: Tidal timetables are provided on the information kiosks. Kayak permits require personal flotation devices to be shown at the time of purchase. Additional signage will be considered which identify conditions and access locations.

Comment: The golf course fee system should include an annual, multi-year and lifetime passport option.

Response: The OPRHP golfing fee and funding structure is not set up to include these options. To keep the same quality of play, the present system will remain in place.

Comment: Consider including golf clinics provided by local golf professionals to generate revenue and improve golfer's skills.

Response: The pro-shop provides golfer skills clinics.

Comment: Vehicles travel too fast on the golf course road. Previously, there was a sign encouraging drivers to respect joggers and walkers. Recreational activities should be welcome and accepted.

Response: The speed limit was reduced for the roadway to increase safety. Additionally, a multi-use pathway is proposed in the master plan to separate vehicular and pedestrian circulation.

Comment: The golf course should be open to cross country skiing when a certain threshold of snow, say four inches, accumulates. The road is already plowed, Parking and the snack bar would add to the enjoyment.

Response: All other areas of the park are open to cross country skiing. To protect the course from potential impacts, cross country skiing will not be allowed.

Comment 1: I think it is a huge mistake to open additional entrances to the park and especially to Kohr Road.

Comment 2: Will the maintenance area access gate be used on a regular basis year round by park staff, delivery trucks and emergency personnel?

Response: This entrance will not be used by the public. It will only be used when the main entrance is filled to capacity to allow delivery vehicles, emergency personnel and park staff into the park.

Comment: Many of the fences throughout the park serve no purpose today, only impeding the free movement of wildlife. In particular, fencing along the access road to the BOCE's facility and another separating the picnic area from the woodlands on the east side of the park should be removed. This action would also help improve the park's aesthetics.

Response: While not aesthetically pleasing, the fencing reduces the quantity of deer on roadways and developed areas. In some areas, it is used to keep patrons out of the wooded areas minimizing impacts to areas around development. The fencing will remain in place.

Partnerships

Comment: Parks and Trails New York urges OPRHP to work with local communities and other partners to take advantage of opportunities to connect existing or planned trails outside the park to those within the park, including connections to Nissequogue River State Park.

Response: OPRHP coordinates with local communities and partners to improve pedestrian circulation and will continue to do so.

Comment: Several comments were received from Concerned Long Island Mountain Bicyclists, The Long Island Trail Conference and local patrons concerning their willingness to participate in the trail improvement process including, design, construction, maintenance and signage installation.

Response: Thank you.

Comment: PTNY supports OPRHP's proposal to foster partnerships with private entities. And, we strongly support the facilitation of the creation of a Friends group to extend the capacity of the agency. A Friends group at the Park could help with invasive species removal, litter clean up, trail maintenance, and the memorial bench program, among many possible projects. The Friends organizations throughout the entire state park system hold untold potential as a source of both financial support and volunteer labor for parks projects. However, Friends groups are often at a loss as to how to increase membership and build their own organizational capacity. To that end, PTNY encourages OPRHP to advocate for an Environmental Protection Fund (EPF) appropriation for capacity building grants program for Friends organizations, as was proposed in the state budget for fiscal year 2008-2009.

Response: OPRHP encourages this action for the park.

Sustainability

Comment: PTNY encourages the use of sustainable design and green technology, for example the use of solar panels in the redevelopment of the toll plaza.

Response: OPRHP will implement sustainable design and green technology into designs per our sustainability policy.

Comment: The draft Master Plan notes the use of chemicals on the golf course grounds. PTNY urges OPRHP to continually work to use less toxic, yet effective, means of disease, weed and plant

growth regulation, particularly given that almost all of Long Island’s drinking water is from groundwater and the Park’s location above the Lloyd Upper Glacial and Magothy aquifers. Prioritizing sustainable design elements at state parks would ensure the state is leading by example, providing an important opportunity to educate state residents and inspire similar actions in their own homes.

Response: Best management practices and the OPRHP Integrated Pest Management Plan are utilized when designing and maintaining the golf course grounds.

Miscellaneous

Comment: Several people provided positive comments concerning the park staff, park improvements and the master plan.

Response: Thank you.

Persons/Organizations Who Provided Comments

NAME	TITLE	ORGANIZATION
Avella, Joseph	Resident	Concerned Long island Mountain Bicyclists
Baiata, Paul	Resident	Smithpoint Junior Olympic Archery Development Club
Bundy, Walter	Resident	
Bilello, Larry	Resident	Concerned Long island Mountain Bicyclists, Astronomy Club, Amateur Rocket Club.
Cadden, Bill	Resident	SCUBA diving community
Chicvak, Michael	Resident	
Corey, Kyle	Resident	Concerned Long island Mountain Bicyclists
DiBernardo, Joseph	Resident	Concerned Long island Mountain Bicyclists, Kayak Fishing Association
DiBetta, Laura	Director	Parks and Trails New York
Donza, Joe	Resident	Concerned Long island Mountain Bicyclists
Ehinger, Frank	Resident	Concerned Long island Mountain Bicyclists
Flynn, Lawrence	Resident	
Flynn, Carolyn	Resident	
Franke, Fred	Resident	
Feltmate, Harold	Resident	
Fennes, David/Jeanne	Resident	
Gallagher, Brian	Resident	
Hall, John	Resident	The Kayak Fishing Association of NY
Howe, Bruce	Resident	Concerned Long island Mountain Bicyclists
Henninger, Linda	Resident	Kings Park Civic Association
Israel, Robert	Resident	
Kozyrski, Tony	Resident	Concerned Long island Mountain Bicyclists
LaCarrubba, Ann	Resident	
Lehmann, Sean	President	Kings Park Civic Association
Liner, Jillian	President	Audubon NY
Nielsen, Chris	Resident	
Pekarik, John	Resident	Long Island Orienteering Club
Pheiffer, Bill	Rescue Supervisor	Nesconset Fire Department

Governor Alfred E. Smith/Sunken Meadow State Park Master Plan:

Phipps, Jimmy	Resident	
Sabatino, David	Associate Planner	Regional Plan Association
Scheuerlien, William	Resident	
Scro, David/Lisa	Resident	
Smyth, Christine	Resident	
Sullivan, Brian	President	International Honor Society
Tweedie, John	Director	Fort Salonga Association
Van Scoy, Frank	Resident	
Vasiluth, Robert	Resident	
Vitti, Michael	President	Concerned Long island Mountain Bicyclists

References

Blakelock, Chester R. "History of Long Island State Parks," in Long Island: A History of Two Great Counties Nassau and Suffolk, ed. Paul Bailey. Vol. II (New York: Lewis Publishing Co., Inc., n.d.).

Caro, Robert, 1974. *The Power Broker: Robert Moses and the Fall of New York*, pp.157-63.

Department of Environmental Conservation (DEC). February 2009. Ambient Air Quality Monitoring. <http://www.dec.ny.gov/chemical/8406.html>.

DEC. August 2010. New York State Stormwater Design Manual. Prepared by: Center for Watershed Protection, 8391 Main St., Ellicott City, MD. 21043 For: NYS DEC, 625 Broadway, Albany, NY 12233.

DEC 2011. Water Quality Classification. <http://www.dec.ny.gov/permits/6042.html>, <http://www.dec.ny.gov/regs/4528.html>.

DEC 2014. Atlantic Ocean/Long Island Sound Watershed. <http://www.dec.ny.gov/lands/48375.html>.

EPA 2010. US Environmental Protection Agency. <http://www.epa.gov/region02/water/aquifer/nasssuff/nassau.htm>

Evans, D.J., Paul Novack, and Troy Weldy, 2002. Rare species and ecological communities of Alfred E. Smith/Sunken Meadow State Park, New York State Office of Parks, Recreation and Historic Preservation and New York Natural Heritage Program. Albany, NY.

New York State Museum (NYSM 2008). "NYS Surficial Geology – Listed Alphabetically". http://www.nysm.nysed.gov/data/surficial_alpha.html. May 2008.

New York Natural Heritage Program. 2014. Biotics database. New York Natural Heritage Program, New York State Department of Environmental Conservation, Albany, NY. Accessed 10/2014.

NRSAP, 2008. Nissequogue River Stewardship Action Plan. <http://www.rpa.org/nissequogue/>

NYS DOS, 2005. New York State Dept. of State. COASTAL FISH & WILDLIFE HABITAT ASSESSMENT FORM, Nissequogue Inlet Beaches (Short Beach Town Park). http://www.dos.ny.gov/opd/programs/consistency/Habitats/LongIsland/Nissequogue_Inlet_Beaches.pdf.

NYSDOT, 2009. New York State Dept. of Transportation. *Special Specifications for Invasive Plant Species Control. ENGINEERING INSTRUCTION 09-002*. Available at <https://www.nysdot.gov/main/business-center/consultants/form-publications-and-instructions/engineering-information-issuance-system>. 3/25/09. Accessed August 26, 2009.

OPRHP 2011, Sunken Meadow Creek Tidal Marsh Restoration Feasibility Study. Prepared by Cashin Associates, Hauppauge, NY. New York State Office of Parks, Recreation and Historic Preservation, Babylon, NY. April 2011.

OPRHP 2014, New York State Statewide Comprehensive Outdoor Recreation Plan and Generic Environmental Impact Statement 2009-2013. New York State Office of Parks, Recreation and Historic Preservation, Albany, NY. March. 2014.

Portness, Grant and Rossi; 2009. Reducing chemical use on golf course turf: Redefining IPM.

TWC 2005. The Weather Channel, "Vulnerable Cities: Long Island" December 2005.

Personal Communication

Julian Adams, OPRHP

Virginia Bartos, OPRHP

Kath LaFrank, OPRHP

Mark Peckham, OPRHP

Steve Webber – Kings Park Heritage Museum

King Pedlar - Kings Park Heritage Museum

David Flynn – The Town of Smithtown

Appendices

Appendix A – Analysis and Alternatives
Appendix B – Park Chronology
Appendix C – Plants of Governor Alfred E. Smith/Sunken Meadow State Park
Appendix D – Birds of Governor Alfred E. Smith/Sunken Meadow State Park
Appendix E – Animals of Governor Alfred E. Smith/Sunken Meadow State Park
Appendix F – Cultural Resource Review - Categorical Exclusion
Appendix G – Recreation Facilities Plan
Appendix H – Infrastructure and Utilities
Appendix I – 1928 Master Plan Map
Appendix J – 1944 Development Plan
Appendix K – 1950 Sunken Meadow Parkway Development Plan
Appendix L – Trails Assessment Summary
Appendix M – Trail Assessment - Northwest Section
Appendix N – Trail Assessment - Northeast Section
Appendix O – Trail Assessment - Southern Section
Appendix P – Bird Conservation Area Management Guidance Summary

