2.1 OBJECTIVES AND GOALS

A. Overall Purpose of the Local Waterfront Revitalization Program

The intent of the New York State Legislature in enacting the Coastal Management Program, of which the Local Waterfront Revitalization Program is part, can best be summed up in one of the Legislative Findings and in one element of the Declaration of Policy set forth in New York Executive Law, Article 42. Both are listed first in the respective sections. They are as follows:

> The legislature hereby finds that New York State's coastal area and inland waterways are unique with a variety of natural, recreational, industrial, commercial, ecological, cultural, aesthetic and energy resources of statewide and national significance.
>
> It is hereby declared to be public policy of the State of New York within the coastal area and inland waterways:
>
> To achieve a balance between economic development and preservation that will permit the beneficial use of coastal and inland waterway resources while preventing: the loss of living marine resources and wildlife; diminution of open space areas or public access to the waterfront; shoreline erosion; impairment of scenic beauty; and permanent adverse changes to ecological systems.

The Department of State has been directed to pursue this policy through local government initiatives in the form of Local Waterfront Revitalization Programs (LWRP), such as this one for the Village of Sag Harbor. The LWRP identifies problems and opportunities, establishes local policies responsive to the community's needs and compatible with the broad State policies, develops a generalized land and water use plan, and provides a program for management, regulation and project implementation of that plan.

The Village of Sag Harbor is proud of its long history and the many historic buildings that grace its streets. It has retained a small-scale country Village and seaport character that is unique. As the following initial objectives indicate it seeks to enhance this character rather than exploit it by maintaining a balance between economic development and the preservation of its environment. Those initial objectives were:

1. To provide high quality, safe recreational facilities to all local residents based upon their needs and capacities.
2. To provide recreational opportunities within easy walking and bicycling distance of all Sag Harbor residents, including the young and elderly.
3. To complement existing privately operated boating facilities and historic attractions in Sag Harbor.
4. To improve the local economy.

5. To preserve significant open space resources in a rapidly developing area for uses compatible with the characteristics of the land.
6. To strengthen the economic base of a small harbor area by encouraging the development and enhancement of traditional uses and activities.
7. To manage the waterfront area.
8. To preserve public recreational facilities along a shoreline that is severely restricted by existing development.

Although these objectives have been modified to some extent, they still represent the basic intent of the Village of Sag Harbor.

B. LWRP Amendment

The original Local Waterfront Revitalization Program (LWRP) was adopted in 1986. Since then, certain things have changed in the Village of Sag Harbor to warrant the updating of that LWRP. The LWRP has had a positive effect on the Village in the sense that it has helped to improve the waterfront area and provide additional public amenities. The local boating and tourist industry have benefitted from the changes that have occurred. The LWRP also established pertinent laws and regulations for the control of shore front and surface water activities. This amendment to the 1986 LWRP document is aimed at continuing these efforts and expanding upon some of the programs and controls that were initially established to more effectively improve and protect waterfront resources and facilities.

The objectives of this LWRP amendment are as follows:

- To expand the coastal area boundary to encompass the entire Village, in order to comprehensively plan for wise use and development;
- To safeguard the tranquil residential and historic atmosphere of Sag Harbor Village;
- To protect and restore the natural resources of Sag Harbor and ensure that neither commercial nor residential interests impact these resources;
- To provide recreational opportunities for residents and visitors appropriate to the historic atmosphere and natural ecology of the Village;
- To develop opportunities for residents and visitors to enjoy and learn about the history and natural environment of the Village;
- To survey the commercial, residential and ecological needs of the Village in order to develop a plan that will balance those needs; and
- To identify projects that will implement these objectives.

This document serves as an amendment to the Sag Harbor LWRP and examines a number of conditions that are considered to be important in light of the types of activities that occur in Sag Harbor today. It also includes a Harbor Management Plan component that exclusively examines nearshore and waterside conditions and issues more thoroughly. Of particular importance is the fact that jurisdiction over the lands and waters of Sag Harbor is divided among a number of political entities at various levels of government. These include the Town of Southampton, the Town of East Hampton, the Incorporated Village of North Haven, Suffolk County, the State of New York and certain federal agencies. This multiplicity of regulatory jurisdictions requires the cooperation of many of these involved entities in order to control or resolve certain problems or achieve certain management goals, i.e., the improvement of water quality. Most of the underwater lands beneath Village waters are owned by the Town of Southampton and the State of New York. The regulation of actions that occur on these lands is outside the authority of the Village.

Since the LWRP was first adopted, the need to strengthen existing laws and enact additional legislation has arisen. Although the original LWRP designated water use districts, no regulatory standards were adopted to manage uses and activities occurring in those districts. The importance of tidal and freshwater wetland resources has also become a significant issue, highlighting the need for either the amendment of existing Village law, or the adoption of a separate law, to strengthen the protection of those resources.

2.2 ORIENTATION

A. Location and History

Sag Harbor is an incorporated Village, located about 95 miles from midtown Manhattan on the north shore of the south fork of Long Island, adjacent to Sag Harbor Bay (see Figure I). It has the character of a country village and seaport. With roughly 3.3 miles of shoreline and a total area of approximately two square miles, Sag Harbor Village is bisected by the Southampton-East Hampton Town Boundary line. Like many seaports, Sag Harbor's road system radiates from the focal point at the Long Wharf. The principal access roads are the Easthampton-Sag Harbor Turnpike, New York State Route 114 (which continues north from Sag Harbor across a bridge to provide one of two access roads to the Village of North Haven), and the Bridgehampton-Sag Harbor Turnpike (County Route 79).

The Village has a long history preserved in its notably rich and varied architecture. High points include its service as a revolutionary port and garrison, its development as a prosperous whaling port in the first half of the 19th century and its subsequent decline and rebirth as a business and manufacturing center.

"There are no definite records of any permanent [European] settlement in Sag Harbor before 1730. Southampton was first settled in 1641 and East Hampton in 1649. All were settled by English colonists from Connecticut." Until 1664, Long Island's east end settlements

aligned themselves politically with Connecticut, thus strengthening English colonial influence. After 1664 they were politically joined to New York. Nevertheless, English customs continued to predominate over Dutch customs.[1]

"The first impetus to the growth of the Village occurred in the mid-l8th century when the Sagaponack and Mecox settlements in the eastern part of Southampton Town had grown to a degree where a more convenient outlet was needed for the export of a growing agricultural surplus and the importation of needed goods and raw materials. The well-protected and commodious 'harbor of Sag' was the natural site for such a port. Between 1760 and 1770, a trade had been opened up between Sag Harbor and the West Indies, and by the end of the century, the little port had a greater tonnage of square-rigged vessels than the port of New York. The first indication of an interest in whaling was in 1761 when the Town of Southampton authorized the construction of a wharf and tug-house at the Harbor."[2]

The major epochs in the history of Sag Harbor have been heralded by war and fire. The Fire of 1877 was the third major conflagration. However, it also marked the end of a 25-year period of decline from the whaling period. As the whaling industry declined in the 1850s, various other waterfront industries replaced this activity, including shipping; steam powered passenger travel; flour and grain milling; concrete block, brick and pottery works; and shipyards, among others. The Village's rebirth in the late l9th Century was as a business and manufacturing center. It also grew as a summer resort.

Although the shore front has changed since then, and the whaling industry has long been abandoned, many of the existing waterfront uses have established their foundation in this past. The protection offered by the harbor, which made it an attractive location for whaling, shipping and trade in the 19th century, supports extensive boating and other marine-related activities today. The Harbor District and the Outer Sag Harbor Cove areas both contain full service boat yards. The waterfront also supports an excursion service from Connecticut and charter boat services, as well as a moderate shellfishing industry.

Today this history and the waterfront make Sag Harbor an ideal summer resort and commercial center on Long Island's South Fork. As manufacturing activity has declined the summer resort industry and general business has become the main economic resources. Retail trade and construction are the second largest.

Many retired individuals were once drawn to the Village because of the availability of high quality homes at low cost. This condition is changing as Sag Harbor homes increase in cost. However, the aesthetic character of the Village continues to attract new residents. Today the three predominant

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[1] SAG HARBOR: Past, Present, and Future. Prepared by Robert H. Pine, A.I.P., 1975. p.1 and 2

[2] Ibid, p.44.

residential groups are: (1) locally employed/professionals, (2) retired individuals, and (3) second home residents and transient visitors.

Sag Harbor's vitality is based on the quality of its historic environment as a setting for both principal and second homes, and for summer resort and tourism activities all supported by a fine harbor suitable for large recreational boats, an attractive business center and necessary public services.

B. Population Growth and Characteristics

From 1960 through 1990, the U.S. Census showed a very slow increase and then a decline in resident population as of April 1st in the Census years. This count includes only those persons who lived in Sag Harbor as regular year-round residents. Second home residents would not customarily be included. The data are as follows:

	East Hampton (T)*	Southampton (T)*	Sag Harbor (V)
CENSUS YEAR			
1960	874	1,472	2,346
1970	835	1,528	2,363
1980	895	1,686	2,581
1990	858	1,276	2,134

[* indicates portion]

Analysis of the U.S. Census of Population and Housing statistics for 1970 and 1990 reveal several additional Village characteristics of interest. As the Village matured over these twenty years the number of school children (age five through 14) declined dramatically from 424 to 250. This trend has reversed and the number of school children is now on the rise. Sag Harbor has continued to attract relatively young adult residents. The number in the 25 to 44 year old age group has increased for the greatest percentage gain of any of the Village's age groups. In 1990, this sector of the population represented 30 percent (619 persons) of the total Village population. The only other age group to come close to this is the 65 and over sector, which totaled 505 persons (or 23.5 percent) in 1990. The median age in 1990 was 43.7 years old.

Household characteristics indicate a change in family lifestyle that began during the 1970s and has continued through the 1990s, although the numbers have declined due to the overall population decrease from 1980 to 1990. Non- family households, those of single individuals or in some few cases households of unrelated individuals, represented 42.3 percent of the total number of 983 households. Single-headed family households made up only 8 percent of the total number of households, which is a decrease since 1980. Married households represented almost half of the total number of households (49.2 percent or 487 households) indicating that the trend toward non-

traditional households has not significantly changed (in 1980, this sector of the population represented only 50 percent of the total number of households).

The impact of these demographic changes is evident in the housing inventory data from the U.S. Census of Housing for 1970 and 1980. The number of occupied year-round housing units in all types of structures increased from 869 to 1,117 -- 29 percent as compared with the 9 percent population increase during this same time period. However, tenancy changed from 22 percent renter occupied in 1970 to 31 percent in 1980, and owner-occupied housing units decreased from 78 to 69 percent. Both types of tenancy had increases in their number of occupied housing units. Structures with two or more housing units in them accommodated 59 more housing units by 1980 - for a 27 percent increase.

In 1990, the population density - expressed as the number of persons per household - was considerably different in the East Hampton and Southampton sectors of the Village. They were 2.23 and 2.13 persons per household, respectively. Village-wide it was 2.18 persons per household.

2.3 INVENTORY OF EXISTING LAND USES, WATER USES AND ZONING

A. Existing Land and Water Uses and Zoning

(a) Land Use

The Village of Sag Harbor is a historic community and, as a result, a mature one with a well-defined pattern of land use. The Village also possesses extensive shoreline that fronts on a number of surface water bodies, including: Upper Sag Harbor Cove, Morris Cove, Ligonee Brook, Inner Sag Harbor Cove, Outer Sag Harbor Cove, Sag Harbor (the area between the breakwater that protects the navigation channels, marinas and anchorage area), and Sag Harbor Bay. Its boundaries on the east and west are defined by Little Northwest Creek and Ligonee Brook, respectively. With these environmental resources, the Village is rich in open spaces and recreational facilities on both land and water.

The recommended revised Local Waterfront Revitalization Program boundary encompasses the Village's entire land area. The extraterritorial jurisdiction on the adjacent water bodies includes all of Upper Sag Harbor Cove, Morris Cove and significant portions of the remaining water bodies based on the 1,500-foot dimension or, in the case of the smaller water bodies, one half the distance between the opposite shores.

As in most small country Villages with a seaport, business activity is focused on Main Street which extends inland from the water's edge at Long Wharf, the principal public dock. Much of the street system radiates from the Long Wharf. Although some scattered businesses are located outside the Village's Central Business District (CBD), the land area beyond the Village CBD is generally residential in character. The majority of the historic buildings and landmarks are clustered around the Village business center. With the exception of public

buildings and other commercial structures in the CBD, the architectural character of development in the Village has maintained a human scale, with buildings generally no more than 2½ stories high.

Existing land and surface water uses in the Village of Sag Harbor are shown on **Figure 2**. Land use categories shown on this map are comparable to those shown graphically on the Existing Land Use - 1983 Map, and on the Existing Land Use Map - 1977 of the Long Island Element of the Coastal Management Program.

Overall, much residential land subdivision and development has occurred in the Village. Within the LWRP area most of this has been at a medium density (2-4 units per acre) with some high density (5+ units per acre) at scattered locations. The latter density includes older residences on small lots as well as the Villas at Sag Harbor on West Water Street and the Harbor Close at Long Island Avenue and Bridge Street. The proposed adaptive reuse of the Bulova Watchcase factory building is high-density residential condominium development. Although there are vacant residential lots within the LWRP area, in several instances these are left over pockets of wetlands not well suited for development. There are only two relatively large vacant sites and one former agricultural property that might offer significant subdivision opportunities. One vacant site lies along the projected alignment of Hillside Drive East near the east end of the Village. The other is immediately west of the Baron's Cove Inn, between West Water Street and Long Island Avenue. The agricultural property (locally known as the *Cilli Farm property*) is immediately west of the second site and extends out to a frontage on Glover Street.

For the purposes of this land use discussion, the LWRP Area can be divided into the following *functional areas* (**see Figure 3**):

1. Western Residential;
2. Central Residential;
3. Eastern Residential;
4. Waterfront;
5. Village Central Business District (CBD); and
6. Resort Motel.

1. Western Residential Functional Area

The *western residential functional area* encompasses the western portion of the Village, west of Main Street and Bayview Avenue, and front along the Sag Harbor Cove Complex. This area is developed primarily with low and medium density residential uses. At present, the north side of Redwood Avenue, at the Redwood Canal, is developed with the Ship Ashore marina and boatyard, which is designated as a *waterfront functional area*. The area on the south side of Redwood Avenue, just east of the marina, is used by a radio station, and is included in this functional area. The radio station is the only significant commercial use in

this functional area, aside from a gas station located on the corner of Main Street and Brickiln Road. This functional area also includes a large fire department property, located on the north side of Brickiln Road, that contains the fire station and other related facilities.

The entire *western residential functional area* is zoned R-20-One-Family Residence, with the exception of a large condominium complex located along the shoreline (see Figure 3). This area is zoned MF Multi-Family Residence. These zoning classifications are discussed in greater detail in Section 2.3A(c).

The *western residential functional area* contains two areas of wetlands that drain to Upper Sag Harbor Cove. One area surrounds the outlet creek from Otter Pond, the other area is surrounds a large pond on John Street.

This area contains a large condominium complex which is situated along the shore of Outer Sag Harbor Cove, just west of the Sag Harbor Cove West Marina. There is also a significant area of undeveloped open space and a large agricultural property that present potential opportunities for future development in this area. Both of these sites are zoned for residential use and any future development at these locations should be reviewed for compatibility with surrounding uses and to prevent impacts to natural resources. This entire area was once a dredge spoil disposal site and the plants growing on the agricultural land are indicative of brackish wetlands.

2. Central Residential Functional Area

The *central residential functional area* is located in the center of the Village, between Long Island Avenue/Bayview Avenue/Mains Street and Rysam Street/Division Street. This area extends south from the boundary of the CBD to the Village border. The central residential area primarily contains single-family residential development as well as Otter Pond and Mashashimuet Park, a large cemetery, and some limited areas of wetlands and undeveloped open space. This entire functional area is zoned R-20 Residence (Figure 3), which is discussed in greater detail in Section 2.3A(c).

Sag Harbor was a whaling community which flourished during the first half of the 19th century. The historically significant Sag Harbor *central residential functional area* contains a large number of 18th and 19th century structures remarkably uninterrupted by 2Oth century intrusions. Maritime and cultural links with New England associate this area of the Village visually with ports of that region rather than with other communities of New York. Formerly a U.S. Port of Entry and a center of maritime trade and commerce, the Village is extraordinary for the quantity of structures present from the 18th and first half of the 19th century, as well as for the quality of individual buildings.

The area between Division Street and Rysam Street still retains much of the environmental feeling of a small seaport village residential area, has particular charm. Perhaps because of

its age, it also has need of improvements, both public and private. Finally, this area along with the Bulova Watchcase Factory building and the rear yards of buildings fronting on Main Street, constitute another "front-yard-gateway" into the Village business center/waterfront.

The Harbor Close Condominiums on Garden Street, and the prospective adaptive reuse of the Bulova Watchcase Factory building for residential condominiums represent a new style of residential use that is a step away from the traditional one-family dwelling unit that typifies the majority of this area.

The Village of Sag Harbor and the Society for the Preservation of Long Island Antiquities (SPLIA) own contiguous properties in the *central residential functional area* that comprise most of a natural marsh area. This wetland is located between Garden and Spring Streets, at the rear of the Old Custom House property. This wetland has become overgrown with *Phragmites* which is affecting it drainage capabilities.

South of Jermain Avenue, the *central residential functional area* becomes more rural in nature, containing more open space and limited residential development. Much of this area is comprised of Mashashimuet Park (discussed below), and the Oakland Cemetery property. Only limited land area is available for additional residential development.

Mashashimuet Park is a large park encompassing approximately 84.6 acres. Mashashimuet Park is owned and managed by the Russell Sage Foundation and serves as a public park and playground. Mashashimuet Park includes two separate open space areas (six acres which surround Fore and Aft Pond and 2.6 acres that comprise the Maple Swamp wetlands that drain to Otter Pond). The park area also contains a wide variety of recreational amenities.

Otter Pond Park is an 11.3-acre property bounded by Main Street on the west and Jermain Avenue on the south. Otter Pond Park is also owned and managed by the Sage Foundation. A nature walk with benches partially encircles the park and provide users with access for passive recreation and fishing. Otter Pond is hydraulically connected to Upper Sag Harbor Cove via a culvert through the west bank of the Pond.

3. Eastern Residential Functional Area

The *eastern residential functional area* encompasses the eastern portion of the Village, generally east of Division Street. This area contains low to medium residential development, a large public park and beach, two public schools, a NYSDEC conservation area, a 12.5-acre Suffolk County Water Authority property, the Cor Maria Roman Catholic retreat, and intermittent areas of undeveloped open space.

The R-20-One-Family Residence zoning classification covers the entire *eastern residential functional area* (Figure 3). This zoning classification is discussed in further detail in Section 2.3A(c).

Haven's Beach, located just east of the business center and commercial waterfront, is an 18.8-acre facility offering swimming and picnicking opportunities. Haven's Beach is a Village-owned facility which has been designated as a municipal beach, pursuant to Article 1 of Chapter 27 (Land and Beach Use) of the Village Code. However, a good portion of this site is underutilized and the potential for improvement exists that would enable the Village to enhance user enjoyment. In addition, certain essential improvements are required to upgrade present use and enjoyment, in particular the provision of sanitary services. Daily tourist population is estimated at 300 persons during a peak summer weekend, with parking an auto capacity for 60 vehicles. Currently, bathers are discouraged from using the beach and instead utilize Long Beach in Southampton Town.

There is also evidence that the drainage ditch that bisects this park is contaminated with roadway runoff and septic leachate. This ditch carries stormwater runoff collected along Bay Street and Hempstead Street. It is also suspected that the runoff flowing through the Haven's Beach drainage ditch is contaminated with a number of nonpoint source pollutants. Remediation is required to address this problem and improve the quality of the stormwater runoff reaching Sag Harbor Bay.

The *eastern residential functional area* contains three small, homeowners' association beaches that are situated on Sag Harbor Bay (see Section 2.3A(f)2). Each beach facility is comprised mainly of a undeveloped vacant waterfront lot which provides waterfront access and limited parking. Each beach property is protected from future development through restrictions contained in each homeowner's deed. Although utilization of each beach is restricted to members of the associations, these facilities provide recreational access that would otherwise be blocked by private residential development. It should be noted that the seaward boundaries of the individual association properties are tied to the mean high water line.

Cor Maria, a 16.7-acre Roman Catholic Church retreat, lies between Haven's Beach and the *waterfront functional area*. It has more than 1,600 linear feet of shoreline on both the active harbor and Sag Harbor Bay. The breakwater structure that protects the harbor area extends from the shoreline of the Cor Maria property. Although no change is anticipated in the use of this property, if it should become available for reuse, it would have a significant impact on the entire Village and its character. This property is zoned for residential use and could accommodate an estimated 30+ dwelling units. Preservation of the shoreline for public access and the character and intensity of the new use would be principal concerns with reference to their impact on the natural environment and on the character and quality of the entire Village.

The area further east along the shore of Sag Harbor Bay, and inland to the Village boundary is substantially developed with low and medium density residential uses and much of the attractive native woodland vegetation remains. Residential owners should be encouraged to

preserve this character wherever possible. This area also contains a few large areas of undeveloped open space that are privately owned and zoned for residential development.

The NYSDEC owns approximately 190 acres of wetland and undeveloped open space along both sides of Little Northwest Creek. Approximately 50 acres of this conservation area, which contains both tidal and freshwater wetlands, are located within Village boundaries. The estuarine wetlands along Little Northwest Creek are one of the most significant natural habitats in this area. Aesthetically, it also serves another purpose - as an open space it provides a fine break in the pattern of development which defines the Village of Sag Harbor boundary.

Suffolk County Water Authority owns a 12.5-acre parcel located along the southeastern Village boundary. Although the property contains a water tank, a small building, and long roadway which provides access from Madison Street, it is primarily comprised of undeveloped open space. The property is zoned for residential use.

Problems in the *eastern residential functional area* include shoreline erosion, stormwater runoff into Sag Harbor Bay and Little Northwest Creek, the potential impact of future development upon the few remaining large properties, and the potential impact of recreational activities on the marine environment.

4. Waterfront Functional Area

The *waterfront functional area* extends from the Sag Harbor Cove West Marina, on West Water Street, to the western side of the Cor Maria property on Bay Street. The waterfront area also includes the Ship Ashore Marina located at the Redwood Canal. With the exception of the area located between Rysam Street and Dering Road, the *waterfront functional area* does not extend south of West Water Street and Bay Street. There is also one area where the retail uses from the Village business center (CBD) extend north across Bay Street and onto the Long Wharf, reducing the width of the waterfront area. Despite the fact that these uses are not water-dependent, they serve to provide an activity connection between the waterfront and the Village business center. The *waterfront functional area* located along West Water Street and Bay Street is zoned WF Waterfront. The *waterfront functional area* located on the Redwood peninsula is zoned MA Marine. These zoning classifications are discussed in Section 2.3A(c) of this document.

Land uses in the *waterfront functional area* include the following (from west to east):

- *Ship Ashore Marina*

Ship Ashore Marina is a private marina and boatyard located at the eastern end of the Redwood peninsula, in the western portion of the LWRP area. Ship Ashore Marina is located within the Redwood canal, which is also referred to as the Redwood boat basin, and

has direct access to Outer Sag Harbor Cove. Ship Ashore Marina provides a full range of boat repairs and services, and can accommodate any commercial vessel that can access this facility. This marina contains 101 slips with electric service, and can accommodate power boats up to 35 feet in length. A boat launch ramp, shore side dock, and on-site boat storage are also provided. The Ship Ashore facility is open year-round for boat repair services, and is served by a 30-ton lift. This marina does not offer a vessel waste pump-out facility. In addition, marine supplies are available at this site. Parking is provided on this site for approximately 100 vehicles. During the off-season, boats are stored in portions of the parking area.

- *Sag Harbor Cove West Marina*

Sag Harbor Cove West Marina is a private facility located on West Water Street, west of the North Haven/State Route 114 bridge, at the eastern end of Outer Sag Harbor Cove. This marina has 84 slips (30 of which are for transient vessels), and offers seasonal dockage for power boats up to 50 feet in length. Electric service and a fueling dock (gasoline only) are also provided. Parking is provided on-site for about fifteen cars. A public parking area adjoins this facility. Additionally, the Sag Harbor Cove West Marina facility offers associated motel and restaurant services, laundry, and showers on the south side of West Water Street (outside the waterfront district). A vessel waste pump-out facility, however, is not available at this marina.

- *Village A and B Docks*

The Village of Sag Harbor operates two docks in eastern Sag Harbor Cove known as the **A** and **B** docks. These docks are located on West Water Street, in the cove area between Sag Harbor Cove West Marina and Sag Harbor Cove East Marina (discussed below). The A dock, which is located adjacent to Sag Harbor Cove East Marina, is a fixed structure that provides 22 slips for vessels up to 30 feet in length. The B dock, which is located near the Sag Harbor Cove West Marina, is a floating structure that provides 50 slips for vessels up to 30 feet in length. Both docks offer electric and water services and provide seasonal dockage (from April 1 to October 31), with annual leasing fees that vary based on residency status. The B dock is generally utilized for in-water winter storage (seasonally from November 1 to March 31). In addition to the dockage available at the A and B dock facilities, the Village provides 48 seasonal cable slips along the shoreline between the two docks.

Off-street parking is provided in the vicinity of these docks. There are 14 parking spaces located along the north side of West Water Street, adjacent to the cable slips. There are also two small parking areas located adjacent to the A and B docks. The parking area near the A dock can hold nine cars; the area near the B dock can accommodate ten. In addition, there are 14 parking spaces available in a small lot located across from the A dock and 16 spaces situated along the south side of West Water Street, adjacent to the Sag Harbor Inn.

- *Sag Harbor Cove East Marina*

Sag Harbor Cove East Marina is a private facility located on West Water Street, east of Sag Harbor Cove West Marina and west of the North Haven/State Route 114 bridge. This marina provides 80 slips (25 of which are for transient vessels) on a seasonal basis with electric service, and offers dockage for power boats up to 85 feet in length. Ice and groceries, laundry, and showers are available. A restaurant and snack bar are also situated on-site. No boat repair services or fueling dock are available at this facility.

There is a small triangular-shaped Village-owned property located just south of Sag Harbor Cove East Marina. This area offers limited public parking and public greenspace.

- *Windmill Park*

Windmill Park is a Village-owned, 1.9-acre strip of shore front located along both sides of the North Haven/State Route 114 bridge abutment. The eastern portion of the park is situated at the terminus of Main Street and acts as a focal point for tourist activity. This side of the park contains a small beach area, a tourist information center (contained in an historic windmill structure), a few benches for public viewing and a single picnic table. This windmill facility is operated by the Sag Harbor Village Chamber of Commerce as an

information center during the summer season. The western side of the bridge is undeveloped public space.

- *The Long Wharf*

The Long Wharf structure is owned by Suffolk County, but all dockage activities are managed by the Village of Sag Harbor. Docking occurs along the entire face of the Wharf, with the exception of the area set aside for the finger docks and floating dock which comprise the Long Wharf Marina (discussed below). The number of vessels that can tie up at any single time depends on vessel lengths. Typically, only larger vessels (to a maximum length of greater than 100 feet) utilize the Long Wharf on a regular basis. Smaller boats wishing to dock in this area utilize the finger piers or the small Village mooring area (which located west of the Long Wharf).

New England Steamship Lines runs a seasonal (summer) passenger excursion ferry service from Haddam, Connecticut that docks at the northern end of the Long Wharf. The "Yankee Clipper" (which has a capacity of 500 persons) departs Haddam each morning, to dock at the Long Wharf by noon. This ship returns to its home port three hours later. This dockage arrangement is governed by a long-term lease with the Village, for which the ferry company pays an annual fee that increases from year to year.

Other large seasonally-operated vessels utilize the western side of the Long Wharf for docking (see discussion of Village docking facility below), including large sail boats that come from Mystic, Connecticut and stay overnight. The American Beauty provides an established charter service which is operated by Harbor Tours, Inc. This 45-foot vessel can accommodate a maximum of 38 passengers. This charter service offers sightseeing cruises and other private charters in the Peconic/Gardiners Bay system.

The Long Wharf is also utilized by pedestrians for passive recreational purposes. It contains a number of benches along the perimeter which provide visual access to adjacent waters. The Long Wharf also provides public parking area for approximately 100 vehicles. The wharf also adjoins a small privately-operated fish market and a complex of retail shops at the south end, near Main Street.

- *Village Finger Docks (Long Wharf Marina)*

The Village provides seasonal dockage on the west side of the Long Wharf, known as the Long Wharf Marina. This floating dock contains nine finger piers for small vessels on its western side; in addition, vessels (including charter boats) can tie up along the eastern side, between the main floating dock and the Long Wharf. Electric and water services are provided for the nine slips. These slips are utilized on both a seasonal and transient basis. During the winter season, the finger piers are stored adjacent to the **A** dock.

- *Waterfront Marina*

Waterfront Marina is a private facility located north of Bay Street, on the east side of the Long Wharf. Waterfront Marina provides seasonal dockage for 67 permanent and transient vessels; there is no vessel waste pump-out facility and no boat repair services available on this site. Both power and sail boats, up to a maximum length of 150 feet, can be accommodated at this facility. Services include dockside electricity, ice, and showers. A restaurant is also located on-site, upland from the marina. This site also includes a fish market which is leased for private operation.

- *Marine Park and Boat Basin*

Marine Park is a Village-owned and operated facility situated on Bay Street, to the immediate east of Waterfront Marina. Seasonal and transient dockage is provided at this facility. A total of 32 vessels (maximum length 40 feet) can be docked along the main bulkhead, 16 of the slips are for transient usage. An additional 15 vessels can be docked on a seasonal basis in the boat basin, 11 at boat slips and four on cable slips.

Dockside electricity and showers are available at the Marine Park site; fees for these services are charged on an annual and transient basis. In addition, the Village maintains a dinghy dock which supplies eighty slips that provide access to the Village mooring field (discussed below). The dinghy dock is located at the eastern end of Marine Park, and extends off the bulkhead which is situated in front of the Village sewage treatment plant. This dock is installed every year, at the beginning of April.

A boat launching ramp, which can accommodate one trailer at a time, is present in the boat basin. Use of this ramp is free to Village residents but nonresidents are charged a nominal fee. Seasonally (from June 1 through August 31) about 400 boats are launched at this ramp. There are two floating docks located directly west of the boat ramp. These are owned and operated by the Bayview Bait and Tackle Shop, which is located across the street from this site, on the corner of Bay and Rysam Streets. Seasonal and daily permits for ramp usage are issued through the dock master's office.

Parking for the Marine Park facility is provided on-site. In addition, approximately 25 off-street parking spaces are located along the north side of Bay Street, adjacent to Marine Park. Another 14 spaces are located along the south side of the boat basin. The Village provides additional parking in a municipal lot located directly south of the Sag Harbor Yacht Club docks (discussed below), on the east side of the boat basin. This lot can accommodate over 40 vehicles. The Village has extended this parking lot eastward onto the former Mobil Oil property. The Village acquired this land in October of 1994. There are also over 50 parking spaces located along the south side of Bay Street, across from the Marine Park and yacht club facilities.

- *Village Mooring Areas*

The Village of Sag Harbor operates a large mooring area which is located between the navigation channel and the breakwater. There is another, smaller, mooring area situated on the western side of the Long Wharf (discussed above). Combined, these areas can accommodate up to 150 vessels, although the number varies depending on vessel size. There are generally 130 usable moorings locations at all times. Shoaling in the vicinity of the breakwater and near the Long Wharf limits the use of these areas to shallow-draft vessels. The shallow conditions make these areas inaccessible to vessels that would otherwise lease the available mooring locations from the Village. Dredging in both the mooring areas would eliminate this problem.

The Village leases mooring locations on both a seasonal and transient basis. At present, the lessee must supply their own ground tackle at all but one location in the mooring field. The Village provides the ground tackle at this one location, which is utilized for transient moorings during the summer boating season. The boating season runs from April 1 through October 31; all vessels must be off the moorings by November 1. The ground tackle should have a winter stake installed or be removed from the water by December 1. The Village also requires that all ground tackle be inspected every two years by a private contractor hired at the owners expense. A copy of the inspection report must be submitted to the Harbormaster. The owners of ground tackle are responsible for maintaining their equipment. If notified by Harbormaster that their lines must be repaired or replaced, the owner must undertake such action within 24 hours of notification.

The Harbormaster established mooring regulations that were passed by resolution of the Village Board in January of 1995. These regulations set standards for mooring equipment and establish the biannual inspection of ground tackle as a Village policy.

Typically, the Village has a long waiting list for mooring leases. The Village allows each former lessee the opportunity to renew their lease prior to March 1. Thereafter, these locations become available for open leasing. During 1997, approximately 98 percent of the demand for mooring leases was satisfied. Forty people are on the waiting list for the 1998 boating season.

- *Sag Harbor Yacht Club*

Sag Harbor Yacht Club (SHYC) is a private facility located on Bay Street, to the immediate east of Marine Park. Dockage is provided for 75 vessels, both sail and power, up to a maximum length of 140 feet. This facility also has a vessel pump-out station. The SHYC has an easement agreement with the Village for the dock area that extends off the bulkhead located just west of the Village sewage treatment plant. (This is the same bulkhead that provides access to the Village dinghy dock). Under this easement agreement, the yacht club must maintain the triangular parcel of shore front property situated behind the bulkhead with

landscaping and a dumpster. The SHYC utilizes the eastern portion of the Marine Park boat basin. The yacht club maintains approximately 12 boat slips along the south and east sides of this basin. Services provided by the SHYC include showers, laundry, electric and a fueling dock.

- *Sag Harbor Sewage Treatment Plant*

The Sag Harbor Sewage Treatment Plant (STP) is located on Bay Street in the Village of Sag Harbor. The plant is situated at the water's edge and discharges treated wastewater directly into Sag Harbor via a single ten-inch diameter, cast-iron outfall pipe which extends through the bulkhead seawall. The STP outfall pipe may be above or below sea level, depending on the stage of the tide. This facility and its service area are discussed in Section 2.3B(e).

The Village of Sag Harbor collects vessel wastes at two pump-out facilities. Both facilities are available for use at Marine Park, free of charge, to any vessel operator. One pump-out station is a stationary facility that is attached to the Marine Park bulkhead; the other pump-out is a mobile facility. Use of these facilities must be arranged through the Harbormaster. All of the vessel wastes collected by these systems are stored in an underground tank. This tank is emptied by a private contractor and the wastes are hauled to the Suffolk County Scavenger Waste Facility at Bergen Point, in the Town of Babylon, for treatment and disposal. In addition, there are two Town of Southampton pump-out vessels. Vessel wastes are discussed in further detail in Section 2(e)3.

- *Sag Harbor Yacht Yard*

Sag Harbor Yacht Yard is a full-service boat repair and storage facility located on Bay Street, to the immediate east of the Sag Harbor Yacht Club (and the Village sewage treatment plant). This facility services both commercial and noncommercial craft. The yacht yard provides year-round dockage for 25 vessels, both sail and power, up to a maximum length of 50 feet. Services offered at this facility include a full range of boat repairs, a 35-ton lift, and showers. The Sag Harbor Yacht Yard has negotiated a lease agreement with the Village of Sag Harbor to utilize 31,265 square feet of land area in the southeastern portion of the Village-owned property (located to the immediate west of the Yacht Yard site) for boat storage purposes. The Yacht Yard had previously leased the smaller, waterfront area in the northeastern portion of this property.

The Village of Sag Harbor acquired the (former) Mobil Oil property in 1994, and utilizes the area behind the STP for an additional parking area. Because the Mobil Oil property previously contained aboveground fuel storage tanks, and has undergone extensive remediation, the development of offices, residences or schools on this site is prohibited. The Village is also leasing the eastern portion of this property to the Breakwater Yacht Club, who constructed a sailing school along the shore, and the Sag Harbor Yacht Yard boat storage.

The *waterfront functional area* contains the full extent of the water-dependent uses located in the Village. This area is coincident to the *Harbor Water Use District*, which contains the mooring areas and navigation channels, and is an area of considerable boating activity.

The substantial waterfront park and marina development in the waterfront area gives it an open rather than a built-up character. However, the visual quality and general organization of the development along West Water Street/Long Island Avenue and Bay Street, which provide access to properties in the Village business center as well as to those in the waterfront area, is inconsistent and deficient in many instances.

Activities in the *waterfront functional area* include recreational and charter boating, fishing, strolling, passive viewing and excursion boat passenger arrivals and departures. Fishing takes place at Long Wharf. Long Wharf is also the landing place for upwards of 300 excursion boat passengers per day on summer weekends. The Windmill Tourist Information Center is located at the foot of the wharf to serve these and other tourists. However, experience indicates that the number of excursion boat tourists at peak times exceeds the capacity of the windmill facility to expeditiously provide service.

The 1.1 mile shoreline in this area offers an outstanding opportunity for public access to what can be a very attractive waterfront development, including a shoreline promenade. Although most of this shoreline is in public ownership, a few private property owners do have sites that interrupt the continuity of shoreline access.

5. Village Central Business District Functional Area

Village Central Business District (CBD) activity, and most of the principal historic buildings, are concentrated near the waterfront, reflecting the Village's historic function as a seaport. This functional area extends along the east and west sides of Main Street, encompassing the core area of commerce activity. This area contains a mix of retail and commercial businesses as well as a number of public facilities. Tourists and other visitors to the area utilize the CBD and the waterfront areas, which both provide a mix of opportunities for recreation, shopping, dining, and other enjoyable passive activities. The entire area is zoned VB - Village Business (**Figure 3**), and represents the only VB zoning district in the Village (see Section 2.3A(c) for further detail).

There are approximately 50 acres in this overall area. Main Street, the central business artery, extends from Long Wharf, generally southward, subsequently becoming the Bridgehampton-Sag Harbor Turnpike (C.R.79). The business frontages in the CBD have shown notable improvement in conditions and character as the result of a Village rehabilitation program. However, there is still much to be done at the rear of many of these properties. Division Street delineates the boundary between the Towns of Southampton and East Hampton. It is located only a short block east of, and parallel to, Main Street in the business center. Generally both the street improvements and the properties facing on the first

two blocks of Division Street, south of Bay Street, need work to achieve their potential utilization and an attractive environment. The intersection, open space, and buildings at Division Street and Washington Street/Burke Street have a particularly attractive potential. East Hampton-Sag Harbor Turnpike (N.Y.S. Route 114) enters the Village from the east on the Hampton Road and Hempstead Street alignments, intersects Division Street at the edge of the business center, and then continues over the bridge to North Haven and the ferry to Shelter Island. Thus, Division Street has particular importance as an entrance to the Village business center and commercial waterfront.

The Village business center is only beginning to achieve some feeling of design continuity. In the past, projects have been considered individually with the resulting lack of overall visual cohesiveness. Since the *waterfront functional area* is both a major open space attractive to residents and visitors alike, and one of the Village's "front-yard gateways" into the Village CBD, its visual and functional quality have a substantial impact on the first impression of thousands of visitors to the Village. Therefore, its close integration with the Village business center is a particularly important feature. The Village's Board of Historic Preservation and Architectural Review has taken this into consideration and has established specific design criteria to ensure that current and future projects in this area are visually and aesthetically compatible with the historic character of the Village.

A second "front-yard gateway" to the Village center lies along Hampton Road/Division Street. In addition to the opportunity to preserve these buildings, one building deserves particular attention. It is the Bulova Watchcase Factory building which occupies an entire block opposite some of the Village's most attractive historic homes. In addition the Village parking area, at the corner of Washington and Division Streets, provides an open space which is in part landscaped so that the Bulova Watch Case Company can be viewed from some distance north along Division Street. As discussed in Section 2.3A(e), this site is proposed for redevelopment.

The Long Island Regional Planning Board recommends that communities which seek to improve and strengthen their CBDs should consider reviewing their ordinances. The character of each community will determine which uses are compatible or incompatible. Ordinances that prohibit incompatible uses and encourage maximum pedestrian access and amenities, such as landscaping, buffering, sign and architectural regulations, are the most effective in strengthening CBDs.

Finally, the Board states that a tourist oriented CBD, such as that in Sag Harbor, necessitates public accommodations. Hotel/motel facilities would be a supportive use. Other supportive activity centers in Sag Harbor include the surrounding resort area, and the immediate waterfront community with its extensive boating and fishing resources.

6. Resort Motel Functional Area

The *resort motel functional area* is located in the western portion of the Village, adjacent to the waterfront. This district is situated between West Water Street and Long Island Avenue, south of the Sag Harbor Cove West Marina and Village **A** and **B** docks. This area contains two medium-sized motel facilities that provide year-round accommodations. This area is zoned RM-Resort Motel District, and represents the only RM district in the Village (see Section 2.3A(c) for further discussion of this zoning classification).

During the summer season, resort motel accommodations are generally at capacity. Occupancy is very low during the off-season. There has been some indication that Sag Harbor might have interest for tour groups and mini conferences during the off-season.

Suffolk County town officials have been concerned about the conversion of motels/hotels into condo/coop ownership and its impact on the tourist industry. Their fear is that eventually there will be a shortage of public tourist accommodations. "For all the new construction that has occurred over the last few years there has been a corresponding loss in existing accommodations, especially in resort areas."[3] Some motels, especially in eastern Suffolk County, have been converted to seasonal or year-round apartments or condominiums.

Sag Harbor has experienced an increasing number of weekend and long-term visitors. Their modes of travel include automobile, bus, excursion boat, private yacht and smaller recreational craft. With its attractive environment and unique concentration of historic buildings, winter tourism, conferences, and seminars might be a possibility provided that a package of quality accommodations could be made available.

(b) Surface Water Use

The waters of Sag Harbor are utilized extensively for recreational boating and shellfishing, and to a lesser degree for other marine recreational activities. Historically, the Sag Harbor area was an important port-of-call and supported a significant whaling industry. After the whaling activities declined, trade and over-water transshipment became commonplace. In the 1800s, the local roadway system on Long Island was underdeveloped and long distance highway travel was arduous, and nearly impossible in foul weather conditions when the roads became thick with mud. Therefore, sea travel for both passengers and material goods was the most convenient mode of transport.

Today, the Sag Harbor area contains a number of marinas and docking facilities and supports an extensive boating industry. The local waters are a popular destination for tourists and

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[3] Ibid p. 47.

summer boating enthusiasts, which helps to fuel the Sag Harbor economy. The bottom lands in the Sag Harbor Cove Complex and Sag Harbor Bay also are host to a variety of shellfish that support a local industry. Although shellfishing activities, in particular the scallop harvests, were impacted due to widespread outbreaks of the brown tide, this species has revived in the past few years. In addition, there are other shellfish varieties that are harvested in these waters, as discussed in Section 2.3A(d). Aside from recreational boating and shellfishing, charter boats and a passenger excursion boat frequent Sag Harbor waters. Swimming and water skiing are also popular sports, although these activities are restricted to Sag Harbor Bay waters and are regulated by the Village as well as the Towns of Southampton and East Hampton.

The Sag Harbor Village LWRP, when adopted in 1986, established three water use districts (i.e., the *Harbor District*, the *Low Intensity District*, and the *Conservation District*) for controlling the intensity of water uses within the Sag Harbor Cove/Bay Complex (see Figure 3). These districts, as they are presently defined, are described as follows.

- *Harbor District (HD)* - This area extends from the western side of the Marine District, east to the breakwater. This area is designated for intensive boating and commercial harbor uses, and encompasses four private marina facilities, the Village mooring area, the Long Wharf, the Sag Harbor Village sewage treatment plant, and two Village marine-recreational facilities. It is subject to a considerable amount of vessel traffic and other marine-related activities during the summer boating season.

  The *Harbor District* was designed as a means of controlling marine commercial and recreational activities by limiting these activities to a specific area of the waterfront. (In-water uses, such as swimming, are not permitted in this area due to vessel congestion and water quality problems). Such action would help to strengthen the economic base of this area and protect important natural and historic resources located outside the district boundaries.

- *Low Intensity District (LID)* - One area within the Sag Harbor Cove/Bay Complex has been designated as a *Low Intensity District*. This area extends from the breakwater east to the eastern boundary of the Village. The *LID* was designed as general boating area, where intensive boating activities would not be permitted. Although swimming occurs in the vicinity of the private beach associations along the shoreline of Sag Harbor Bay, Haven's Beach is the only formally-designated swimming area in this general vicinity. The *LID* primarily contains residential uses along the shoreline and is subject to a limited amount of vessel traffic.

- *Conservation District (CD)* - There are three Conservation Districts within Village waters. One *CD* area is located at the western end of the Village and encompasses the waters within Upper Sag Harbor Cove, Morris Cove, Otter Pond, Maple Swamp

feeding Otter Pond, and those portions of Ligonee Brook and Inner Sag Harbor Cove that fall within the boundaries of the Village. Another *CD* area includes that portion of Round Pond that is located within the Village. The other *CD* area encompasses that portion of Little Northwest Creek that is located within Village boundaries, and Rattlesnake Creek. These areas were designated as a means of protecting the sensitive natural resources (e.g., marshes and tidal flats) found therein, and to preserve and protect water quality and resources located within areas subject to poor tidal flushing. The *CD* is subject to very limited recreational and boating activity in the Upper/Inner Sag Harbor Cove areas; Little Northwest Creek is part of a NYSDEC protected wetland preserve and access is restricted by permit. Construction of shoreline hardening structures (e.g., bulkheads and retaining walls) in the *CD* should be avoided.

(c) Zoning

Chapter 55 of the Village of Sag Harbor Code contains the Zoning Regulations. This Ordinance established seven zoning classifications that regulate land use in the Village (as shown on Figure 3). The relevant portions of these classifications, as they apply to the LWRP, are discussed as follows.

- *R-2O One-Family Residence District.* As shown on Figure 3, this zoning district is the principal residence district in the Village. According to the Zoning Code, private moorings, docks and similar marine structures, situated in tidal wetlands and waterways, are permitted as accessory uses in R-20 districts pursuant to Chapter 53 (Waterways Law) of the Village Code. It also requires the following:

  - Preservation of a minimum of 50 percent of the site area as natural or landscaped open space but not less than all existing areas of the site that contain tidal or freshwater wetlands, and beach and dune habitats which are to be preserved in their natural state;
  - Preservation of all natural vegetation located within 25 feet of the mean high water line or the upland edge of tidal or freshwater wetlands and beach and dune habitats;
  - Lot coverage by principal and accessory buildings and structures not to exceed 20 percent of the lot area;
  - No fertilized vegetation shall be planted or installed within 25 feet of the mean high water line or the upland edge of any tidal or freshwater wetland or beach and dune habitats; and
  - Individual sewage disposal systems must be located a minimum of 100 feet from the mean highwater line or the upland edge of any tidal or freshwater wetland or beach and dune habitats.

- *MIR Moderate Income Residence District.* The MIR zoning classification has a minimum lot size requirement of 40,000 square feet and establishes minimum lot area standards per

dwelling unit for various styles of multi-family developments (e.g., 1,000 sf. of lot area per unit in a congregate care facility or 2,500 sf. per one-family dwelling unit). The zoning map shall only be amended to include MIR districts after the criteria set forth in the Zoning Code has been met. Private moorings, docks and similar marine structures, situated in tidal wetlands and waterways, are permitted (as a *last resort* measure) as accessory uses in MIR districts pursuant to Chapter 53 (Waterways Law) of the Village Code. Furthermore, MIR developments must be located on sites that are served by both public water and sewage systems. Other requirements include the following:

- Preservation of a minimum of 35 percent of the site area as natural or landscaped open space;
- Preservation of all natural vegetation on the site that is located within 25 feet of the mean high water line or the upland edge of tidal or freshwater wetlands or beach and dune habitats;
- No fertilized vegetation shall be planted or installed within 25 feet of the mean high water line or the upland edge of any tidal or freshwater wetland or beach and dune habitats;
- Individual sewage disposal systems must be located a minimum of 100 feet from the mean highwater line or the upland edge of any tidal or freshwater wetland or beach and dune habitats; and
- Lot coverage by principal and accessory buildings and structures shall not exceed 35 percent of the lot area, except not to exceed 40 percent for a nursing home, health related facility or adult proprietary home.

• *MF Multiple-Family Residence District.* Multiple-family districts were designed to provide for a limited number of small scale multiple-family residential developments in the Village. Recognizing the potential impact of the projected residential density in this district, it shall be located only on sites served by both public water and sewerage systems. Whether sold as private units or individually rented, provisions must be made for the management and maintenance of common areas and facilities. The MF zoning classification has a minimum lot area requirement of five acres, with a maximum density of six dwelling units per acre. Additional requirements include the following:

- Preservation of a minimum of 50 percent of the site area as natural or landscaped open space but not less than all existing areas of the site that contain tidal or freshwater wetlands, and beach and dune habitats which are to be preserved in their natural state;
- Preservation of all natural vegetation located within 25 feet of the mean high water line or the upland edge of tidal or freshwater wetlands and beach and dune habitats;
- No fertilized vegetation shall be planted or installed within 25 feet of the mean high water line or the upland edge of any tidal or freshwater wetland or beach and dune habitats; and

- Individual sewage disposal systems must be located a minimum of 100 feet from the mean highwater line or the upland edge of any tidal or freshwater wetland or beach and dune habitats.
- Lot coverage by principal and accessory buildings and structures shall not exceed 25 percent of the lot area.

The only MF Multiple-Family Residence zoning district in the Village comprises a single, contiguous parcel located on West Water Street, immediately east of the Redwood peninsula. This property is situated within the *Western Residential Functional Area*.

• *RM Resort Motel District*. The RM zoning classification was established to provide potential sites for resort motels to accommodate the needs of short term vacationers and transient travelers. The intent of this zoning district was to cluster resort motels in close proximity to each other and to the Village business center to encourage use of these facilities for business seminars and mini conferences in the off-season. The RM district is not intended to be converted into multiple dwellings for long-term residents. The RM zoning classification has a minimum lot area requirement of 55,000 square feet with a maximum density of 35 transient guest units per acre. Such developments shall be located only on sites easily accessible to supporting facilities and served by both public water and sewerage systems. Additional requirements include the following:

- Preservation of a minimum of 25 percent of the site area as natural or landscaped open space but not less than all existing areas of the site that contain tidal or freshwater wetlands, and beach and dune habitats which are to be preserved in their natural state; and
- Individual sewage disposal systems must be located a minimum of 100 feet from the mean highwater line or the upland edge of any tidal or freshwater wetland or beach and dune habitats.

• *VB Village Business District*. The VB Village Business zoning classification was designed to be promoted as the economic center, which supports significant recreational and tourism activities. Any administrative procedure or review process that influences the quality of land use and development in this zoning district must emphasize accessibility for pedestrians as well as vehicles, adequate off-street parking, and an attractive business environment which includes the provision of landscaped open space. Providing for both public and visual access to the shoreline and Harbor District through properties within the VB Village Business District is of particular concern. Development proposals within the VB Village Business District must provide for on-site stormwater drainage controls in an effort to protect both surface and groundwater quality, and for both public water supply and sewerage systems. The minimum lot area requirement in the VB Village Business District is 10,000 square feet; additional requirements include the following:

- Preservation of a minimum of 3 percent of the site area as natural or landscaped open space but not less than all existing areas of the site that contain tidal or freshwater wetlands, and beach and dune habitats which are to be preserved in their natural state; and
- Individual sewage disposal systems must be located a minimum of 100 feet from the mean highwater line or the upland edge of any tidal or freshwater wetland or beach and dune habitats.

• *WF Waterfront District.* The WF Waterfront District zoning classification was established to ensure that the maritime character of the Village's seaport area, and the economic benefits derived thereof, will be preserved and continued. This classification was designed to: maximize public access to the shoreline from both onshore and offshore points; protect views of the harbor and/or shore front from certain vantage points; and restrict land use and development along the shoreline to water-dependent and water-enhanced uses that would serve to enhance the maritime character and tradition of the Village. The WF Waterfront District classification has a minimum lot area requirement of 40,000 square feet; other requirements include the following:

- Lot coverage by principal and accessory buildings and structures shall not exceed 40 percent of lot area;
- Accessory uses permitted in the WF Waterfront District must be located on the same lot with the principal use;
- Accessory uses that are not water-dependent must be located as far away from the shoreline as possible;
- Preservation of a minimum of 30 percent of the site area as natural or landscaped open space but not less than all existing areas of the site that contain tidal or freshwater wetlands, and beach and dune habitats which are to be preserved in their natural state; and
- Individual sewage disposal systems must be located a minimum of 100 feet from the mean high-water line or the upland edge of any tidal or freshwater wetland or beach and dune habitats.

The area of the Village that is zoned WF Waterfront District extends east from the Sag Harbor Cove West Marina to the western side of the Cor Maria property. With the exception of a small area located between Rysam Street and Dering Road, this district does not extend south of West Water Street/Bay Street. This zoning district comprises the majority of the *waterfront functional area.*

• *MA Marine District.* The MA Marine District covers both sides of the Redwood Canal along the north side of Redwood Road, and encompasses the Ship Ashore Marina property (this area is designated as a *waterfront functional area*). The MA Marine District was created for this area because it has supported marine uses for many years and the general character of these uses are found to be appropriate for this location. The MA Marine District

designation was further intended as a means of preventing potential adverse impacts that could result from increased or more intensive marine uses in this area, and to assure their future compatibility with both the surrounding residential uses and the fragile ecological character of Upper Sag Harbor Cove. The MA Marine District classification has a minimum lot area requirement of 40,000 square feet, and permits the establishment of residential uses, residential community facilities, public utility uses, and marinas. Marinas are only permitted provided that:

1) no adverse impacts result to groundwater of the Village, and impacts to the ecology of adjacent tidal waters are minimized;

2) sanitary restrooms, pump-out facilities, holding tanks and sewage disposal systems are provided in accordance with the regulations of the Village, the Suffolk County Department of Health Services, and New York State;

3) provisions are made for the collection and disposal of boat-generated solid wastes;

4) outdoor lighting is not projected into or visible from neighboring upland properties, and is not more than ten feet above the ground or dock structure (excluding appropriate navigational aides deemed necessary by the Village); and

5) fuel storage facilities are adequately contained so as to prevent spillage, leakage or damage from storms and are set back at least 50 feet from the mean high water line. Fuel pumps may be located conveniently to service boats, provided that precautions are taken to prevent spillage into tidal waters. In no case can fuel storage or service pumps be located less than 100 feet from adjacent property lines or can any fuel storage tanks be constructed above ground. The recommendations of the Village Fire Chief, the Town Bureau of Fire Prevention and the National Board of Fire Underwriters must be considered with respect to the siting and construction of all fuel storage facilities.

Additional requirements include: the preservation of a minimum of 30 percent of the site area as natural or landscaped open space but not less than all existing areas of the site that contain tidal or freshwater wetlands, and beach and dune habitats which are to be preserved in their natural state; and that individual sewage disposal systems be located a minimum of 100 feet from the mean highwater line or the upland edge of any tidal or freshwater wetland or beach and dune habitats.

In addition to the regular districts, Chapter 55 - Zoning, has two special overlay districts - one is the Historic District. It provides for a review commission (the Board of Historic Preservation and Architectural Review) which is charged with maintaining the character of the Historic District in the process of approving building permits and with the designation of landmarks. The second special district is the Tidal Flood Hazard Overlay District. It

provides further standards for buildings and structures to be located within the flood hazard zones established by the Federal Emergency Management Agency.

In terms of the LWRP area, all the zoning districts except for the MIR Moderate Income Residence District are mapped. The most important districts, in terms of the extent of shoreline affected or the degree to which water-dependent uses are permitted and protected, are the R-20 One-Family Residence district, the WF Waterfront district, and MA Marine district.

The R-20 One-Family Residence designation is found along the Village shoreline. Most of this land area is already developed. Some individual vacant lots are located in the *eastern, western, and central residential functional areas*, but very few are located directly on the waterfront and their relative size would not result in significant waterfront development if these sites were developed. However, the Cor Maria Retreat and Haven's Beach properties are both located within an R-2O district, in the *eastern residential functional area*. These properties both exceed 15 acres in size and could potentially yield a large number of residential units if developed. This could result in significant impacts to waterfront resources.

The VB Village Business is focused on the village *central business district functional area*, located on Main Street from frontages on Long Island Avenue and Bay Street south to limited frontages on Spring and Sage Streets. It includes the Bulova Watchcase Factory site.

In general, the current location of multiple dwellings and other intensive land uses are limited to areas served by the Village sewage system. It is anticipated that this will continue to be true in the future.

(d) Water-Dependent and Water-Enhanced Uses and Commercial Fishing

Water-Dependent Uses

Water-dependent uses contribute significantly to the long-term economic vitality and public enjoyment of coastal areas. A water-dependent use is a use that requires a location on, in, or directly adjacent to the water in order to function or exist.

As discussed in Section 2.3A(a)4, the Sag Harbor Village *waterfront functional area* contains a number of water-dependent uses. These comprise both public and private facilities, and include the Sag Harbor Yacht Club, the Sag Harbor Yacht Yard, four private marinas, the Sag Harbor Village docks, Marine Park (a Village facility which includes the Sag Harbor boat basin), the sewage treatment plant, Haven's Beach and Park and a number of boat launching ramps. In addition, Village-owned waterfront is developed with a community sailing school, which is a water-dependent use.

Typical sites for water-dependent uses (i.e., swimming, access to sculls and other small boats) in the functional residential areas located east and west of the Harbor District, include private homeowners' association beach facilities along Sag Harbor Bay and private docks and boat basins in the Sag Harbor Cove Complex. The Sag Harbor Village Harbor Management Plan contains a more extensive discussion of many of the water-dependent uses located along the Sag Harbor Village waterfront.

Water-Enhanced Uses

A water-enhanced use does not require a location on or adjacent to the water in order to effectively operate, but derives certain benefits from a waterfront location, such as the increased enjoyment level of the users. Water-enhanced uses in the LWRP area include restaurants, resort motels, private residences, the Long Wharf promenade (and the individual uses contained therein), Windmill Park, and the Cor Maria Retreat.

Commercial Use of Fish and Wildlife

Estuary

- Sag Harbor

Sag Harbor is contiguous with Northwest Harbor in East Hampton, and is part of one of the most significant bay scallop fisheries in the region. These waters contribute significantly to the scallop fishery on the Long Island. Oysters (*Crassostrea virginica*) are also present in this area in limited numbers.

- Sag Harbor Cove Complex

The waters of the Sag Harbor Cove Complex offer the widest variety to commercial fisheries in the Village of Sag Harbor. The most significant species harvested in this area is the soft-shelled clam (*Mya arenaria*); this fishery provides income for eight to 10 part-time baymen throughout the year. Hard clams (*Mercenaria*) are less significant, but can be found. Oysters (*Crassostrea virginica*) were harvested here in great numbers in the past, but have not been seen in the Cove Complex in many years (Semmlear, pers. comm.). It remains to be seen whether these animals will survive. Similarly, bay scallop production in recent years has been very poor, but demonstrated a remarkable recovery in the 1994 season. Unfortunately, an increasingly larger area of the cove (14 additional acres in 1994) has been either seasonally or permanently closed to shellfishing due to poor water quality (NYSDEC, 1994).

Freshwater Systems

There are no known commercial uses for the fish and wildlife resources from the freshwater systems in the Village. At one time trapping of fur bearing mammals was significant in the area (i.e., mink and fox), but this is no longer the case.

(e) Deteriorated, Abandoned or Underutilized Areas, Buildings, and Structures

Since the LWRP was adopted in 1986, the Village has addressed a number of the deteriorated and underutilized sites identified in the original document. There are a number of sites, however, that still require attention.

Properties Related to the Former Mobil Fuel Storage Property

The former Mobil property consists of two parcels with frontage on Bay Street. The largest of the two parcels is situated on the north side of Bay Street, along the waterfront. This property formerly contained aboveground petroleum storage tanks. These tanks were removed and the site contamination has been remediated. The Village of Sag Harbor purchased the waterfront portion of this parcel in 1975; the remainder of the parcel (north to Bay Street) was acquired by the Village in 1994. Due to restrictions in the deed, this site cannot be improved or developed with residences, office buildings or schools. The Village utilizes the western portion of this parcel for additional parking and waterfront public access. The eastern portion has been leased to the Sag Harbor Yacht Yard for boat storage, and the Breakwater Yacht Club for the establishment of a sailing school on the waterfront. The dock that extends off the shore front of this property is utilized by the Village.

Mobil's second parcel, which is located on the opposite side of Bay Street, has an area of approximately one-half acre. It is improved with a one-story industrial building. Although the Village owns the waterfront portion of the former Mobil property, this parcel is still privately owned. This property remains in a deteriorated and underutilized condition. Mobil currently leases storage space on this site, but the property is unsightly and the existing structures on the site are in need of upgrading.

Bulova Watchcase Factory Building

The Bulova Watchcase Factory building is a four-story, 73,000 square-foot, brick building. It is vacant but considered to be in satisfactory condition. It is a landmark building located within the Sag Harbor National Historic District and within the VB Village Business Zoning District. Considering its central location (approximately 14 miles from the Sunrise Highway and only six miles from the East Hampton Airport) as well as the economic needs of the Sag Harbor community, the Village originally thought that the best use for this building would be industrial or a hotel/conference center. However, based on marketability the Village has

approved a conversion to residential condominiums. The capacity of the sewage treatment plant has been expanded to accommodate these condominiums.

The Bulova Watchcase Factory property is presently undergoing remediation to mitigate soil and groundwater contamination problems resulting from the former use of the site. As discussed in Section 2.3B(d)2, this action was commenced in 1994 and will take possibly up to five years to complete. The conversion of this unutilized structure can proceed at the owner's option.

(f) Public Access and Recreation

1. Public Trust Doctrine

New York, upon attaining Statehood, succeeded the King of England in ownership to all lands within the State not already granted away, including all rights and title to the navigable waters and the soil under them (Public Lands Law, section 4; People v. Trinity Church, 22 N.Y. 44, 1860; Langdon v. Mayor, 93 N.Y. 129, 1883). Broadly speaking, the State holds title to the vast stretches of foreshore and submerged lands along the Atlantic Ocean and Long Island Sound, and all underwater lands not otherwise conveyed away by patents or grants. The State holds title to these tidelands and submerged lands in its sovereign capacity in trust for the use and enjoyment of the public, under the *public trust doctrine* (People v. Steeplechase Park Co., 218 N.Y. 459, 1916; Appleby v. City of New York, 271 U.S. 364, 1926; Coxe v. State, 144 N.Y. 396, 1895). This legal doctrine emerged from the ancient concept that the King had the right of way, an "incorporeal hereditament," to all navigable streams and waterways; the underlying theory being the protection of the public interest in fisheries and navigation.

The Public Trust Doctrine provides that underwater lands and foreshore lands (i.e., lands between the high and low tide lines or mean high and low water lines) be held by the State of New York in trust for the people, who have certain rights in these lands. When the foreshore is covered by the tides, the public may use the water covering the foreshore and underwater lands for boating, bathing, fishing, recreation and other lawful purposes. When the tide is out, the public may pass over the foreshore as a means of access to reach the water for these purposes, may travel along the foreshore, and may lounge and recline on foreshore lands, provided that such activity does not cause impairment of habitat areas.

State title to the public foreshore and submerged lands, and the power of disposition, is incident and part of its sovereignty which cannot be surrendered, alienated or delegated, except for some public purpose or some reasonable use for the public benefit, and without impairing public rights in the remaining lands and water. Inherent in the nature of public trust lands is that they support diversified and important ecosystems without which many public rights, including fishing, swimming and the like, would be impossible to enjoy. The

public interest demands the preservation and conservation of this vital natural resource against pollution, overuse, destruction and infringement by others, whether public or private.

It is in the public interest that State, Town and other governmental ownership of public trust lands be maintained and when possible recovered from private ownership. Where full public ownership no longer exists, the application of the Public Trust Doctrine requires that any remaining rights of the public to use such lands should be preserved and protected for present or future enjoyment.

Occupation of public trust lands by littoral and riparian owners for purposes of gaining access to navigable waters should be undertaken in a reasonable manner which does not unnecessarily interfere with the public's right of passage upon, and use of the waters overlying such lands, and other public trust purposes. Considerations of public safety, resource protection and the need for access at a given location may be utilized as factors in determining the level and types of access to be provided. Public use of publicly-owned foreshore and underwater lands, and lands immediately adjacent to the shore shall be discouraged only where such use would be inappropriate for reasons of public safety, military security, or the protection of coastal resources.

Physical access to trust lands is often hindered by natural features, development conditions, or land ownership patterns along the shoreline. The presence of high bluffs, for example, will effectively block land-side access to the adjacent beach. In some areas, the intertidal portion of trust lands have been entirely eliminated, as has occurred where bulkheads extend into the littoral zone. In some areas where intertidal lands remain, access to these lands by the general public is blocked by the presence of private property along the waterfront. Importantly, the Public Trust Doctrine does not grant the public the right to pass over private property in order to gain access to the trust lands beyond. In some cases where public lands are present on the shore front, perpendicular access to trust lands is limited by residency restrictions, such as are typically applied to municipally-owned parklands. In other areas, lateral access along the public foreshore is obstructed by docks, groins, and similar structures.

Underwater Land Ownership

The ownership of the underwater lands in the Sag Harbor Cove/Bay Complex is divided between the Town of Southampton and the State of New York. The boundary line for these lands was originally delineated by the original bridge that spanned the inlet between Sag Harbor Village and the Village of North Haven. Today, this dividing line is defined as running from the location of the old bridge abutment on the south shore of the North Haven peninsula to the residence owned by Rose Black, which is located along the shore front of Sag Harbor Village, west of the North Haven/State Route 114 Bridge (see Figure 4). The Town of Southampton owns the underwater lands located west of this line, within Sag Harbor Cove, and the State owns the bottom lands to the east.

• *New York State Underwater Land Ownership*

The colonial governors acting as agents of the Duke of York, whose own title originated from a direct grant of the King, made grants of land on Long Island (among other places) to settlers to establish towns. These grants conveyed to the towns or town trustees the Crown's title to uplands and underwater lands within the boundaries of the patent. They also constituted recognition of Long Island towns as corporate entities by English authority. The patent boundaries generally extended to the outer limits of the mouths of creeks, rivers, harbors and bays. The royal patents did not include the waters or underwater lands in Peconic Bay, Gardiners Bay, or Long Island Sound, and extended only to the high water mark along the shores of these water bodies.

Upon attaining Statehood, New York, in its first Constitution confirmed the colonial patents indirectly in declaring that "such parts of the common law of England... and the acts of the legislature of the colony of New York, as together did form the law of said colony" on April 19, 1775, and "shall be and continue the law of this state" (the New York Constitution of 1777, Article XXXV). The Constitution of 1777 also confirmed and ratified the proprietary and governmental powers in the town trustees. New York, upon attaining Statehood, also succeeded the King of England in ownership to all lands within the State not already granted away, including all rights and title to the navigable waters and the soil beneath them (Public Lands Law, Section 4; People v. Trinity Church, 22 N.Y. 44, 1860; Langdon v. Mayor, 93 N.Y. 129, 1883). The uplands and submerged land described in the colonial patents remained vested in the towns as confirmed by the first New York Constitution and subsequent State Constitutions.

As noted above, Peconic and Gardiners Bays did not pass by colonial patent to any of the towns on eastern Long Island and the lands under those waters are in the possession of the State (Town of Southold v. Parks, 41 Misc. Rep. 456, 84 NYS 1078 Sup. Ct. Suffolk Co., aff'd. 183 N.Y. 513, 1905; Laws of 1884, chapter 385, as amended by the Laws of 18965, chapter 916). The State granted Suffolk County the authority to lease lands under these bays for shellfish cultivation, beginning at a point 1000 feet from shore (Laws of 1969, chapter 990).

State-owned underwater lands are managed by the New York State Office of General Services (OGS). The OGS issues grants and easements for these underwater lands. They also investigate encroachments on riparian rights and make sure there is no interference with navigation channels. The OGS also reviews the NYSDEC and ACE comments for proposed projects that affect State-owned bottom lands to ensure that the benefits to the public will not be deprived and that the environment will not be adversely impacted. The OGS strives to achieve satisfaction on the part of all parties involved prior to the issuance of a permit.

The State Office of General Services is the agency responsible for issuing permits for docks and other marine-related structures that are placed on State-owned underwater lands. In the

case of Sag Harbor Village, the OGS would be the authorizing agency for docks proposed in the Sag Harbor Bay area. The construction of any commercial dock or any private, noncommercial that exceeds 4,000 square feet in area (including perimeter area) would require a permit from the OGS. Noncommercial structures less than 4,000 square feet in size do not need a permit.

- *Little Northwest Creek*

The underwater lands in Little Northwest Creek were originally granted to the Town of East Hampton under their colonial patents. In 1972, the NYSDEC purchased over 190 acres of wetlands, meadows and uplands situated on the eastern and western sides of Little Northwest Creek with monies authorized under the Environmental Quality Bond Act. This acquisition included the transfer of ownership for the underwater lands from the Town of East Hampton to the State. All of these lands have been established as a State Conservation Area. Access into this area is granted only by a permit issued by the NYSDEC.

- *Town of Southampton Underwater Land Ownership*

The Town of Southampton holds ownership to all the bottom lands situated within Outer Sag Harbor Cove, Inner Sag Harbor Cove and Upper Sag Harbor Cove, including Morris Cove, Ligonee Brook and Otter Pond. These underwater lands were granted to the Town through colonial patents. The Andross Patent was issued in 1676 and conveyed the original land title to all common lands and lands beneath the creeks, streams, harbors and bays to the settlers of the Town of Southampton. The Dongan Patent was issued in 1686 and confirmed this original land grant. The Dongan Patent created the Southampton Board of Trustees to hold and manage all the unappropriated lands for the use and benefit of the freeholders of the Town. These colonial charters extended the boundaries of the Town of Southampton, as well as the other towns on Long Island, only to the outer limits of the mouths of creeks, rivers, harbors and bays, and no further unless a larger abutting bay of water was specifically named as being included in the grant. Thus, the Town of Southampton's ownership of the underwater lands in the Sag Harbor Cove complex extends only to the mouth of Outer Sag Harbor Cove (as shown in Figure 4), and gives them the proprietary right to allow the use of these bottom lands.

Underwater Land Grants

The underwater lands owned by New York State are generally located east of the North Haven/State Route 114 Bridge. These lands are managed by the New York State Office of General Services (OGS), which oversees the issuance of land grants and leases for these underwater lands. Seven underwater land grants have been issued by the State to various owners of upland shore front property along the Sag Harbor waterfront over the years. These grants were issued for the express purpose of either *commerce and beneficial enjoyment*. Grants issued for commerce were given to shore front businesses for more restricted activities and were usually written with conditions. If the conditions were not followed, the underwater lands would revert back to State ownership. Beneficial enjoyment grants were given to shore front property owners without restriction and provided more complete title to the underwater lands. In either case, the grantee was given full ownership rights. Grants for commerce were issued in the early part of the 1800's, and then the issuance of grants for beneficial enjoyment became more commonplace. Around 1890, the State began to restrict the grants issued for beneficial enjoyment as well.

As listed below and shown on Map 1 in the Harbor Management Plan, the State OGS issued a total of seven underwater lands grants in the Village of Sag Harbor. Four of the State grants were issued for commerce; three of these grants were issued in the 1800's. Upon a review of the original letters patents, it appears that the commerce grants were written without restrictions and provided the grantee with full ownership interest in the underwater lands. The remaining three grants were issued for beneficial enjoyment purposes.

Grantee	Date	Type
• Wm. Cooper & Jonathan Havens	October 30, 1845	Commerce
• East Long Island Pottery Co.	December 19, 1882	Commerce
• The Long Island Railroad	October 26, 1888	Commerce
• Socony-Vacuum Oil Co.	June 23, 1933	Beneficial Enjoyment
• The Village of Sag Harbor	February 3, 1956	Beneficial Enjoyment
• Agawam Aircraft Products	July 17, 1958	Commerce
• Sag Harbor Yachts, Inc.	October 16, 1968	Beneficial Enjoyment

In most of these cases, the grant lands consist of upland properties or portions of the upland that were formerly underwater lands that have been filled in. In situations where the upland ownership has changed since the grants were first issued, unless the State reconveyed the title to the underwater lands to the new property owner, the original grant to the original upland owner remains in effect. It is unclear whether some of the upland property owners were aware of the fact that their filled lands originally belonged to the State and that they did not actually hold clear title to them. In certain situations, the original upland owners were granted underwater lands in the 1800's by the Trustees of the Freeholders and the Commonality of the Town of East Hampton, who believed they owned all the underwater lands in Sag Harbor Bay

by virtue of their colonial patents. These lands, however, have been in the possession of the State since the termination of sovereign power, as discussed above; thus, the East Hampton Town Trustees had no authority to give the underwater lands away.

The underwater land grant issued to Wm. Cooper and Jonathan Havens in 1845 was released and surrendered, and the subject area was reconveyed by the State as a part of a larger land grant made to Agawam Aircraft Products, Inc. in July of 1958. In this case, the grant was made for the upland area which was once land underwater.

The grant issued to the East Long Island Pottery Company in December of 1882 was never utilized because this company never opened for business. This grant, however, is still shown to exist. The majority of the underwater land area authorized under this grant was absorbed as a part of a larger grant issued to the Long Island Railroad (LIRR) in October of 1888. This grant gave the railroad full interest in the underwater lands. The LIRR transferred ownership to a portion (about 75 percent) of these lands to the New York State Department of Transportation for the reconstruction of the North Haven/State Route 114 bridge at its current location. The State, in turn, conveyed its interest in these lands to Suffolk County, who reconveyed ownership to the Village of Sag Harbor. The LIRR still owns two small outlying areas of the original land underwater land grant area issued in 1888. These areas are situated on the east and west sides of the Village-owned underwater lands.

In 1975, the Village of Sag Harbor purchased all of the waterfront portion of the Standard Oil property (formerly Socony-Vacuum Oil Company). The lands sold to the Village comprised the former underwater land area that was granted to Socony-Vacuum Oil Co. in June of 1933. The grant issued to Socony-Oil in 1933 gave them full ownership to this land. This ownership was transferred to the Village of Sag Harbor when they purchased these lands from Mobil Oil Company in 1975.

In April of 1956, the Village of Sag Harbor sold a parcel of waterfront property they acquired in 1922 to Agawam Aircraft Products, Inc. (AAP). AAP added this parcel to its adjoining properties to gain ownership of a large block of waterfront property. The upland property sold by the Village to AAP comprised the former underwater land area for which the Village received a grant from the State in February of 1956. Since the State grant gave the Village full ownership to the underwater lands, this ownership was subsequently transferred to AAP.

The entire parcel of upland owned by Agawam Aircraft Products, Inc. (which was all formerly underwater lands) was sold in 1964. AAP had received a grant from the State for these former underwater lands in July of 1958. This property, which included the former Village-owned parcel which was sold to AAP in 1956, was sold two more times thereafter. These lands are presently owned by Malloy Enterprises.

In 1968, the State issued a grant to the Sag Harbor Yacht Yard. This grant remains in effect today.

Based on the information outlined above, the seven grants for underwater lands were all issued with full interest given to the grantee. Unless the upland was sold to another party, the ownership of the underwater lands remains with the original grantee; otherwise, the lands belong to the current upland owner. In the case of the grant issued to the East Long Island Pottery Company in 1882, this grant was never utilized. Therefore, this grant should be released and surrendered by the State. The six other underwater land grants have been accounted for.

There are, however, three waterfront properties that have been developed that do not have grants from the State OGS. These include: the underwater lands that contains the Waterfront Marina, owned by Malloy Enterprises; the former underwater lands that comprise the Village Marine Park property, which is owned by the Village of Sag Harbor; and the underwater lands and small area of uplands that comprises the Sag Harbor Yacht Club property. Grants for these lands should be obtained through the appropriate application process. In addition, since the Village of Sag Harbor owns a large portion of the original grant issued to the Long Island Railroad, they should seek to gain ownership of the two adjoining parcels of underwater lands still owned by the railroad.

There are generally three ways of securing a grant for underwater lands from the State Office of General Services. Each of the three methods provides a certain degree of ownership security in the underwater lands. An arrangement could also be worked out with the State OGS to for a combination of the three.

The method that provides the strongest interest in the property would involve the issuance of an underwater land grant per Section 75-10 of the Public Lands Law. This grant would provide the grantee with full and complete interest in the lands with no conditions or restrictions but at the full cost of the land.

The second method provides for the conveyance of the lands for public parks, beaches, streets, etc. to a public entity who holds upland ownership under Section 75-7A of the Law. The grantee would own the land in perpetuity as long as they fulfill the conditions of the grant. Therefore, this method would not provide the grantee with full fee conveyance in the property. The fee established for the value of the lands in this case is discounted because a reverter clause would be contained in the grant that restricts the use of the lands. If the lands are ever utilized for any other purpose aside from that specified under the terms of the grant (i.e., a commercial marina), the grantee would have to buy out the reversion interest in the lands.

The third option involves the issuance of an easement for the lands from the State OGS. Although this is the simplest process, it does not grant full interest in the lands. The State OGS would still retain ownership.

The Village of Sag Harbor should consider exercising the third option to obtain an easement for the underwater lands in the Sag Harbor area. The area located south of the main navigation channel, between the Long Wharf and the breakwater is utilized for mooring and other marine-

related uses. Through the issuance of an easement, the Village would have greater control over what activities occur in this area and to what degree.

2. Recreational Uses

The local waterfront revitalization area contains a variety of recreational uses which provide excellent opportunities for public access to Sag Harbor, Sag Harbor Cove Complex, and Sag Harbor Bay (Figure 4). The Village of Sag Harbor owns a significant amount of parkland along the shoreline in and around Sag Harbor. The recent acquisition of the remaining portion of the (former) Mobil property increases the Village-owned waterfront holdings in the WF Waterfront District to over six acres. This includes the Long Wharf, for which the Village has operational authority. Both passive and active, and public and private, the recreational uses in the LWRP area (including beaches, parks, marinas and boat launching ramps), represent a primary resource in this area. These facilities are discussed below and detailed further in the Sag Harbor Village Harbor Management Plan.

Publicly-Owned Waterfront Areas

- *Haven's Beach*

The Village of Sag Harbor owns an 18.8-acre public bathing facility, Haven's Beach, which is located off Bay Street along Sag Harbor Bay. Haven's Beach has been designated as a municipal beach pursuant to Chapter 27 of the Village Code. The beach is open for use by the public, and is the only location designated as a formal swimming area in Village waters. The entire *Harbor Water Use District* is off limits to swimming, and very little swimming occurs within the Cove Complex.

Haven's Beach is open in the summer season, from the last weekend in June through Labor Day. Although this facility is large, only the waterfront portion of the park is effectively utilized. Much of the land area consists of open lawn and meadow area that receives only limited usage. A limited area of the beach in the northeast corner has been allocated for seasonal (summer) storage of small sailboats and catamarans. An annual fee is charged to keep boats in this area; the fee is adjusted based on residency status. The main parking area is accessible from the loop road on the western portion of the site. In addition, a small supplemental parking area is located in the northeastern portion of the site, adjacent to the beach. This smaller parking lot is accessible from the main parking field via a narrow road which crosses over a drainage ditch near the waterfront. Residents and non-residents must secure a beach parking permit to park at Haven's Beach.

Existing recreational and sanitary facilities at Haven's Beach include a few pieces of play equipment, which are located adjacent to the beach, and one small building which houses a comfort station and the office and equipment for the lifeguards who supervise the facility. These existing recreational facilities, however, are limited in their ability to satisfy the recreation

demands of the Village's large summer population, as well as year-round residents. Sag Harbor's lack of adequate swimming facilities is its most pressing recreational deficiency. Presently, many Village bathers who would use Haven's Beach are instead using Long Beach - in Southampton Town. Improving the Haven's Beach facilities, along with its excellent location, will undoubtedly increase usage of this prime recreational area.

Just to the east of the active recreation area of the site there is a former marsh area which has been substantially filled in with dredge soil. Wetlands are present on the eastern and southern portions of the Haven's Beach property. A drainage ditch bisects the property and carries stormwater runoff from the adjacent upland. This runoff contains pollutants from roadways and sewage leachate from faulty septic systems. The creation of a wet detention system to capture and settle out contaminants in the stormwater runoff could improve the quality of the drainage reaching the receiving waters of Sag Harbor Bay.

- *Marine Park and Boat Basin*

As discussed in Section 2.3A(a)(4), Marine Park is a 1.9-acre, Village-owned and operated facility located on Bay Street. It is situated east of the Long Wharf, immediately east of the privately-owned area known as Waterfront Marina. Marine Park contains a boat basin, docking facilities along the bulkhead and the Village Harbormaster's office.

A traditional Village green has been created in Marine Park, with a veterans' memorial and flagpole centrally located and bordered by the access driveway/parking loop. A picnic area, with tables and grills, and a boardwalk with benches affords tourists and marina patrons additional waterfront access, scenic viewing, and recreational opportunities. The boat basin, located in the eastern portion of the park, contains a boat launching ramp which provides docking and access to the bay for residents. The parking lot at the eastern end of Marine Park provides access to the Village-operated dinghy dock, which is utilized by boaters who anchor their vessels in the adjacent mooring field, as well as the Sag Harbor Yacht Club.

The Village of Sag Harbor acquired the Mobil Oil property, which is located to the immediate east of Marine Park, in 1994. The Village has redeveloped the western portion, which abuts Marine Park, for additional parking area and additional common waterfront access which will include utilization of the former Mobil dock. The Sag Harbor Yacht Yard (located to the immediate east of the former Mobil site) has negotiated a lease with the Village for approximately 31,000 square feet of the former Mobil property to expand its boat storage facilities. The yacht yard currently had been leasing an 8,150 square-foot waterfront area that is located directly seaward of the new location they will be utilizing. Subsequently, approximately 7,250 square feet of this 8,150 square-foot Village-owned waterfront property, previously used by Sag Harbor Yacht Yard, was reissued to the Breakwater Yacht Club. The Breakwater Yacht Club has constructed a sailing school on this site.

- *Long Wharf*

As discussed in Section 2.3A(a)(4), the Long Wharf is located directly north of the intersection of Main and Bay Streets. The perimeter of the Long Wharf is used for strolling, scenic viewing, and fishing. Large recreational and commercial vessels dock alongside this structure or at the Village-owned floating dock and finger piers that are located on the west side of the wharf. Several benches are situated at various locations along the edge of the wharf, and a wooden guardrail allow users to rest and view the bay and vessels anchored or operating in the adjacent waters. The guardrail provides a safety barrier between the parking area/roadway on the interior of the wharf and the pedestrian area on the outer edge of the wharf.

- *Windmill Park*

Adjacent to the western side of Long Wharf is a parkland property known as Windmill Park. Windmill Park encompasses approximately 1.9 acres of shore front area that extends along both sides of the North Haven/State Route 114 Bridge abutment. A tourist information center, operating in the summer by the Village Chamber of Commerce, is the only building on the property and is housed in a windmill-type structure in the southeast corner of the park. Several park benches and a single picnic table are situated on the site. A wooden bulkhead on the east side of the bridge, west of the beach area, prevents erosion and fortifies the bridge abutment. This bulkhead also protects the plants which are located between this structure and the roadway.

- *Cove End Park*

This property, designated by the Village as a public park in 1997, is located at the end of Cove Road along the shore of Outer Sag Harbor Cove. The park provides a passive space for viewing the water. A dedication stone has been placed in the park.

- *Little Northwest Creek Conservation Area*

In 1972, the NYSDEC purchased over 190 acres of wetlands, meadows and uplands situated on the eastern and western sides of Little Northwest Creek with monies authorized under the Environmental Quality Bond Act. This acquisition included the transfer of ownership for the underwater lands from the Town of East Hampton to the State. All of these lands have been established as a State conservation area. Public access into this area is granted only by a permit issued by the NYSDEC.

Public Water-Related Recreational Resources

- *Village Anchorage Areas*

The Village of Sag Harbor operates two mooring areas in the WF Waterfront Zoning District. There is a large mooring area located between the navigation channel and the breakwater, and another, smaller, mooring area situated on the western side of the Long Wharf. Combined, these areas can accommodate up to 150 vessels, although the number varies depending vessel size. There are generally 130 usable moorings locations at all times.

- *Village **A** and **B** Docks*

As discussed in Section 2.3A(a)(4), the Village of Sag Harbor operates two docks in Outer Sag Harbor Cove known as the A and B Docks. These docks are located on West Water Street, in the cove area between Sag Harbor Cove West Marina and Sag Harbor Cove East Marina. The A dock is a fixed structure that provides 22 slips; the B dock is a floating structure which provides 50 slips for docking. The Village also provides 48 seasonal cable slips along the shoreline between the two docks.

- *Village Finger Docks (Long Wharf Marina)*

The Village provides dockage on the west side of the Long Wharf, known as the Long Wharf Marina. This floating dock contains nine finger piers for small vessels on its western side; in addition, vessels (including charter boats) can tie up along the eastern side, between the main floating dock and the Long Wharf.

Public Access to Waterfront Areas

- *Boat Launching Ramps*

Boat launching within the Sag Harbor Cove/Bay Complex occurs at both formal and informal launch areas (see Figure 4). There is one boat launching ramp located in the Upper Sag Harbor Cove area, on the north side of John Street, at the southern end of the Cove. Although not paved, this ramp is a more formalized location for water entry, which receives a considerable amount of use by local fisherman and baymen. Another undeveloped launch location is situated at the western terminus of Amherst Road, on the Redwood peninsula. This site provides access to Inner Sag Harbor Cove. Unlike the John Street facility, this launching ramp does not appear to be heavily utilized, since it consists of an unpaved access way that is somewhat overgrown with weeds and field grasses.

Two active launch ramps are located alongside the *Harbor Water Use District*. Redwood Marina, at the eastern end of the Redwood peninsula, adjacent to Cove End Park, has two metal ramps that provide access to Outer Sag Harbor Cove. The upland portion of this ramp is an unpaved,

gravel roadway. The other formal launching ramp is located within the Marine Park boat basin, which consists of a paved entry ramp that extends directly from Bay Street. This launching ramp is in need of repair. Seasonal and daily fees are charged for use of the Marine Park ramp.

• *Street Ends*

There are a small number of street ends that provide public access to the waterfront, particularly in the area of the Sag Harbor Cove Complex (Figure 4). On the Redwood peninsula, there are four street ends that provide limited waterfront access. These include the ends of Yale Road, Notre Dame Road, Amherst Road and Dartmouth Road. A fifth street end is located on John Street and pitches northerly into Upper Sag Harbor Cove. The street end at Notre Dame Road also is located adjacent to a pathway that extends along the shore for some distance. The ends of Yale and Notre Dame Roads provide sufficient access for passive activities, however, the street end on Dartmouth Road has become overgrown with vegetation which restricts public use in this area. The Village recently improved the street ends/boat ramps at Amherst Road and John Street to minimize the water quality degradation of adjacent receiving waters. Catch basins have been installed in the intersections at the upper end of these two boat ramps. Further improvements are necessary.

Semi-Private and Private Water-Related Recreational Resources

• *Otter Pond and Mashashimuet Park*

The Otter Pond Park and the Mashashimuet Park are semi-private properties that have been deeded to the children of Sag Harbor, by the Russell Sage Foundation. Although they are private facilities, they are open for full use by the public. Both private and public support contribute to the maintenance and preservation needs of these parks. A Board of Directors, appointed by the provisions of the deed, administers the affairs of the parks.

Public use of Otter Pond is permissible, but proposals for activities of a more organized nature must first be presented to and approved by the Mashashimuet Park Board, the overseeing agent. The Southampton Town Trustees own the underwater lands. The Village has no jurisdiction in this area.

Otter Pond Park is an 11.3-acre property located in the southwest portion of the Village. This park is bounded by Main Street on the west, and Jermain Avenue on the south. A nature walk with five benches located at various intervals, partially encircles the park and provide users with access for passive recreation and fishing. Otter Pond is hydraulically connected to Upper Sag Harbor Cove via a culvert through the west bank of the Pond.

Mashashimuet Park encompasses over 50 acres of land area and includes two separate open spaces areas (six acres which surround Fore and Aft Pond and 2.6 acres that include the Maple Swamp wetlands that drain to Otter Pond). The park area contains a wide variety of recreational

amenities including: ten tennis courts; one hardball and four softball diamonds; one full-size and five minor soccer fields; one field hockey field; a large playground area; a marked cross-country trail; and an area for senior citizens that contains shuffle board courts, bocci ball courts and horseshoe courts. This park is widely utilized throughout the year by local area residents. Additionally, local citizen organizations such as the Lion's Club and the P.B.A., and family groups utilize the park for special events.

• *Private Beach Associations*

To the immediate east of Haven's Beach, there are three private beach associations, each of which maintains limited access and a small parking area for the exclusive use of property owners and their guests. As previously noted, these properties are protected from development through deed restrictions. A description of the individual association beaches follows.

1) *Azurest Property Owners Association*: Located to the immediate east of Haven's Beach is the community of "Azurest," which is bounded on the east by Walker Avenue and the south by Route 114 and Hempstead Street. A footpath at the terminus of Terry Street provides access to the beach, and a small parking area provides a limited number of spaces for homeowners' vehicles with a valid permit. Trash receptacles are located along a steel guardrail designed to prevent vehicle access to the beach. No lifeguards are on duty and signs are posted to alert beach goers that swimming is "at your own risk."

2) *Sag Harbor Hills Improvement Association*: Immediately east of Azurest is the community of "Sag Harbor Hills," bounded on the east by Hillside Drive and the south by Route 114. At the terminus of Hillside Drive East, the Sag Harbor Hills Improvement Association maintains an unpaved footpath which leads to the beach. Trash receptacles are located along a split rail wooden fence which borders the footpath and a sign is posted in the area to alert beach goers that no lifeguard is on duty and swimming is "at your own risk." The parking area is small and limited to a few spaces for the vehicles of residents with a valid permit.

3) *Ninevah Beach Association*: The third homeowner's association in the area east of Haven's Beach is Ninevah Beach Association - located immediately east of Sag Harbor Hills and bounded on the east by a salt marsh which drains into Little Northwest Creek. A partially paved footpath and small parking area at the terminus of Harding Terrace provides homeowners and their guests access to the beach. Signs at the origin of the footpath warn beach goers that no lifeguard is on duty and swimming is "at your own risk." Trash receptacles are located in the vicinity which is otherwise undeveloped and in a natural state.

• *Breakwater Yacht Club Sailing School*

The Breakwater Yacht Club has built a community sailing school on the Village-owned waterfront property which was previously being leased by the Sag Harbor Yacht Yard (as discussed above). The sailing school facility is housed in a two-story frame structure. There

is also a floating dock for boat storage, and a ramp which extends from the bulkhead. This facility allows the Breakwater Yacht Club to expand their present program, which is open to the schools and community youth organization in the Village of Sag Harbor area. Presently, 40 percent of the scholarships awarded for this program go to Sag Harbor youth.

- *Private Marinas*

The shoreline of the local waterfront revitalization area contains a number of marinas and other marine-related facilities that service the local boating industry. These facilities, which are discussed in greater detail in the Sag Harbor Village Harbor Management Plan, include: Ship Ashore Marina, Sag Harbor Cove West Marina and Sag Harbor Cove East Marina, which are located in Outer Sag Harbor Cove; and, Waterfront Marina, the Sag Harbor Yacht Club, and the Sag Harbor Yacht Yard - located in Sag Harbor inside the breakwater.

- *Docks, Bulkheads and Boat Basins*

There are numerous private docks, bulkheads, and boat basins that adjoin residential properties throughout the local waterfront revitalization area. Most of the bulkheading is found throughout the *Harbor Water Use District*, along the shoreline of the marinas and other marine-related facilities. The Sag Harbor Cove West Marina includes a boat basin that is fully bulkheaded. The Marine Park boat basin has hardened shorelines along three sides, the western portion of this facility is unprotected. There are also a considerable number of bulkheaded properties along the shoreline of the Redwood peninsula. The Redwood peninsula also contains a private boat basin that is entirely bulkheaded. The only hardened shoreline found on the east side of the breakwater consists of a low masonry wall along the front of the Cor Maria property, and rubble revetments and wooden bulkheads along the stretch of shoreline located to the immediate east of Haven's Beach. This area includes most of the properties along Terry Drive.

The private docking structures found throughout the area are mostly small in size and generally can accommodate only one or a few boats. Some residents also install floating docks that are removed in the winter season. There are four permanent private docks located along the eastern side of Ligonee Brook; six within Morris Cove; twelve along the shoreline of Upper Sag Harbor Cove; and 19 along the perimeter of the Redwood peninsula.

Recreational Use of Fish and Wildlife

- *Consumptive Activities*

Sportfishing is popular in many areas throughout the Village and adjacent waters. Weakfish (*Cynoscion regalis*), striped bass (*Morone saxatilis*), winter flounder (*Pseudopleuronectes americanus*) and porgy (*Stenotomus chrysops*) are taken in waters of the Sag Harbor and the Sag Harbor Cove Complex. Round Pond supports several freshwater species of game that are commonly caught by local fishermen (e.g., largemouth bass, pumpkinseed and bluegill). Local citizens often harvest small quantities of shellfish (e.g., hard clams, soft clams and scallops) for their own consumption from Sag Harbor Cove. Duck hunting does not take place within Village boundaries.

- *Non-Consumptive Activities*

All of the waters around Sag Harbor Village are used for recreational boating and sightseeing. Bird watching is popular along the expanses of beach where waterfowl can be observed in the winter and nesting coastal birds can be observed throughout other parts of the year. Public use of Otter Pond consists primarily of feeding the domesticated water fowl and relaxing on the pond shore.

(g) Vessel Usage and Waterways

Navigation

Sag Harbor is protected from the east by a two-section, 3,180-foot breakwater. This structure extends in a northeasterly direction from western shoreline of the Cor Maria property and protects well over 100 acres of surface water area (see Figure 2). The construction of the breakwater was completed by the U.S. Army Corps of Engineers (ACE) in 1908. The breakwater is the primary source of protection to the Harbor from storm damage. Navigation and navigational activities within the Harbor, including the development of a federal navigation channel in 1937, have been designed and coordinated around this structure since that time. The future of the Harbor as it exists today is dependent upon the continued maintenance and repair of the breakwater.

The breakwater was constructed at an elevation of 7.5 feet above mean low water. The original natural depth of the protected area varied from three to 17 feet at mean low water. The ACE conducted modest rehabilitation of the breakwater in 1963, which involved the placement of over 1,500 tons of stone to rebuild the structure to its original elevation. Since that time, the entire breakwater has settled and needs to be repaired. In some areas the foundation is failing. Waves created by storm events break over the top of this structure, resulting in damage to shoreline structures. Rehabilitation should include the replacement of stone to increase the elevation by five to six feet, as well as the refurbishing of the foundation to improve structural integrity. The

ACE has performed a field survey, and the Village is awaiting funding for engineering rehabilitation.

Since 1963, when the ACE completed repair work on the breakwater, the ACE has had no other direct involvement in navigation projects within the harbor management area. The federal channel and anchorage areas in Sag Harbor were de authorized by the passage of the Water Resources Development Act of 1992. The breakwater is still under federal jurisdiction and any necessary future maintenance will be conducted by the ACE.

The ACE will not have any direct future involvement in maintenance dredging activities for the channel or anchorage areas. Once the channel was de authorized, it fell under the authority of the U.S. Coast Guard (USCG) since it is still an active navigation channel. The USCG is responsible for providing and maintaining channel markers, as well as the placement of these devices. At present, the USCG authorizes the placement of channel markers by the Village.

There are a number of navigational aids found within the Sag Harbor Cove/Bay Complex. Navigational aids include buoys, fixed lights, range markers, day markers, and other such devices. In the Sag Harbor area, navigational aids delineate the channels and mark obstructions in local waters, as summarized below.

In Sag Harbor Bay, leading into the harbor, there are a number of buoys. The Sag Harbor sea buoy marks the middle of the entrance channel to Sag Harbor and can be passed on either side. Immediately east of the sea buoy is a green lighted buoy which marks the main navigation channel in Sag Harbor Bay. South of this green buoy is a white buoy which marks an area of rocks that are visible above the water surface at low tide.

At the harbor entrance there is a fixed green light located at the northwestern end of the breakwater. Just west of the breakwater is the navigation channel which is delineated by three buoys; one near the channel mouth, one near the northern end of the Long Wharf, and one located inside the harbor area along the western edge of the mooring area. This navigation channel, once under the authority of the ACE, is now the responsibility of the U.S. Coast Guard. The channel buoys are authorized by the U.S. Coast Guard and set and maintained by the Village Harbormaster. Exclusionary white and orange markers are used in the vicinity of Haven's Beach, in Sag Harbor Bay, to delineate the swimming area.

The North Haven/State Route 114 bridge is a fixed structure with a 19-foot vertical clearance and 37-foot horizontal clearance. The height of this bridge is a limiting factor, restricting the types of vessels that can access the Sag Harbor Cove Complex. This bridge is marked with red lights indicating the safest points of entry into Sag Harbor Cove. These lights provide a guide into Outer Sag Harbor Cove for boaters who are entering the harbor at the northwestern end of the breakwater. The navigation channel that runs from east to west through Outer Sag Harbor Cove is delineated by nine buoys. Three of the five red buoys that mark the northern side of this channel are lighted. All of these buoys are set and maintained by the Town of Southampton.

Water hazards and obstructions within navigable waters include rocks and submerged and visible wrecks. Abandoned vessels are also hazards to navigation and removal is constrained since they are generally not registered, which makes it difficult to trace the owner in order to assign the costs of removal to the responsible party. Floating debris (e.g., timbers, logs, pilings) is often generated as a result of storms and tides, or ice damage to structures. The Towns are generally responsible for removing navigation hazards within local waters, and usually perform this task in Village waters at the Village's request. Navigation hazards also include excessively long docks, as well as shoals and bars within or in close proximity to navigation channels, particularly within the coves.

Jurisdiction

Jurisdiction with respect to over-water vessel uses within the harbor complex is divided among the Village of Sag Harbor, the Village of North Haven, and the Towns of Southampton and East Hampton. Pursuant to Chapter 46A of the State Navigation Law, the Villages of Sag Harbor and North Haven have the exclusive authority to regulate the over-water use of vessels upon the waters that lie within 1,500 feet of their respective mean high water line. This gives the Villages the capacity to control mooring and anchoring, vessel speed, the use of personal water craft, and recreational activities such as water skiing and wind surfing.

In accordance with Section 130.17 of the New York State Town Law, the Towns of Southampton and East Hampton regulate over-water vessel use upon waters within their municipal boundaries, but not within the 1,500-foot area of water surface that extends from the mean high water line adjacent to incorporated Villages. Additionally, as discussed in Section 2.3A(f)(1), the State of New York and the Town of Southampton own the underwater lands in Sag Harbor, and the Outer, Inner and Upper Coves, respectively. Therefore, they have the proprietary right to allow the use of the bottom lands in these areas.

As noted above, the coastal waters in the Sag Harbor Cove/Bay Complex are heavily utilized by both recreational and commercial water craft. Sag Harbor and Sag Harbor Bay are part of the larger Peconic Bay system and are linked via the system of navigation channels that run through these waters. The high intensity of vessel usage in the Sag Harbor area has caused conflicts and problems with respect to waterway usage (including dockage, mooring and anchorage) and navigation.

The Waterways Law (Chapter 53 of the Village Code) regulates surface water uses in the Village and applies to all waters of the Village and waters adjacent to the Village to a distance of 1,500 feet from the mean high tide line. The area covered by the Law generally coincides with the waterside boundary of the study area for this Local Waterfront Revitalization Program. The main provisions of Chapter 53 include the following:

- The dumping of oil, refuse, garbage or waste, and the discharge of toilets is prohibited.

- A Village permit is required for each vessel mooring. Mooring locations are governed by a grid established and controlled by the Harbormaster and/or Village Police.

- No boat shall be anchored or moored in such a way that it, at any time, rests within the lines of any navigation channel.

- The mooring of floats requires a Village permit and is controlled by the Harbormaster and/or Village Police.

- All boats, other than those propelled by hand, are prohibited from operating within 100 feet of lifelines and bathing floats and 200 feet from any beach regularly used for bathing.

- Maximum vessel speed is 45 miles per hour (mph), unless otherwise posted. The speed limit within harbors and other areas congested with boats is 5 mph.

- Waterskiing, windsurfing, and similar activities are prohibited within 200 feet of the shoreline and within 50 feet of any bather, except when commencing or ending a ride.

- Water scooters (e.g., jet skis) are prohibited within harbor areas and designated public bathing beaches. Such vessels are prohibited outside harbor areas to a distance of 250 feet of the shoreline or within 50 feet of any bather, except when commencing or ending a ride at a speed no greater than 10 mph.

- Skin diving, scuba, swimming, and related activities are prohibited within any channel.

Dredging

Channel maintenance is essential to provide safe navigation for recreational boating traffic while conserving the natural coastal resources. Sag Harbor Cove and other portions of the Sag Harbor coastal waters have been dredged over the years to develop navigational channels and boat basins. The last such dredging was in the 1960s. It disturbed much of the marshy edge and, along with other activities, resulted in the filling of many areas of tidal wetlands. The dredging of public channels, public boat basins and mooring areas in the Sag Harbor Cove/Harbor Complex has been performed in the past by the Army Corps of Engineers (ACE) and the Suffolk County Department of Public Works (SCDPW).

Sag Harbor is protected from the east by a two-section, 3,180-foot breakwater. This structure extends in a northeasterly direction from western shoreline of the Cor Maria property and protects well over 100 acres of surface water area. The construction of the breakwater was completed by the ACE in 1908. Navigation and navigational activities have been designed and coordinated around this structure since that time. In 1937, the ACE completed the dredging of a navigational channel 10 feet deep, 100 feet wide and 0.4 miles long, extending into Sag Harbor from about 450 feet northwest of the breakwater. The channel terminated in a turning basin, a

channel extension towards Conklin Point, and two adjacent anchorage areas. The northeastern anchorage area was dredged to a depth of 8 feet, and the southern anchorage area was dredged to 6 feet deep. The federal navigation channels, mooring areas, and turning basin are depicted in Figure 2.

The Village of Sag Harbor operates a large mooring area which is located between the navigation channel and the breakwater. There is another, smaller, mooring area situated on the western side of the Long Wharf. Combined, these areas can accommodate up to 150 vessels, although the number varies depending vessel size. There are generally 130 usable moorings locations at all times. According to the Village Harbormaster, several areas inside the breakwater have experienced shoaling and cannot accommodate boats with a draft deeper than four feet. Shoaling has occurred along the west side of the Long Wharf and the western side of the breakwater. These shallow conditions make these areas inaccessible to vessels that would otherwise lease the available mooring locations, thereby denying the Village of this potential source of income. Dredging in both areas would eliminate this problem.

Although federal dredging within the anchorage areas may alleviate some of the shoaling problems, the waters west of the Long Wharf lie outside the navigation channel and are not likely to be affected by any future ACE involvements. In order to have the federal channel and anchorage areas reauthorized, for dredging an official request must be filed with the New York District ACE Planning Division through the local Congressional Office. Once the request is received, the ACE must review the waterway uses and conduct an economic feasibility study. If the ACE deems the project to be favorable, the proposal will be appended to a major bill introduced before Congress. According to the ACE Navigation Branch, the process will take a minimum of two to three years before the action is approved (Lew, ACE Navigation Branch, February 17, 1995; Beverly, January 17, 1995; Congressional Record, October 5, 1992).

In 1960, the SCDPW constructed a navigational channel through Outer Sag Harbor Cove that measured 100 feet wide and approximately seven feet below mean low water (MLW), which extended from approximately 400 feet west of the North Haven/State Route 114 bridge (and approximately 100 feet west of an underwater telephone cable) westerly through the Big Narrows. Just past the Big Narrows, the channel was widened to 150 feet wide and approximately six feet below MLW, extending into (Staff) Paynes Creek. In 1965, the channel was extended south through Inner Sag Harbor Cove, the Little Narrows and Upper Sag Harbor Cove, and included the mouth of the Otter Pond tributary. The SCDPW has not conducted any maintenance dredging in the main channel and Upper Sag Harbor Cove areas since these channels were first dredged. In 1977, the SCDPW dredged the nearshore portion of Sag Harbor in the vicinity of the Village Marine Park facility. The area containing the A and B Docks in Outer Sag Harbor Cove was dredged in 1978. Private maintenance dredging was performed at Baron's Cove Marina in 1994. The SCDPW has not received any recent requests from the Village through the Towns of East Hampton and Southampton for further dredging, and hence, are not aware of any localized shoaling conditions or need for future dredging.

The SCDPW plans to construct a southerly spur off the main channel in Outer Sag Harbor Cove, to service the mouth of the Redwood boat basin, in the vicinity of the Ship Ashore Marina. SCDPW has filed permit applications with the NYSDEC and ACE in 1990, but has not yet received approval. One problem facing this proposed project is the identification of a suitable dredge spoil disposal area. The owner of the boat basin has shown preliminary interest in accepting the SCDPW dredged material for de watering on-site. However, the sediments may be of a type which would limit future use (small-grained, organic and/or contaminated) and no final decision has been made (Hunter, February 16, 1995; SCDPW File Search, 1994).

Dredge Spoil Disposal

The dredged channels and the areas where dredged material was historically placed by SCDPW are depicted on **Figure II** in the Village Harbor Management Plan. Dredge material taken from the Sag Harbor Cove main channel was placed on the beachfront north of Long Beach Road and upland in the vicinity of the Ship Ashore Marina, where a condominium complex is now located. Dredge material from the westerly extension of the main channel and from Paynes Creek was placed on the south side of Long Beach Road as well as in upland areas of the Ship Ashore Marina and on adjacent parcels located further south. Dredge material from the Village docks, was also placed in upland disposal locations in the vicinity of Ship Ashore Marina. Dredged material taken from the Village Marine Park facility was spread on upland areas at Haven's Beach. With the exception of the Sag Harbor (Redwood Cove) spur, all of the permits for SCDPW projects have expired. In order to facilitate future SCDPW dredging actions the Towns of East Hampton and Southampton must apply for new permits. Approval of new dredging actions in this area will require: the identification of new dredge material disposal areas; grain size and chemical constituent analyses; and easements from property owners.

The administrative process for initiating County-sponsored dredging in local waters is a lengthy one, coupled with the usual time constraints involved with securing the necessary State and federal permit approvals. Once the SCDPW receives a request for dredging, the request must be reviewed to determine the public need and receive approval from the Dredge Screening Committee (consisting of the Commissioner of SCDPW, several legislators, the Suffolk County Council on Environmental Quality and the Suffolk County Executive). Once approved by the Dredge Screening Committee, site specific information must be gathered (including a site survey, estimation of quantities and particular dredging requirements) and permit applications filed. In the past, SCDPW dredging projects were funded through appropriations from the County Capital Program. However, the dredging funds were deleted from the 1995 Capital Budget, which implies that no new dredging will be funded by Suffolk County from 1995 through 1997 (Rogers, February 14, 1995).

In light of these facts, the Towns and Village of Sag Harbor must assess their dredging needs and devise a means of addressing this issue. The Village should prepare a dredging plan that identifies navigation channels that should be maintained for public use, with specific dimensional information included. Dredging actions should be associated with water-dependent

uses or marina uses in the WF Waterfront and MA Marine Zoning Districts and provide public access. Dredge spoil disposal options must also be identified, whether appropriate upland sites are utilized or spoil materials are carted away.

It is also important to note that the NYSDEC is presently taking a "hard look" approach at all "new" dredging projects. "New" dredging projects are defined as those areas that have not been dredged within the past 20 years, whether or not initial or maintenance dredging was conducted in the past. "New" projects are not likely to receive approval from the NYSDEC unless an overwhelming public need can be demonstrated, and the issues of contaminated sediments and the current lack of local disposal locations for such materials are adequately addressed (Hunter, February 16, 1995; Rogers, February 14, 1995).

B. WATER RESOURCES

(a) Surface Water Resources

The estuarine nature of Sag Harbor's coastal embayment waters is dependent upon the maintenance of sufficient tidal flow and freshwater inflow from upland watershed areas. Sag Harbor Cove and the coastal waters of Sag Harbor receive considerable freshwater input from two major watersheds: (1) the morainal and outwash areas between the Bridgehampton Racetrack and the Long Pond chain-of-ponds system in Southampton Town to the south and west, and (2) the area roughly coincident with what is called "Northwest" in East Hampton Town to the east.

The quality and volume of the waters emanating from these two great recharge systems is directly reflected in the quality and productivity of Sag Harbor Cove, Sag Harbor Bay and Northwest Harbor. As a result, these watershed areas should receive the utmost protection in terms of limiting zoning density and other safeguard measures (e.g., turf control and limitations on the volume and nature of wastewater effluent recharged). A cooperative effort with the Towns of Southampton and East Hampton would be beneficial.

- *Sag Harbor Bay*

Sag Harbor Bay is a shallow embayment with a tidal range of three feet. It is adjunct to Northwest Harbor and Shelter Island Sound. Sag Harbor Bay is open year-round to shellfish harvesting. The underwater lands in Sag Harbor Bay are owned by New York State. Sag Harbor Bay is bordered to the south by the Cor Maria facility, the Haven's Beach Village Park, and a long stretch of private beach. Sag Harbor Bay is included in the *Low Intensity Water Use District (LID)*.

- *Sag Harbor*

Sag Harbor is a semi-enclosed area situated at the entrance to the Sag Harbor Cove Complex. Sag Harbor is protected from the open bay by an elongated stone breakwater and is connected to Sag Harbor Cove by a tidal strait which is spanned by the North Haven/State Route 114 bridge. The area experiences incomplete tidal flushing twice daily by strong tidal currents. The average tidal range is three feet. Water quality is seasonally-affected by boat traffic and docking and marina facilities. The priority water quality impairment problem for this water body is shellfishing, caused by pathogens from storm sewers, municipal point sources, and boating pollution.

The shoreline of Sag Harbor Bay - between the Long Wharf and the breakwater - is largely hardened with bulkheading. The presence of four marinas (Waterfront Marina, Village Marine Park and Boat Basin, Sag Harbor Yacht Club, and Sag Harbor Yacht Yard) account for approximately 235 boat slips. There are also two mooring areas that contain approximately 150 mooring locations (20 of them are currently accessible to only shallow-draft vessels) within the Sag Harbor area. Sag Harbor is included within the *Harbor Water Use District (HD)*.

- *Sag Harbor Cove Complex*

The Sag Harbor Cove Complex is comprised of a series of four water bodies: Outer Sag Harbor Cove, Inner Sag Harbor Cove, Upper Sag Harbor Cove and Morris Cove. Each of the basins is connected by a narrow navigation channel; a strait from the northern end of Outer Sag Harbor Cove connects these waters to Sag Harbor. The overall surface area of the Sag Harbor Cove Complex, including Sag Harbor Coves and Upper Sag Harbor Cove, is 0.7 square miles; the average depth is 4.9 feet. The underwater lands in the cove complex are owned by the Town of Southampton.

Average tidal range in the Sag Harbor Cove Complex is approximately two feet; the average spring tide range is closer to three feet. A limited salinity study conducted in 1991 indicated that the entire cove complex was "nearly well-mixed" and is influenced strongly by coastal salinities. There was a slight longitudinal salinity gradient, with salinity decreasing mildly in an upstream direction (Najarian Associates and Cornell Cooperative Extension, 1992).

The watershed for the Sag Harbor Cove Complex covers approximately seven square miles and is dominated by residential land use and excessively-drained soils. The northern and southern portions of Outer Sag Harbor Cove are differentiated by which side of the Big Narrows the waters lie. A similar situation exists where the Little Narrows separates Inner Sag Harbor Cove from Upper Sag Harbor Cove. As with Sag Harbor, the priority water problem impairment for this water body is shellfishing, caused by pathogens from storm sewers, municipal point sources, and boating pollution.

Surface water quality in the Sag Harbor Cove Complex is dependent on adequate tidal flushing and stream flow. The principal means for flushing in Upper Sag Harbor Cove is the channel that runs between the Inner and Upper Coves and Outer Sag Harbor Cove, known as the Big Narrows. Within the cove complex, other channels provide daily flushing of the extended cove segments. These channels must be maintained in good condition for this function.

A hydraulics study was conducted in 1991 and showed that the Sag Harbor system is a "hydraulically efficient" embayment having a relatively large ratio of entrance conveyance area to basin surface area. That is, due to its small size and deep entrance, the Sag Harbor system already has interior tidal ranges which approximate the ranges at its entrance. Because the entrance channel already conveys sufficient flow to permit efficient filling and emptying of this embayment over a tidal period (12.42 hours), enlargement of the entrance to Sag Harbor Cove would not effectively increase Sag Harbor tides, and thus would not increase their overall flushing capacity. The average flushing time of Sag Harbor is approximately 7.7 days. There remains some question as to whether Sag Harbor Cove flushes efficiently, inside the Big Narrows.

The shoreline of Outer Sag Harbor Cove is largely hardened. The four marinas that are located on these waters (Sag Harbor Cove East Marina, Village **A** and **B** Docks, Sag Harbor Cove West Marina, and Ship Ashore Marina) have a combined total of approximately 385 boat slips. Outer Sag Harbor Cove is included in the *Harbor Water Use District (HD)*. Inner Sag Harbor Cove, Upper Sag Harbor Cove and Morris Cove are included in the *Conservation Water Use District (CD)*.

- *Ligonee Brook*

Ligonee Brook is a small freshwater brook running from east to west, draining into the southeastern end of Inner Sag Harbor Cove. The Sag Harbor Village boundary follows the center of Ligonee Brook, spanning the entire length of this water body. West of Brick Kiln Road, in the lower reach of the Brook, there is some salt water influence. East of the road, in the upper reaches, there is little salt influence except during extreme storm surges. The shoreline of Ligonee Brook is relatively free of structural hardening. Ligonee Brook is included in the *Conservation Water Use District (CD)*.

There are many freshwater elements in the LWRP area. The several ponds, drainage kettles, wetlands, that together with Ligonee Brook, form an interesting system of freshwater elements that are valuable in terms of wildlife habitat known to support a number of rare, threatened, and endangered species.

- *Otter Pond*

Otter Pond is a shallow intertidal pond of approximately four acres that is located within Mashashimuet Park, which is owned by the Sage Foundation.

Otter Pond receives saltwater from a tidal creek originating in Upper Sag Harbor Cove, which flows through a culvert under Main Street. Due to restrictions caused by stones and debris at the pond's connection to the creek, tidal fluctuation for the pond is approximately one foot while the tidal amplitude in Upper Sag Harbor Cove is approximately 1.7 feet. Freshwater enters the eastern end of the pond from a large red maple swamp located across Jermain Street, between Joel's Lane and Archibald Way.

The once healthy wetland pond has had most of its protective fringe replanted. The area to the east provides filtration and stabilization for the pond. The pond's flushing capacity is dependent upon maintaining the tidal creek connection to Upper Sag Harbor Cove, and upon the input of sufficient amounts of freshwater from upland underflow, stream flow and surface runoff. The shoreline of Otter Pond is free of structural fortification. For the purposes of identifying surface water uses, Otter Pond meets the defining characteristics of the *Conservation Water Use District (CD)*.

Otter Pond is used primarily for strolling and fishing. People also feed waterfowl along the pond's edge. Fishermen catch occasional striped bass and white perch, among other species. Each year it supports a wintering flock of waterfowl of about 100 birds, mostly mallards and canvasbacks. In addition, the pond supports a number of resident domestic geese and ducks. It has a potential for eutrophication, especially where its slopes are fertilized and its upstream freshwater sources from the Long Pond morainal watershed system are encroached upon.

- *Round Pond*

Round Pond is a freshwater pond, with some development having occurred around the perimeter. Only the northern portion of Round Pond is located within, and owned by, the Village at the southern end of Joel's Lane; (the southern portion is located in the Town of Southampton and owned by the Town). The shoreline of Round Pond is free of structural fortification. Round Pond is included in the *Conservation Water Use District (CD)*.

- *Little Northwest Creek*

Little Northwest Creek is a small tributary that feeds into Sag Harbor Bay and forms the eastern border of the Village. This tidally-influenced portion of the creek is surrounded by approximately 190 acres of State-owned tidal wetlands and buffering upland that is managed by the NYSDEC. The shoreline of Little Northwest Creek is free of structural fortification. Little Northwest Creek is included in the *Conservation Water Use District (CD)*.

Little Northwest Creek is an important component of the Peconic Bays ecosystem, contributing to the biological productivity of the area. The Sag Harbor and Northwest Harbor Significant Coastal Fish and Wildlife Habitat includes the tidal wetlands associated with Little Northwest Creek.

(b) Surface Water Quality Classifications

Pursuant to Title 6, Chapter 10 of the Codes, Rules and Regulations of New York State (NYCRR) discharge standards and water quality classifications have been assigned by the NYSDEC to the surface waters in the State according to their best usage. These classifications set discharge standards and are not necessarily indicative of existing water quality conditions. General water quality classifications are summarized in terms of their best usage, as presented in Table 1. The general water quality classifications assigned to each water body in Sag Harbor Village waters are shown on Figure 5 and summarized in Table 2.

The quality of marine and estuarine waters can be assessed on the basis of a variety of variables, including color, odor, floating and suspended solids, oil, toxic compounds, and other deleterious substances. Water quality classifications in New York State are currently based primarily on three indices: total coliform level, fecal coliform level, and dissolved oxygen concentration. Existing water quality conditions are discussed below in subsection (c).

In order to be certified as a shellfish harvesting area, the median total coliform level for any series of samples must be 70 MPN/100 ml or less (where MPN/100 ml is the most probable number of organisms per 100 milliliters of sample). New York State (2 NYCRR Part 701.20) classifies these certified shellfishing waters as *SA*, which designates the highest level of water quality. A *SB* classification is assigned where the monthly median total coliform level is 70 to 2400 MPN/100 ml, where no more than 20 percent of the samples exceed 5000 MPN/100 ml, and where the monthly geometric mean value is 200 MPN/100 ml or less. The best intended use for *SB* waters is swimming.

Priority Water Problem (PWP) waters are surface waters which either cannot be fully used as a resource (i.e., are not achieving best usage), or have problems which can damage their environmental integrity. PWP waters are listed in the following four categories:

- **Use Precluded** -- A classified best usage of water is not possible, e.g., swimming is banned by health regulations.

- **Use Impaired** -- A classified best usage of water is limited, e.g., fishing is possible, but consumption is restricted.

- **Stressed** -- Water quality is reduced and a classified best usage of water is marginally restricted. A water quality problem is evident, but impairment is not clearly demonstrated.

- **Threatened** -- Conditions are such that a classified best usage of water may become limited. Changes in land use or pollutant sources may result in water quality problems.

The NYSDEC identified, in the Department's 1996 Priority Water Problems List, "Sag Harbor and Coves" by water quality classification and limitations or environmental problems. Carrying

a water quality classification of *SA* and affecting an area of two hundred-eight acres, Sag Harbor and Coves have a precluded use. Shellfishing is precluded due primarily to pathogens which come from storm sewers, municipal point sources, and boating pollution. Shellfishing areas in the waters of Sag Harbor Bay, to the west of the breakwater, are closed year round. Shellfishing areas in Sag Harbor Cove are closed on a seasonal basis (May 15 - Oct. 31). "Sag Harbor and Coves" was included as a priority in the NYSDEC Nonpoint Source Management Program (January 1990).

(c) Existing Water Quality Conditions

The primary objective of most ongoing water quality monitoring programs in New York State is to prevent human health impacts from exposure to pathogenic bacteria and viruses (e.g., the hepatitis and Norwalk viruses, and the Salmonella bacteria), which can result from either direct contact with contaminated water or the consumption of tainted shellfish. However, the detection of these pathogens is generally a time consuming and tedious undertaking. Consequently, water quality testing typically entails the use of coliform bacteria, which are relatively easy to measure; these bacteria cooccur with the pathogens of primary concern and serve as indicators of the possible presence of those pathogens.

Fecal coliform bacteria present in stormwater originate in the intestinal tracts of warm-blooded animals and can be derived from wildlife, domestic animals, or humans. Coliforms of human origin in stormwater are typically caused by malfunctioning on-site sewage disposal systems, although illegal wastewater connections to stormwater pipes can also be a problem in certain areas. Sewage treatment plant outfalls and discharges from boats also deliver human sanitary wastes or treated effluent, and associated coliform loads, to the waters of the Sag Harbor Cove/Bay Complex.

Wildlife can also be a major source of coliform bacteria to coastal waters, especially in settings such as Sag Harbor Bay and the Sag Harbor Cove Complex, which have a rich native fauna. Fecal wastes from wildlife present in upland areas can be carried to surface waters in stormwater flow. Upland habitat areas adjacent to the shoreline can be a significant source of coliforms, due to the short distance runoff has to travel before reaching the receiving waters. The direct discharge of fecal wastes from waterfowl within a water body can also be important.

Otter Pond supports large numbers of waterfowl throughout the year, especially during the winter months. During the 1994 winter waterfowl survey, nearly 200 ducks were observed on Otter Pond in one day. Waterfowl feeding is also a popular activity at Otter Pond. This concentration of waterfowl, whether a natural or man-induced occurrence, contributes significantly to the degradation of water quality.

Domestic animals also generate fecal wastes that can be delivered to coastal waters. The magnitude of the coliform input from this source is dependent upon the number of pets and livestock in a given watershed area, as well as the drainage characteristics of the watershed.

Although no quantitative analysis has been performed for the study area, the contribution of coliforms from wildlife is believed to significantly exceed the input from domestic animals, particularly when direct inputs from waterfowl are taken into consideration.

Although native wildlife communities would contribute coliforms to a coastal water body even if the watershed remain undeveloped, development invariably increases the bacterial loading versus the undeveloped condition. The presence of domestic animals makes some contribution to this increased pollution level; however, the most important factor is the alteration of stormwater drainage characteristics within the watershed. More specifically, development results in the replacement of permeable natural land surfaces (e.g., woodlands and meadows) with impervious surfaces (e.g., paved roadways, walkways, and building roofs). Even in areas cleared for development that are subsequently replaced with landscaping, the planted vegetation generally has a lower capacity for absorbing rainwater than the original vegetation; this is especially true with respect to turf areas. The overall consequence of these conditions is that development generally increases the amount of runoff generated on a given parcel of land. The augmented volume of runoff from developed properties results in an increase in the amount of coliform bacteria carried from the land surface to receiving waters.

Surface water quality data are collected and analyzed by the NYSDEC on a routine basis in shellfish growing areas, including the estuarine waters in and around the Village. A total of 17 sampling stations have been established by the NYSDEC throughout the Sag Harbor Cove/Bay Complex, including 16 stations west of the breakwater and one station to the immediate east of the breakwater. These waters have been designated by the NYSDEC as shellfish growing area No.19.

The water quality data collected by the NYSDEC, which consist of total and fecal coliform bacteria measurements, are used to determine the certification status of shellfish beds in accordance with the provisions of the National Shellfish Sanitation Program. Bacterial water quality at any given station is considered to be acceptable with respect to shellfish harvesting for direct human consumption if either of the following two conditions apply: (a) the median total coliform level is 70 MPN/100 ml or less and no more than percent of the samples exceed a total coliform level of 330 MPN/100 ml; **or** (b) the median fecal coliform level is 14 MPN/100 ml or less and no more than 10 percent of the samples exceed a fecal coliform level of 49 MPN/100 ml. The units MPN/100 ml are the most probable number of organisms per 100 milliliters of water sample, as determined by standard laboratory protocol.

Shellfish harvesting is restricted in portions of the Village waters, as depicted in Figure 5, due to actual or potential water quality deterioration. Based on the NYSDEC's review of coliform data collected during the five-year period between 1986 and 1991, as summarized in a report prepared September 22, 1991, 155 acres of underwater lands situated between the North Haven/State Route 114 bridge and the breakwater are presently classified as uncertified year-round. These waters include the Village anchorage area and the buffer zone of closure around the sewage treatment plant outfall. The single sampling station located in close proximity to the

STP outfall has consistently failed to meet the shellfish harvesting standards for both total and fecal coliform levels, under dry weather conditions as well as during significant rainfall events during the 1986 through 1991 sampling period.

Seasonal closures covering two separate areas totaling 28 acres are presently in effect in the Village area. These seasonally certified areas include underwater lands to the immediate west of the North Haven/State Route 114 bridge (which contains the Village A and B docks, Sag Harbor Cove West Marina, and Sag Harbor Cove East Marina) and the cove on the north side of the Redwood peninsula (known as the Redwood boat basin) in which the Ship Ashore Marina is situated. Both of these areas of seasonal closure are in effect as a precautionary measure due to potential contamination derived from vessel waste discharges. Shellfish harvesting can only occur in these waters between November 1 and May 14, when vessel activity is minimal. The seasonal restrictions assigned to these areas by the NYSDEC were based primarily on historic records of reduced water quality during the warmer months of the year.

A station in the southeastern corner of Upper Sag Harbor Cove, between Bluff Point and the outlet of Otter Pond, consistently failed to meet the standards for total and fecal coliform bacteria under both dry weather and wet weather conditions during the NYSDEC's 1986 to 1991 analysis period. On the basis of those data, the NYSDEC subsequently classified the affected area as closed to shellfish harvesting on a year-round basis. The causes of deteriorated water quality in this area are not fully clear, according to the NYSDEC. However, it is suspected that the discharge from Otter Pond is a significant source of coliform bacteria. As noted above, Otter Pond is known to support a large waterfowl population, which is a significant contributor of fecal matter. In addition, this portion of the shoreline is closely surrounded by older residences, which may be adding to pollution conditions via inadequately treated septic wastes. Poor mixing at the eastern end of Upper Sag Harbor Cove also may be a factor in elevated coliform levels. It should be noted that all NYSDEC shellfish harvesting restrictions, as discussed above, are based on 1995 conditions and are subject to change on an annual basis.

During the NYSDEC's 1986 to 1991 analysis period, all of the sampling stations located in Upper Sag Harbor Cove failed to meet the fecal coliform standard during wet weather conditions. However, except for the aforementioned single station in the southeastern corner of the cove, all of these stations were in compliance with the total coliform standard during wet weather conditions. As noted previously, bacterial water quality is considered to be unacceptable for shellfish harvesting only when both the total and fecal coliform criteria are contravened. Consequently, only the southeastern corner of the cove has been incorporated into the area of year-round closure. The remaining portions of the cove are designated for continued certification, except during emergency conditions such as extraordinary rainfall events.

During the period between October 1991 and July 1994 (i.e., subsequent to the preparation of the September 22, 1991 water quality report), the NYSDEC measured coliform levels during 14 separate sampling events. Although these data have not yet been incorporated into a new water quality report by the NYSDEC, a preliminary analysis was undertaken by Cashin Associates for

the purposes of the LWRP. The findings of that preliminary analysis indicate that coliform levels at four stations have contravened shellfish harvesting standards during the supplemental sampling period. These include the two stations located within the current, year-round uncertified areas adjacent to the STP outfall and at the head of Paynes Creek. The station in the southeastern corner of Upper Sag Harbor Cove, which defines an area that was closed year-round to shellfish harvesting on the basis of the NYSDEC's 1991 report, continues to contravene the shellfish harvesting standard according to the 1991 through 1994 data.

The NYSDEC's supplemental data indicate that the station located immediately east of the breakwater also contravened the shellfish harvesting standard for the sampling period between October 1991 and July 1994. However, this station was in compliance with the fecal coliform standard (and, therefore, is in compliance with the overall shellfish harvesting criteria) for the entire monitoring period, which comprises 44 separate sampling events between June 1986 and July 1994. This situation warrants continued close monitoring in the coming years, and may indicate that water quality mitigation measures are needed to prevent possible further closure of currently certified shellfish beds located east of the breakwater in Sag Harbor Bay.

The NYSDEC also conducts periodic shoreline and pollution source surveys as part of its duties under the National Shellfish Sanitation Program. The most recent survey was conducted between April and July 1988. Since development conditions have not changed substantially during the intervening seven-year period, the findings and conclusions of that report are still generally applicable today.

The 1988 pollution source survey indicated that water quality in shellfish growing area No. 19 may be adversely affected by septic effluent from residential dwellings, particularly those houses that are situated in close proximity to the shoreline. However, no evidence of actual system malfunctions was observed. It should be noted that the NYSDEC's study area includes some neighborhoods that lie outside Village waters (e.g., along Paynes Creek and the south shore of Ligonee Brook, and the southern portion of the North Haven peninsula).

Other pollution sources noted in the NYSDEC's report include the STP outfall, stormwater drains, road ends and boat launching ramps, and freshwater inputs from Ligonee Brook, Otter Pond, and other small streams and ponds. The six marinas surveyed at that time were all found to be located within year-round or seasonally uncertified areas. Waterfowl were observed throughout the area, particularly in Otter Pond.

(d) Groundwater

All of the public water supply for Sag Harbor Village is drawn from the upper glacial aquifer. The Suffolk County Water Authority (SCWA) supplies the entire Village with potable water supplies. Water is currently drawn from three wells at the SCWA well field located on Division Street, opposite Middle Line Highway. According to SCWA engineers, one older well was recently retired due to turbidity problems. Due to this fact, the SCWA can only marginally meet

demands during peak use periods in the summer. However, water restrictions are not required to meet the demand. A new well field was constructed further inland, off Sag Harbor Turnpike. This new well field supplies the Division Street well field and was put in service during the summer of 1996.

Groundwater resources become contaminated when water percolating through the soil carries pollutants downward through the soil and to the water table. Eventually, groundwater resurfaces, producing springs or ultimately discharges to streams, wetlands, or other surface waters. This under flow of groundwater also moves upward through the bottom lands of the surface water bodies. Percolation of groundwater through the sediment bed of the underwater lands will force any contaminants resting therein toward the water's surface. Groundwater underflow can contain sanitary system effluent, fertilizer leachate, and other contaminants.

In the Village of Sag Harbor, there are a number of toxic spill sites that have the potential to contaminate local groundwater resources and marine waters. These spill sites are described as follows:

- ***Rowe Industries, Inc.***

The Suffolk County Department of Health Services found contaminated wells in a small residential area along the Village's southern boundary at Ligonee Brook. A significant groundwater plume of organic contamination is flowing northwest towards, and has reached, its discharge boundary at Sag Harbor Cove. The plume, which is approximately 600 feet wide, 3000 feet long, and about 80 feet deep at its maximum depth, is entering the Cove along the shoreline to the west of the mouth of Ligonee Brook. The source of the contaminant has been determined to be an industrial plant located on the east side of the Sag Harbor-Bridgehampton Turnpike, between Carroll Street and Lily Pond Drive. The plume originated with a former industrial tenant, Rowe Industries, Inc., an electric motor manufacturing firm that used solvents for de-greasing.

The immediate action taken to provide the affected residents with an adequate and safe water supply was to extend the Suffolk County Water Authority's distribution system, and to install individual hookups to the mains. This work was completed in 1985. The Rowe site was listed on the Environmental Protection Agency's (EPA) National Priorities List in July 1987. In addition, the NYSDEC has placed this site on the list of Inactive Hazardous Waste Disposal Sites in New York State, and has assigned the site code number 152106 to this parcel. In 1988, a Consent Order was signed between the EPA and the present and former site owners to conduct a Remedial Investigation/Feasibility Study to evaluate the exact nature and extent of the contaminants present and to assess the resulting impacts on public health and the environment. The study determined that quantities of volatile organic compounds (VOCs, specifically: 1,1,1-trichloroethane, 1,1,2-trichloroethylene, tetrachloroethylene, and 1,1-dichloroethylene) were present in soils and the groundwater in high enough quantities to justify performing a remedial action. A preferred alternative was

selected after public comment, and in September 1992 a *Record of Decision* was issued to begin the remedial design and implement the proposed remedial action at the site.

The Remedial Action for the Rowe Industries Superfund site will remove VOCs from the groundwater by pumping it through a series of extraction wells, both on-site and in the surrounding area, which tap into the contaminant plume. The contaminated groundwater will be conveyed from the extraction wells by underground piping to air-stripping equipment located on the site. The on-site air stripper facility will be operated in accordance with the operations and maintenance plan to avoid any spills or clean them up should they occur. The treated groundwater will be discharged to Sag Harbor Cove via a pipe fitted with a diffuser at the outlet end. The diffuser will extend into the cove and be placed on the sediment surface. Treated water shall meet all applicable State water quality standards.

Soil excavation will also take place on the site to remove soil high in VOCs. Soils excavated from the contaminated portions of the site will be temporarily kept on-site within a designated area known as the "hot" zone. Berms, hay bales, and plastic liners will be used in this zone, as necessary, to prevent runoff into adjacent areas. The contaminated soil will then be sealed into hazardous waste drums, and transported to an EPA-registered RCRA facility using a vehicle specifically designed for such purpose. The vehicle will use roads that allow the transport of hazardous substances, along the designated transportation route. Established RCRA and U.S. Department of Transportation requirements will be complied with during the transportation of the drums to the RCRA facility.

According to the NYSDEC and USEPA, the responsible party (Nabisco Brands, Inc.) is currently working on the Remedial Design Report, design details and specifications for the extraction wells and air stripper. The removal of contaminated soils from the site was expected to begin in 1995, along with a soil gas survey to detect any contaminated vapors in the basements of surrounding homes (Wood, EPA, February 28, 1995; Bologna, NYSDEC, February 28, 1995). However, the contaminated soils were not removed according to that projection; such removal may occur in 1998.

Throughout the duration of the remedial action, surface and groundwater conditions will be monitored to ensure that pumping and discharge activities do not cause significant adverse effects to nearby surface water bodies and wetlands. Baseline studies will be conducted prior to the commencement of the remedial action. During remediation, monitoring of the condition of surface water, groundwater and the ambient air will be conducted to ensure that the project is protective of human health and the environment. Once the clean up action levels are achieved, the air strippers, diffuser, and above ground features of the project will be removed and the ground surface and bay bottom will be returned to conditions similar to that which existed prior to the remedial action (NYSDEC, 1993).

- ***Bulova Watchcase Factory***

The former Bulova Watchcase Factory Building is located on Washington Street. This NYSDEC - designated hazardous waste site (site code #152139) covers an area of approximately 2.3 acres. It was originally a textile plant that was converted to a watch manufacturer at the turn of the century. Watch manufacturing operations at the site included: tooling, pressing, forming, machining, soldering, polishing, solvent cleaning, and plating. The chlorinated solvents, 1,1,1-trichloroethane (TCA) and trichloroethene (TCE) which were used in intermediate cleaning operations have been detected in down gradient wells and in the unsaturated soils in the facility's courtyard. A soil gas survey has indicated that the courtyard is one source of contamination.

An air sparging/soil vent system was installed in 1994 to remove the volatile contaminants (TCA and TCE) from soils and groundwater on site. It's expected to take as many as five years to complete the clean up on-site.

A plume of organic compounds consisting primarily of 1,1,1-TCA and TCE is flowing towards Sag Harbor Cove in a northwesterly direction. Eventual discharge to the cove is likely to occur based upon the direction that the contamination plume is traveling. The NYSDEC is currently negotiating with Bulova to undertake a Remedial Investigation/Feasibility Study (RIFS) to define the zone of contamination off-site. According to the NYSDEC, there may be homes located within or down gradient of a suspect plume of contaminated groundwater which are not connected to the municipal water supply or which still operate private wells. The NYSDEC will be coordinating all clean up activities for the off-site plume with the New York State Department of Health and SCDHS, and may commence a private well survey in 1995 (NYSDEC, 1993; Miller, February 28, 1995).

- ***Sag Harbor-Bridge Street***

The Sag Harbor-Bridge Street (SHBS) site encompasses approximately four acres and includes the Long Island Fisherman (LIF) property, a Long Island Lighting Company (LILCO) gas storage facility, the Harbor Close Condominium complex, the Suffolk Electric Motor property and six adjoining private residences. In 1987, Suffolk County Water Authority employees reported skin irritation while excavating soil for a pipeline on Bridge Street opposite the LIF property. However, the affected individuals did not file any formal documented complaints. The properties included within this study area were investigated by the Village of Sag Harbor, EPA, SCDHS and NYSDEC; only the LIF property was placed on the New York State Registry of Inactive Hazardous Waste Sites (NYSDEC site code #152126).

The LIF property was formerly used for industrial and commercial purposes, including flexible magnet manufacturing and newspaper publishing during 1967 through 1988. A coal

gasification plant was operated on the LILCO property between 1859 and 1929. The plant included two gas storage tanks, two purifying houses, a crude oil tank, and several other production buildings. LILCO subsequently converted the property to a gas storage and distribution facility. No other properties within the SHBS site have been associated with industrial uses.

The environmental investigations conducted since the site was listed by the NYSDEC include the installation of six groundwater monitoring wells (three wells just east of Bridge Street and three wells surrounding an oil tank on the LIF property) and over 90 soil samples. Included among the soil contaminants found were volatile organic compounds, petroleum hydrocarbons, DDT, DDE and several metals. Contaminants found in the groundwater include: volatiles, basel neutrals, acid extractables, petroleum hydrocarbons and lead.

Through exhaustive sampling and monitoring, the NYSDEC's Division of Hazardous Site Control has concluded that the site contains contaminants. However, the level of soil contamination is low and reflective of background concentrations which are typical for highly urbanized areas. It remains questionable whether the volatiles detected in the monitoring wells are suspected to have originated at the Bulova Watchcase Factory, or from prior on-site activities.

It was initially found that the contamination found on the Sag Harbor-Bridge Street site met the NYSDEC criteria for hazardous waste. Then, after the results of a 60-day public notification period, during which time no significant controversy was voiced by the public, the NYSDEC delisted this site (Whitfield, NYSDEC, September 6, 1995). The site has, however, recently been placed back on the list.

- ***Mobil Oil Corporation Property***

The Mobil Oil Corporation property consists of two parcels which front on Bay Street. The parcel located on the north side of Bay Street was acquired by the Village in 1994. The property located on the south side of Bay Street is privately owned.

Three fuel oil storage tanks and three gas tanks originally occupied the northernmost 1.3 acre parcel located north of Bay Street at the intersection with Burke Street. The tanks were removed in the late 1980's. Subsequent to the tank removals, a petroleum spill (NYSDEC Spill No. 86-7632) was discovered by LILCO on March 16, 1987 during cable excavation work conducted along the southern property boundary. Groundwater monitoring wells were installed on-site and along Bay Street in 1987 and 1988. Petroleum hydrocarbons were identified in the groundwater monitoring wells on the southeastern portion of the property and a smaller area of contaminated soil was identified near the northern property boundary in 1989. Mobil Oil Corporation installed a groundwater remediation system which processed extracted groundwater through a carbon absorption method and discharged treated water into Sag Harbor Bay. In addition, Mobil Oil Corporation excavated approximately 4,000 tons

of contaminated soils to a depth of approximately 6 feet and utilized a soil burner to thermally treat the contaminated soils on-site. The treated soils were replaced back on the Mobil Oil site.

At the conclusion of the site remediation activities in November of 1992, the NYSDEC closed the file and placed this site on the "Inactive Spills" list. Although two wells on-site still contained very low levels of contamination, further remediation was not deemed feasible or necessary by the NYSDEC. The groundwater monitoring wells have been abandoned. The NYSDEC no longer conducts any monitoring of this site and has not placed any deed restrictions on the property (NYSDEC File Search, March 1, 1995; Gomez, March 6, 1995).

(e) Point and Nonpoint Pollution Sources

Point Sources

The term *point source*, as defined by the federal Clean Water Act, means "any discernable, confined and discrete conveyances, including, but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged." Point sources also include effluent discharges from sewage treatment plants and industrial waste treatment facilities.

Although diffuse runoff is generally treated as nonpoint source pollution, runoff that enters and is discharged from any conveyance described above (i.e., stormwater outfall pipes) is treated as a point source. Stormwater outfalls are a significant source of pollution affecting surface water quality of Sag Harbor Village waters.

Most point sources are subject to permit requirements of the Clean Water Act. In New York, the NYSDEC administers Clean Water Act permits under the State Pollution Discharge Elimination System (SPDES) permit system.

The principle point sources occurring in the Village of Sag Harbor include the sewage treatment plant, stormwater outfalls, and vessels and marinas. These are described below:

1. Sewage Treatment Plant

The Sag Harbor Village Sewage Treatment Plant (STP) is located on Bay Street. It is situated at the water's edge and discharges treated wastewater directly into Sag Harbor via a single ten-inch diameter, cast-iron outfall pipe which extends through the bulkhead seawall. Discharge goes to a sheltered cove located near the entrance of Sag Harbor. The STP outfall pipe may be above or below sea level, depending on the stage of the tide.

The service area for the Village STP covers approximately 50 acres of the more intensively developed VB Village Business District, and includes a large portion of the WF Waterfront District (see Figures 3 and 5). The entire sewage flow to the plant is either from domestic or commercial sources. A laundromat is the major generator. There are no industrial waste contributors. The Village is committed to providing service in this area and the more intensive land uses located, and to be located, therein. At present, no further extensions are envisioned.

The Sag Harbor STP performs secondary treatment on sewage and "extended aeration" on the effluent up to the point of discharge. The plant monitoring and reporting requirements are set forth in the State Pollution Discharge and Elimination System (SPDES) permit issued by the NYSDEC for the STP. Under the present conditions of the permit, the plant operator is required to continuously monitor the flow rate and record the ph level, settle able solids, dissolved oxygen (DO), residual chlorine and temperature of the effluent on a daily basis. Monthly monitoring of BOD5 (5-day biochemical oxygen demand), suspended solids, fecal coliform and total coliform must also be recorded. The current permitted design capacity of the Sag Harbor STP is 0.15 million gallons per day (MGD), and according to the plant operator, the facility has not experienced any recent problems meeting the actual flow rates or effluent constituent requirements set by the SPDES permit. Discharge Monitoring Reports (DMRs) which summarize the influent and effluent quantities and constituent concentrations, are sent monthly to the NYSDEC headquarters in Albany, the Region I NYSDEC office in Stony Brook, and the SCDHS in Farmingville, New York. The present SPDES permit expires on April 1, 1999 and is expected to be renewed with no additional conditions (Banarge, February 17, 1995; Ryder, March 3, 1995).

Initial construction of the Village sewage system took place between 1976 and 1977, and the STP was placed into service in December of 1977. Treatment of sewage influent is accomplished through a forced air system designed to deliver the necessary volume of oxygen required for aerobic bacteria to break down potentially harmful pathogens through blowers and diffusers in the aeration tanks.

Modifications to the plant's original capacity of 100,000 gallons per day have been made several times since it became operational in 1977. Between 1984 and 1985, a 50,000-gallon aeration tank was added to complement the facility's two existing 50,000-gallon aeration tanks, thus increasing the operating capacity of the STP to 150,000 gallons per day. During the same time, a 12,000-gallon settling tank was built. These modifications were necessitated by the construction of two condominium complexes that were brought into the district in that year.

After the 1984-85 modifications were completed, the STP's capacity was adequate to handle the normal demands of the district, including a 20,000-gallon per day allocation for the potential renovation of the Bulova Watchcase Factory building. This site has been proposed for redevelopment as a residential condominium complex. However, at several peak times

during the summer tourist season, the STP was unable to meet the sudden increase in demand and a moratorium was enacted prohibiting any additional hookups. A private consultant was contracted by the Village to perform a capacity analysis on the STP. Based on the findings of this analysis, the addition of a 25,000-gallon equalization tank and a 16,000-gallon aerated sludge holding tank were recommended and designed to augment the capacity of the STP during peak periods. These modifications were completed in September of 1994, just before the moratorium expired, and are utilized to ensure that the system will be available and functional to meet the demand during peak periods of use (Wagner & Ryder, February 16, 1995).

Federal and State water quality standards have required all publicly-owned treatments works (POTW) discharging into navigable waters of the United States, or its possessions, to be provided with "best practicable waste treatment technology," which has come to mean secondary treatment. As discussed above, Sag Harbor's sewage treatment plant provides secondary treatment with extended aeration to improve the treatment process. This means that effluent is aerated before it goes into the harbor. The plant runs at about a 95 percent removal rate for BOD, suspended solids, and total and fecal coliforms.

Outside the Village sewerage district, property owners are required to provide on-site sewage disposal systems (OSDSs) for developed parcels. These systems are subject to regulation under the Suffolk County Sanitary Code standards and procedures as administered by the Suffolk County Department of Health Services.

Boat pump-out facilities are located at the Sag Harbor Yacht Club and Marine Park. A mobile pump-out is also available for use. In addition, there are two Town of Southampton pump-out vessels.

Pollutant loadings from the sewage treatment plant include oxygen-demanding substances, viruses, bacteria, nutrients, suspended oils, heavy metals and organic chemicals.

2. *Stormwater Outfalls*

Stormwater outfalls are another significant point source of pollution affecting surface water quality in the Village. Stormwater discharges from upland areas in the Village can contribute pathogens, sediment loads, nutrients, road salts, metals, hydrocarbons and organic materials into adjacent surface waters. While not subject to federal or State permit requirements, stormwater outfalls are considered point sources. Federal and state stormwater regulations apply to municipal discharges of stormwater in cities with a population greater than 100,000. Areas with populations under 100,000, including the Village of Sag Harbor, will be subject to regulation in the next few years. Storm drains located in the Village are shown on **Figure 5**.

This category of point source pollution also includes the localized impact resulting from runoff that is directed to surface waters via culverts, streams or tidal inlets. A culvert located under John Street directs runoff to the tidal creek and salt marsh that connects to Upper Sag Harbor Cove. A culvert that passes under Jermain Avenue carries runoff into Otter Pond and its associated fringing wetlands. Another culvert is located at Bay Street and Rysam Street which directs stormwater runoff directly into the Marine Park boat basin, and ultimately Sag Harbor. Culverts are also located at Haven's Beach and under Redwood Road and Main Street. Tidal inlets are located at Little Northwest Creek, Haven's Beach, Otter Pond, and Ligonee Brook. These are shown on **Figure 5**.

3. *Vessels and Marinas*

Vessels contribute to nonpoint source pollution and affect surface waters within the Village. Federal regulations for vessels are generally standards for Marine Sanitation Devices (MSD's). Counts have been taken that have shown more than 800 boats entering Sag Harbor and Sag Harbor Cove on a daily basis. There is capacity for approximately 815 vessels (docks, slips and moorings) in those water bodies. Recreational boating as a nonpoint source of pollution to surface waters is discussed below.

Marinas are considered another source of pollution within the Village of Sag Harbor, and are subject to federal and State stormwater regulations under permits for industrial activities. The primary source is the general intensity of harbor use accompanied by debris, greases, and cleaners. Marinas can contribute significantly to the concentration of pollutants in the water column, bottom sediments, and tissues of benthic organisms living within the limits of the marina. The presence of a marina, however, is not necessarily an indicator of poor water quality. In fact, many marinas have good water quality. Despite this, they may still have an impact on the natural resources found at the site.

The following marinas are located in the Village of Sag Harbor (**see Figure 4**):

Ship Ashore Marina, Redwood Road	Outer Sag Harbor Cove
Sag Harbor Cove West Marina, West Water Street	Outer Sag Harbor Cove
Village **A** and **B** Docks, West Water Street	Outer Sag Harbor Cove
Sag Harbor Cove East Marina, West Water Street	Outer Sag Harbor Cove
Village Marina/Long Wharf, Bay Street	Sag Harbor
Waterfront Marina, Bay Street	Sag Harbor
Village Marina Park and Boat Basin, Bay Street	Sag Harbor
Sag Harbor Yacht Club, Bay Street	Sag Harbor
Sag Harbor Yacht Yard, Bay Street	Sag Harbor

Nonpoint Sources

Nonpoint source pollution is the pollution of waters caused by runoff as it moves, picks up and carries away natural pollutants and pollutants resulting from human activities and development, and finally depositing them into lakes, rivers, streams, wetlands, coastal waters and groundwater. By contrast to point sources, nonpoint sources include stormwater sheet flow runoff (i.e., unchannelized flow from paved surfaces, buildings and construction sites), and infiltrated groundwater flows from cesspools and septic tanks. Fertilizers and pesticides also contribute nitrogen and organic compounds to ground and surface waters. Technically, the term "nonpoint source" is defined to mean "any source of water pollution that does not meet the legal definition of *point source* under the Clean Water Act. In contrast to point sources, nonpoint sources are not subject to federal and State permit requirements.

Many categories and subcategories of nonpoint sources affect coastal waters. The U.S. Environmental Protection Agency, pursuant to 1991 amendments to the Coastal Zone Management Act, has developed guidance to focus on five major categories of nonpoint sources that impair or threaten coastal waters nationally: (1) agricultural runoff; (2) urban runoff (including developed and developing areas); (3) silviculture (forestry) runoff; (4) marinas and recreational boating; and (5) hydromodification and wetlands (channelization and channel modification, dams and stream bank and shoreline erosion, wetlands and riparian areas). Full description of EPA guidance for coastal nonpoint sources can be found in EPA's publication entitled Guidance Specifying Management Measures for Sources of Non-Point Pollution in Coastal Waters (U.S. EPA January 1993).

Nonpoint sources of pollution affecting coastal waters and tributaries within the Village fall within the following three EPA categories: urban runoff; marinas and recreational boating; and, hydromodification and wetlands. Overlapping areas between point sources and nonpoint sources occur with respect to urban runoff, marinas and recreational boating. While stormwater discharges and marinas are subject to point source regulation under the State and federal stormwater regulations, the factors contributing to the sources are largely nonpoint in nature. For example, while a stormwater outfall into Sag Harbor is a discernable and direct point source, the contributing areas and sources are extremely diffuse and are considered to be nonpoint.

Accordingly, water pollution from urban runoff, marinas and recreational boating activities needs to be addressed in both the point and nonpoint source management programs.

1. Urban Runoff

Urban runoff is generally the single most significant nonpoint source of pollution, especially bacterial pollution, affecting the fresh surface waters and the near shore marine environment. The elevated coliform counts associated with urban runoff have led to a ban on the harvesting of shellfish in approximately one-fourth of the most productive portions of all Long Island bays.

The following list describes the principal types of pollutants found in urban runoff, and their potential adverse effects.

- *Sediment* -- Suspended sediments generally constitute the largest mass of pollutants delivered to surface waters. Sediment has both short and long-term impacts on surface waters including increased turbidity, reduced light penetration, decreased abundance of submerged aquatic vegetation, impairment of recreational fishing resources, shoaling of waterways and navigation channels, and degradation of aesthetic quality.

- *Nutrients* -- Excessive nutrient loadings can result in eutrophication and depressed dissolved oxygen, which can adversely affect a variety of aquatic organisms.

- *Oxygen demanding substances* -- Decomposition of organic matter (e.g., leaves in stormwater runoff) by microorganisms can severely depress dissolved oxygen levels.

- *Pathogens* -- Urban runoff typically contains elevated levels of pathogenic organisms. The presence of pathogens may result in water body impairments such as shellfish bed closures, closed beaches, and contaminated drinking water (in freshwater bodies).

- *Road Salts* -- Snow runoff produces high salt and chlorine concentrations at the bottom of ponds, streams and other freshwater bodies. Not only can this condition prove directly toxic to benthic organisms, but it also reduces crucial vertical mixing necessary for dissolved oxygen replenishment and pollutant dispersal.

- *Hydrocarbons* -- Petroleum hydrocarbons are derived from oil products. The source of most such pollutants found in urban runoff is vehicles, such as engine drippings, and the disposal of used oil in storm drains. High concentrations of hydrocarbons are toxic to aquatic organisms and can accumulate in bottom sediments.

- *Heavy metals* -- Heavy metals such as copper, lead, and zinc are generally the most prevalent nonpoint chemical pollutants found in urban runoff. High metal concentrations

may bio accumulate in fish and shellfish and impact beneficial uses of affected water bodies.

The sources of urban nonpoint pollution affecting surface waters in the Village's local waterfront revitalization program area include the following:

- *Runoff from developed areas* -- Sag Harbor is a largely developed community, with few opportunities for additional development. Approximately 95 percent of the Village is developed. Developed areas can contribute fertilizers and pesticides from lawn management activities as well as fecal matter from pet wastes, among other pollutants.

- *Runoff from construction sites* -- Sediment derived from the erosion of soils that are stripped of vegetation during construction activities can be carried to surface waters. On a per unit area basis, construction sites are by far the greatest source of sediment delivered to receiving waters.

- *On-site disposal systems* -- Surface water quality impacts are caused by failed or inadequately maintained on-site septic systems, and by systems that are improperly sited (e.g., in areas of shallow groundwater, or too close to surface water bodies). Currently, only a limited portion of the LWRP area is serviced by sanitary sewers and the Village STP including a small portion of Bay Street, Long Island Avenue and West Water Street, discussed further in Section 2.3C(b).

- *Roads, highways and bridges* -- Stormwater runoff collected from these hardened surfaces discharges into coastal waters and tributaries. The following road endings (or unnamed extensions from another street) located in the Village contribute direct runoff into the surface waters of Otter Pond, Upper Sag Harbor Cove, Little Northwest Creek, and Sag Harbor Cove: White Street, John Street (unnamed extension), Wilson Place, Harding Terrace, Cove Road - North, Dartmouth Road - North, Amherst Road, Notre Dame Road, Yale Road - South (see Figure 5). Although these road ends may impart localized impacts to surface water quality, these same structures serve to benefit the residents of Sag Harbor as public access areas. Stormwater, in the form of sheet runoff, also flows directly into Outer Sag Harbor Cove from West Water Street, in the vicinity of Sag Harbor Cove West Marina and the Village Docks. Additionally, the Long Wharf and the North Haven/State Route 114 Bridge contribute roadway runoff directly to the surface waters of the local waterfront revitalization area.

  Heavy rains often result in flooding in the area of Rysam, Burke and Bay Streets. Stormwater is currently being handled through a drain on Rysam Street, where it then flows through a pipe under Bay Street and into the bay. Stormwater also enters a curb drain on Bay Street and then runs through the (same) pipe beneath Bay Street. The existing system is often inadequate in handling larger volumes of water and lacks

primary siltation devices which could trap/filter pollutants before the water empties into the bay.

- *Miscellaneous sources* -- Contaminants are introduced into surface waters via various activities in households, commercial facilities, and landscaping services, including, but not limited to: improper storage, use and disposal of hazardous chemicals; littering; excessive application of fertilizers, herbicides and pesticides; improper disposal of leaves and yard trimmings; and pet excrement.

2. *Marinas and Recreational Boating*

As discussed above, pollutants from marinas and recreational boating may enter the water through discharges from boats, spills, maintenance areas, stormwater runoff and vessel operation. The types of pollutants and associated impacts from marinas and recreational boating include the following:

- *Organic materials* -- The organic materials discharged from recreational boats require dissolved oxygen to decompose. The accumulation of these substances in sediments will result in a sediment oxygen demand that can reduce the level of dissolved oxygen in the overlying water column.

- *Toxics* -- Activities associated with boatyards and marinas often contribute heavy metals to the water column and bottom sediments. Metal-laden compounds are widely used in boat maintenance and repair operations. Lead is used in fuel additives; ballast and bilge discharges cause its release. Arsenic is used in paint pigments. Copper and tin are used in antifoulant paints. Other metals (i.e., iron and chromium) are used in the construction of marinas and boats. Heavy metals adhere to fine-grained sediment particles. Contaminated sediments become resuspended into the water column during dredging operations.

- *Petroleum hydrocarbons* -- Concentrations of hydrocarbons in marina waters are often attributed to untidy refueling activities and bilge or fuel discharges from boats. Many hydrocarbon compounds are toxic to aquatic organisms and can accumulate in bottom sediments.

- *Pathogens* -- Boats can be a significant source of fecal coliform bacteria in areas with high vessel density and poor tidal flushing. Fecal coliform levels in marinas and mooring areas can become elevated during periods of high boat occupancy and usage. Consequently, areas that have high concentrations of vessels are often closed to shellfish harvesting during the summer boating season as a precautionary measure.

- *Disruption of sediment and habitat* -- Boat operation and dredging can destroy marine habitat, resuspend bottom sediments and nutrients, increase turbidity, and reduce the

oxygen content of the water. In addition, boat wakes can destroy wetlands, increase shoreline erosion, and impact biological communities and habitats.

As discussed above, vessels docked, moored, anchored or otherwise operating on the waters of Sag Harbor are potential contributors of pollution and can adversely affect water quality, fish and wildlife habitats, and human health. During peak periods of the boating season, more than 800 vessels have been recorded entering Sag Harbor and Sag Harbor Cove daily, and accommodations for approximately 750 vessels are available for overnight stays throughout the harbor.

The current methods for measuring coliform levels in surface waters are geared toward detecting the presence of bacteria derived from relatively homogeneous and steady contamination sources, such as stormwater runoff. These methods are not adequate to detect the presence of unsafe coliform levels derived from intermittent and concentrated sources, particularly vessel waste discharges. Consequently, the U.S. Food and Drug Administration's (FDA) present shellfish sanitation protocol does not include the direct measurement of coliform levels in areas of concentrated boating activity (e.g., anchorages, mooring areas, and marinas). Instead, the FDA requires that the State shellfish control agency (i.e., NYSDEC) perform a dilution analysis which considers the following factors and assumptions:

(a) the number of boats in a mooring or anchorage area;
(b) the percentage of these boats that will discharge untreated wastes to surrounding waters;
(c) an assumed occupancy rate of two persons per boat;
(d) an assumed discharge rate of $2x10^9$ fecal coliforms per person per day;
(e) an assumption that wastes are completely mixed within the water available in and around the mooring or anchorage area; and
(f) under the specifications of this FDA guideline, closure of a shellfish bed that is used for boat mooring/anchoring would be required if the theoretical calculated fecal coliform concentration exceeds 14 MPN/100 ml (where MPN/100 ml is the most probable number of organisms per 100 milliliters of sample).

It is important to note that this methodology is not designed to compute actual coliform concentrations but, rather, is intended to assess the maximum potential level of contamination that could be contributed by the boats in a given area. Thus, in general, the degree of actual water quality deterioration will not be as severe as is indicated by the coliform level calculated by means of the dilution analysis. Furthermore, in cases where the dilution analysis indicates a marginal exceedance of the 14 MPN/100 ml criterion (which would compel the NYSDEC to close the area to shellfish harvesting), the actual coliform level may be in conformance with this criterion.

The NYSDEC has identified two specific areas in the harbor complex that are of concern with regard to the potential contamination of shellfish beds due to seasonal water quality degradation and/or vessel waste discharges: the easterly portion of Outer Sag Harbor Cove, and the waters in the Redwood boat basin. Both of these areas are used on a seasonal basis for high density, overnight anchoring, especially during summer holiday weekends. The NYSDEC has indicated that concentrated sewage discharges from vessels in these areas have the potential for the localized contamination of the underlying shellfish beds. The NYSDEC believes that the potential exists for tainted shellfish to reach market if these areas are harvested during or immediately after a busy period of vessel activity during which boats discharge untreated wastewater into the bay.

The Village of Sag Harbor may wish to pursue a vessel waste *no-discharge zone* designation within the Sag Harbor Cove Complex, west of the breakwater, and will coordinate with the NYSDEC and Towns of East Hampton and Southampton. The advantage of this designation would be to prohibit the discharge of vessel sewage within the bounds of the harbor zone and give jurisdiction to local officials for the enforcement of laws governing discharges and vessel inspections. Although federal law prohibits the discharge of untreated sewage within three miles of shore, treated sewage may be discharged inside this boundary and the United States Coast Guard has the sole responsibility for enforcement. Lloyd Harbor and Huntington Harbor are State-designated vessel waste *no-discharge zones*. The Environmental Protection Agency (EPA) determined, based on the State and Town petition, that there are sufficient facilities to support designation as *no-discharge zones*. Pursuant to the State Navigation Law, once EPA makes that determination based upon the State's petition, the water-body is automatically, by State Statute, a State-designated no-discharge zone. The Village would enact a local law, should it be designated.

The Village presently maintains two pump-out facilities (one stationary and one mobile) which are available free of charge to any vessel operator. The Harbormaster must be contacted for use of the mobile facility. The maximum wait to use the pump-out is approximately 30 minutes; however, an appointment can be set up in advance to use the facility. The stationary pump-out is located on the bulkhead at the Marine Park facility. Use of this device requires that the vessel be docked in the adjacent slip in order to gain access. Collection at this location is constrained due to the hose length and by the availability of dockage. The Village's mobile pump-out device is located on a truck, therefore, it has a broader scope of usage. This device is utilized at all Village facilities and at the private marinas throughout the *Waterfront Functional Area*. The Town of Southampton has purchased five 22-foot, 300-gallon capacity, pump-out boats. These boats will pump out any boat located in Town waters that hails them on the designated marine radio channel (i.e., channel 73). One of those Town pump-out boats docks at the Village A Dock. Vessel waste collection has increased since this unit has become available in Village waters. Hose length is no longer a constraining factor in waste collection.

All of the vessel sewage collected by the two Village pump-out facilities are presently stored in an underground tank. These wastes are now removed by a licensed private carter and trucked to the Suffolk County Scavenger Waste Facility at Bergen Point, in the Town of Babylon, for treatment and disposal.

3. Hydromodification and Wetlands

Hydromodification activities affect streams and water bodies. They can result in the loss of wetlands and riparian areas adjacent to waterways and may also exacerbate nonpoint source pollution problems. The following are the major categories of effects and examples of associated problems:

- *Changed sediment supply* -- One of the most significant changes in water bodies associated with hydromodification and loss of wetlands and riparian areas is increased sedimentation. Stream side development, loss of wetland and natural areas adjacent to water bodies, and increased stream bank erosion due to augmented by stream flows will increase sediment loads delivered to coastal waters. These changes in sediment supply can cause problems such as increased shoaling of near shore areas and channels, impacts on benthic organisms, increased water column turbidity, and further loss of wetlands.

- *Accelerated delivery of pollutants* -- Alterations to streams, increased runoff and loss of riparian buffers leads to increased pollutant loads and an accelerated rate of delivery of pollutants to downstream sites.

- *Changes to ecosystems* -- Hydromodification and loss of riparian areas can lead to the loss of in stream and wetland habitats, and the loss of ecosystem benefits such as wildlife corridors, migration routes and suitable areas for reproduction and growth.

- *Loss of natural pollution filters* -- Wetlands and riparian areas provide various benefits, including water quality improvement, aquatic habitat, stream shading, flood attenuation, shoreline stabilization, and groundwater exchange. Loss of wetlands and riparian systems allows for a more direct contribution of nonpoint pollution sources to receiving waters, decreased interception and filtering of surface runoff, and the loss of natural processing and filtering of nutrients and other pollutants.

In the Village of Sag Harbor, the following conditions related to hydromodification have been noted:

- the low-lying area in the vicinity of Spring Street and to the west of Long Island Avenue was occupied by a tidal wetland at one time, but is now developed and prone to flooding;

- Otter Pond has had most of its protective fringe removed. The area to the east of the pond still provides filtration and stabilization for the pond;

- the wetland fringe along Sag Harbor Bay is mostly gone; and

- the addition of dredge spoil fill at Haven's Beach and vicinity has resulted in the loss of wetlands.

C. INFRASTRUCTURE

(a) Public Water Supply

All of the public water supply for the Village is drawn from the upper glacial aquifer. The Suffolk County Water Authority (SCWA) supplies the entire Village with potable water supplies. Water is currently drawn from three wells at the SCWA well field located on Division Street, opposite Middle Line Highway. According to SCWA engineers, one older well was recently retired due to turbidity problems. Due to this fact, the SCWA can only marginally meet demands during peak use periods in the summer. However, water restrictions are not required to meet the demand. A new well field was constructed further inland, off Sag Harbor Turnpike. This new well field supplies the Division Street well field, and was put in service during the summer of 1996.

Groundwater and water quality are discussed further in Section 2.3B(d).

(b) Sewage Disposal

Sanitary wastes generated in the Village of Sag Harbor are disposed of in one of two ways: at the Village of Sag Harbor Sewage Treatment Plant, or through on-site sewage disposal systems. The Village Sewage Treatment Plant (STP) is located on Bay Street in the Village of Sag Harbor. The plant is situated at the water's edge and discharges secondary-treated wastewater directly into Sag Harbor via a single outfall pipe which extends through the bulkhead seawall. Discharge goes into Sag Harbor, which is sheltered by the breakwater.

The service area for the Village STP covers approximately 50 acres of the more intensively developed VB - Village Business District, and includes a large portion of the WF - Waterfront District (see Figures 3 and 5). The entire sewage flow to the plant is either from domestic or commercial sources. A laundromat is the major generator. There are no industrial waste contributors. The Village is committed to providing service in this limited area and the more intensive land uses located, and to be located, therein. At present, no further extensions in this area are envisioned.

Outside the Village sewerage district, property owners are required to provide on-site sewage disposal systems (OSDSs) for developed parcels. These systems are subject to regulation under the Suffolk County Sanitary Code standards and procedures as administered by the Suffolk County Department of Health Services. Sewage treatment and disposal is discussed in greater detail in Section 2.3B(e).

(c) Traffic Circulation, Parking and Mass Transportation Services

The Village of Sag Harbor, like many small seaport communities that were established before the automobile, suffers from a roadway system that was not designed for the efficient combination of through traffic, local traffic, and safe pedestrian traffic. The center of Sag Harbor's street system is "Long Wharf," with principal roadways radiating outward. The Village's early founding is also evident in the narrow local streets in the vicinity of the business center.

There are two major routes into the Village of Sag Harbor. Both roadways are minor arterial highways. Bridgehampton - Sag Harbor Turnpike (Suffolk County Route 79), known as Main Street within the Village, runs north from Montauk Highway (NYS Route 27) in Bridgehampton, to the south end of Long Wharf, where it terminates. East Hampton-Sag Harbor Turnpike (NYS Route 114), also known as Hampton Street in the Village, runs in a northwesterly direction from Montauk Highway in East Hampton to intersect with Main Street. NYS Route 114 continues north along Main Street for a short distance, crossing over the North Haven bridge through the Village of North Haven to Shelter Island. A secondary route into the Village is Noyack Road (Suffolk County Road 38), which is considered a major collector roadway. CR 38 originates at Montauk Highway in Southampton, where it is known as North Sea Road, and generally runs in a northeasterly direction to Sag Harbor, where it intersects Brickiln Road. Sag Road/Madison Street and Division Street are collector roadways that run north to Sag Harbor Village from Montauk Highway in the eastern portion of the Town of Southampton. The remainder of the streets in the Village are best described as local streets providing access to abutting properties and accommodating local traffic circulation.

As Sag Harbor has become a more popular place for living and for recreation, vehicular traffic has been on the increase. This problem is further complicated by the fact that traffic uses Noyack Road and NYS Route 114 as a bypass for heavy traffic congestion along Montauk Highway during the summer season. Year-round and summer residents in the Village, as well as tourists, other than those arriving by ferry, are vehicle-dependent. The Village center is small and only a limited amount of land area is available for parking. In addition, because of the historic layout of the streets, many are narrow and unsuited for heavy traffic volumes or parking. Heavy traffic also impacts architectural elements of historic structures (e.g., foundations of structures loosen). Since development in Sag Harbor Village occurred before the automobile, the storage of these vehicles was not provided for in the business center. Some diagonal on-street parking exists along Main Street, with a two-hour limit. Additional municipal parking on Long Wharf is limited to three hours. However, there is a greater demand during peak periods than these areas can provide for. As a result, the Village has provided additional off-street parking areas in recent years. There are currently, approximately, 480 off-street parking spaces in the Village of Sag Harbor.

The 1986- LWRP contained a number of recommendations for the improvement of parking and pedestrian circulation. The additional parking lots provided by the Village were in

response to the need expressed in the LWRP. Other recommendations that were acknowledged include the installation of a continuous sidewalk on the north side of Bay Street, connecting Marine Park with the Long Wharf and Main Street. The recommended improvements for the sidewalk on the south side of Bay Street, or for the sidewalk between Division Street and Main Street, were not implemented. As a part of the construction of a parking lot for the Post Office, a pedestrian walkway was installed that extended from Long Island Avenue, in the vicinity of the Post Office, to Meadow Street to provide access to the off-street parking lot located in this area. Recommended sidewalk improvements along other portions of Long Island Avenue in the vicinity of the waterfront, were not undertaken.

A Parking and Circulation Study, prepared for the Village of Sag Harbor in March of 1993, included a variety of recommendations for alleviating some of the traffic problems occurring in the Village. These included improved signage indicating the location of municipal off-street parking to drivers unfamiliar with the area, flow control via strategically located one-way streets, and revised zoning regulations. Additionally, in 1999, the New York State Department of Transportation (NYSDOT) will replace the North Haven/Route 114 Bridge. The bridge carries NYS Route 114 over Sag Harbor Cove. The bridge is not considered historically significant, but is located next to the Sag Harbor Historic District. Different design alternatives are under consideration. Some involve the rehabilitation of the existing structure, while others involve the construction of an entirely new facility. Provisions to be included in any design include two-way bike lanes, extensive landscaping, pedestrian sidewalks with handicapped access ramps, and a positive stormwater drainage system. The NYSDOT representatives have stated that an extension of the bridge reconstruction project, to mitigate the congestion problems at the Main Street/Route 114/Long Wharf intersection, or to institute other traffic or pedestrian circulation improvements in this area, would be considered if the Village submitted a proposal. A *bridge committee* has been formed by the Village, in conjunction with the Village of North Haven, to discuss design elements of the bridge.

Within the small area that encompasses the VB - Village Business and WF - Waterfront Zoning Districts, planning efforts should emphasize careful integration of motorist and pedestrian needs for safety, convenience and comfort, yet strive to enable traffic to move through this area with as little difficulty as possible in an attempt to relieve congestion problems, especially during the peak summer tourist season. Traffic congestion, which in the past had been a problem only during the summer season, is now a problem year-round. Specific areas requiring attention include a deficiency of both on- and off-street parking; vehicular backups caused by both high volumes of vehicles entering the Village, and vehicles using the Village as an alternate route to points further east; and traffic delays caused by vehicle using the often over-taxed Main Street/Route 114/Long Wharf intersection. Resident complaints include increased air and noise pollution; building damage caused by vibrations from heavy vehicles, and safety concerns for pedestrians, bicyclists, and children.

In 1995, at the request of the Village Harbor Committee, a report was prepared by a local resident (M. Grosjean, February 1995) which examines traffic problems in Sag Harbor

Village. This report was based on subjective information gathered from local residents and citizen groups and other sources to document certain problems and conditions in the Village, and to provide solutions to these problems. The report recommends, among other things, the implementation of "traffic calming" techniques at three intersections and along three major roadways in the Village to slow traffic flow, reduce congestion, and improve pedestrian circulation. These techniques include: the installation of landscaped islands, planted medians, bicycle lanes, and raised crosswalks; the narrowing of traffic lanes to provide more on-street parking and slow traffic; and, extending sidewalks at intersections.

The Grosjean report offers insight into certain concerns that should be examined by the Village, and the perspective provided by the local residents involved in its preparation deserves consideration (the report is available for review from the Village Harbor Committee). However, since this report is not a technical study, the recommendations it contains should not be implemented without further investigation as to how these traffic calming methods and other recommended mitigation measures would impact the overall flow of traffic in the Village. A professional analysis of how such techniques could be utilized and what impacts may result from their implementation is required.

Public Transportation

Public Transportation within the Village of Sag Harbor is accommodated by two bus routes, run by Suffolk County Transit. One, Suffolk Transit Route S-92, runs from East Hampton to Orient Point via Riverhead. It reaches north to Sag Harbor on the Bridgehampton - Sag Harbor Turnpike, CR 79. There are nine trips daily each way, westbound and eastbound. The second bus route, 10A, runs from South Ferry in North Haven through North Sea to Southampton Village and terminates at Southampton College. At Sag Harbor there are five trips in each direction, six days a week (there is no service on Saturdays). Additionally, a private jitney service operates year-round providing daily round-trip bus service from Manhattan to Sag Harbor, with stops in Manorville, Westhampton, Quogue, East Quogue, Hampton Bays and Sag Harbor. Service includes connections to both New York City airports, as well as MacArthur Airport in Islip. The jitney stop is located in front of Village Hall on Main Street.

The Montauk Branch of the Long Island Railroad (LIRR) serves the Sag Harbor area with stations in nearby Southampton, Bridgehampton, and East Hampton. Direct connection to the Village of Sag Harbor via the above bus lines is available from the Southampton railroad station. Railroad service terminates at Pennsylvania Station in New York City to the west, and at the Montauk railroad station in the east.

During the summer months the New England Steamship Lines runs a passenger ferry from Haddam, Connecticut that docks at the northern end of the Long Wharf in Sag Harbor. Every day at approximately noon, the "Yankee Clipper" (with a capacity of 500 persons) docks at the wharf; passengers have three hours before their return home.

D. FISH AND WILDLIFE

(a) Existing Conditions

The Village originally consisted of a broad low-lying expanse of meadow and marshland, extending in some areas a considerable distance south from the shoreline, surrounded by a series of low hills further back from the water. Today... "much of the lower, or northerly portion of the Village, consists of filled in marshland with some vestigial wetland remaining, particularly along the easterly extremity of the waterfront between the business district and Little Northwest Creek." The southern portion of the Village is higher ground than the northern portion, creating a natural drainage basin which drains towards the low-lying area adjacent to the waterfront.

Wetlands within the Village of Sag Harbor have been classified by the NYSDEC as either tidal or freshwater, based on the vegetation they support. The type of vegetation is largely determined by the salinity of the surface water and the degree of inundation. The depth of water and the predominance of certain vegetative species serve as indicators to help distinguish between different types of wetlands.

Tidal Wetlands

The tidal wetlands found within the Village of Sag Harbor, as shown on Figure 6, consist of the following four, major types: intertidal marsh (IM); high marsh (HM); coastal shoals, bars and mudflats (SM); and littoral zone (LZ). These wetland types are described as follows.

- Intertidal Marsh - An **IM** classification is assigned to those wetland areas located between average high and low tide levels, and within which smooth cordgrass (*Spartina alterniflora*) is the predominant vegetative species. IM areas are the most biologically productive of all wetlands categories, and have high values for flood and sediment control. Even small patches of IM wetland are considered by the NYSDEC to be of critical importance.

- High Marsh - **HM** areas are normally the uppermost tidal wetland zone, and are typically dominated by salt meadow cordgrass (*Spartina patens*) and salt grass (*Distichlis spicata*). The upper limit of this zone is often occupied by marsh elder (*Iva frutescens*) and groundsel bush (*Baccharis halimifolia*). The common reed (*Phragmites australis*) may also be present, especially in areas that have been disturbed by human activities.

- Coastal shoals, bars and mudflats - **SM** wetlands are those areas lacking smooth cordgrass that are covered by water at high tide and are exposed or covered by less than one foot of water at low tide. Sediment texture can vary significantly in SM areas, from mud flats in many protected embayments to sandy shoals in areas subject to wave and current action.

- Littoral zone - **LZ** wetlands occur in tidal waters of average depth less than six feet that do not meet the requirements for classification under any of the other wetland categories. SM and LZ areas exhibit extreme variability in their contribution to biological productivity and other tidal wetland values, but are generally less valuable than IM or HM areas in this regard.

Tidal wetlands perform a variety of useful functions, including the following:

- Marine Food Production - tidal wetlands are among the most productive ecosystems in the world, having a high concentration of nutrients.

- Wildlife Habitat - tidal wetlands are important as breeding, nesting, and feeding grounds for a variety of invertebrates, fishes, birds, and mammals.

- Flood and Storm Control - tidal wetlands serve as a natural buffer, protecting beaches and developed upland from storm tides and absorbing wave damage.

- Recreation - tidal wetlands provide many opportunities for hunting, fishing, bird watching, and study of natural history and ecology.

- Pollution Control - tidal wetlands are capable of assimilating pollutants and chemically and biologically converting them into useful nutrients.

- Sedimentation - tidal wetlands absorb silt and organic matter, which otherwise would obstruct channels and harbors.

Eelgrass (*Zostera marina*) is an important type of marine vegetation that is found in some portions of the waters adjacent to the Village. Due to the attenuation of solar radiation by the water column, the distribution of this species in turbid estuarine waters is typically limited to depths of ten feet or less. Since this extends beyond the six-foot depth limit of the littoral zone according to the NYSDEC's regulatory definition, eelgrass beds can be found in areas that are not officially designated by the State as tidal wetlands. Eelgrass does not grow well in areas of shoals and flats that become uncovered during low tides, due to the plant's susceptibility to desiccation and heat stress under conditions of air exposure and elevated temperatures.

The primary ecological functions served by eelgrass include the following:

- provides a large portion of the primary production that forms the base of the estuarine food chain;

- provides nursery areas, and shelter and protection for various species of finfish and invertebrates, many of which are of recreational or commercial importance;

- provides surfaces for the attachment of various epiphytes and epifauna, which increases species diversity and abundance compared to areas that lack vegetation;

- provides an important habitat for the bay scallop (*Argopecten irradians*), which historically has been an important commercial resource in the Peconic Estuary;

- is involved in nutrient cycling, since these plants absorb nutrients (e.g., nitrogen and phosphorus) from the surrounding environment, and re release those nutrients through organic decay;

- stabilizes bottom sediments, even through the enormous stresses of hurricanes and northeast storms; and

- slows currents and waves in the near-bottom zone and, thereby, promotes sedimentation of particles from the water column, inhibits re-suspension of previously settled particles, and moderates water column turbidity.

Macro algae, which are commonly referred to as "seaweeds," also serve most of the ecological functions listed above. However, there are important distinctions. Although many species of macro algae become attached to hard bottoms (e.g., rocks, shells), these plants lack true roots or rhizome systems and, therefore, provide no stabilization to the substrate. In addition, the special association of bay scallops with marine vegetation is specific to eelgrass meadows, and does not generally apply to macro algae beds.

In the late summer and early fall of 1994, an initial survey of submerged aquatic vegetation (SAV) throughout the Peconic Estuary system was conducted as part of the ongoing research for the Peconic Estuary Program (Cashin Associates, P.C., draft report to the Suffolk County Department of Health Services, February 1995). Direct field observations were made at a total of 214 stations, with supplemental information derived from the interpretation of aerial photographs that were shot in the spring and early fall of 1994. In field data were recorded regarding SAV species present, and SAV density and abundance measurements were made. Various physical parameters (i.e., water temperature, salinity, visibility, depth, and bottom sediment type) were also recorded.

Of the six field stations for the SAV Study, two in Sag Harbor Bay, three within Outer Sag Harbor Cove, and one within Inner Sag Harbor Cove --- all of which were visited in early October 1994 --- the two stations in Sag Harbor Bay contained moderately dense eelgrass meadows that extended in a relatively unbroken band from the east side of the breakwater to the mouth of Northwest Creek. The presence of eelgrass beds in this area was noted in the 1983 Natural Resources Inventory Update for the Sag Harbor Local Waterfront Revitalization Program (LWRP). Additional expanses of eelgrass beds occurred in adjacent waters, stretching along the eastern shore of Northwest Harbor, the northern shore of the Cedar Point

County Park property to Sammys Beach, the eastern side of the North Haven peninsula, and the easterly and southerly-facing shores of the Mashomack Preserve on Shelter Island.

The two field stations in the northern portion of Outer Sag Harbor Cove were devoid of SAV. The two remaining stations within the local waterfront revitalization area (i.e., in the southerly end of the Outer Cove and in the Inner Cove) were found to contain only scattered specimens of the red macro algae species *Cystoclonium purpureum* (brushy redweed). These data are consistent with information provided in the "1983 Natural Resources Inventory Update" for the 1986- LWRP.

Interestingly, it was reported that the Sag Harbor Cove Complex had supported eelgrass beds in the recent past. In fact, the 1983 Natural Resources Inventory Update for the LWRP indicates that eelgrass beds covered much of the bottom in Upper Sag Harbor Cove and Morris Cove at that time. However, no living eelgrass was found during the October 1994 field surveys conducted in these areas as part of the SAV Study. This information correlates with evidence from aerial photographs taken in March 1994 and October 1994, which indicate that a decline in eelgrass distribution and abundance occurred along the eastern shoreline of the North Haven peninsula and in the Sag Harbor area during that seven-month period. Thus, the sampling performed as part of the SAV Study may have recorded a distribution of eelgrass at a time when it is experiencing a significant decline.

Numerous factors are known or suspected to have an influence on the distribution and abundance of eelgrass in the Peconic Estuary system. These include: seasonal variables, disease, nutrient enrichment, and brown tide episodes, which are discussed individually below.

Eelgrass beds undergo normal growth variation in response to seasonal changes in water temperature and incident solar energy. This seasonal variation generally includes vegetative growth in the spring, reproductive growth and seed production during the summer, possibly with a marked dieback in the hottest part of the summer, additional vegetative growth in the fall, and winter dieback. Periods of prolonged high or low water temperatures can cause a decline in the eelgrass beds that are not fully compensated by the growing season during the following spring or fall.

Between 1931 and 1932, an epidemic of the so-called "wasting disease" led to the destruction of an estimated 90 percent of the eelgrass along the Atlantic coast. Plant symptoms included a rapidly progressing blackening of the leaves, followed by the death of the entire plant. The responsible organism was a slime, mold-like protozoan, *Labyrinthula zosterae*, that is worldwide in distribution and has infected eelgrass plants where no actual population declines have yet been observed. The combined effect of environmental factors conducive to the growth of *Labyrinthula* and which induce stress in eelgrass appears to be responsible for episodes of the disease. Based on initial anecdotal accounts of an ongoing dieback occurring in eelgrass beds in and around the Sag Harbor Cove area, it has been speculated that another incidence of wasting disease may be at work.

There are three scenarios of an eelgrass community's response to nutrient enrichment of coastal waters, described as follows: (a) nutrient loading to surface waters derived primarily from stormwater runoff and sewage effluent can spur excessive **phytoplankton growth** (i.e., "blooms"), which decrease water column transparency and can, thereby, decrease the degree of sunlight penetration to the point that eelgrass beds no longer receive sufficient solar energy to survive; (b) elevated nutrient levels can enhance **epiphyte growth**, which can diminish the amount of light absorption by the eelgrass plants; and (c) elevated nutrient levels can accelerate the growth of **green or red macro algae**, which absorb nutrients more rapidly than eelgrass, and can crowd out the eelgrass beds. All three of these effects (i.e., phytoplankton domination, excessive epiphyte growth, and macro algae domination) promote a reduction in eelgrass density that can ultimately lead to the elimination of an eelgrass population altogether.

Brown tides are extensive blooms of a single species of the rapidly reproducing phytoplankton *Aureococcus anophagefferens*, first identified in 1985. The causes for the onset of a brown tide bloom are presently unknown, although various theories are under investigation. However, it does not appear that enrichment of coastal bays with the more traditional inorganic nutrients is a major factor in brown tide development; field surveys undertaken as part of the Brown Tide Comprehensive Assessment and Management Program (Suffolk County Department of Health Services, November 1992) revealed that the concentrations of nitrate, nitrite, and phosphate were not elevated prior to and during recent brown tide episodes in the Peconic Estuary.

During a brown tide bloom, the normal depth of sunlight penetration is greatly reduced due to high concentrations of *Aureococcus* suspended in the water column. This shading effect has been cited as being at least partially responsible for the reported loss of eelgrass in the Peconic system, and the coincident dramatic decline in the Estuary's shellfishery. However, whereas catch data for scallops and oysters (*Crassostrea virginica*) show a dramatic crash in the harvest of these two species that corresponds directly with the occurrence of brown tide episodes, the effect of recent brown tides on eelgrass distribution and abundance is less readily apparent. An analysis of historical aerial photographs conducted as part of the SAV Study (Cashin Associates, P.C., draft report to the Suffolk County Department of Health Services, February 1995) did not indicate a consistent trend of decline in the distribution and abundance of eelgrass beds in the Peconic Estuary during brown tide years. Thus, other factors, besides the presumed loss of eelgrass habitat, have apparently played influential roles in the observed decline in scallop and oyster populations.

Estuary Systems

The estuarine environment within the Village of Sag Harbor consists of a large open embayment, a semi-enclosed man-made mooring area, a series of interconnected tidal basins, a tidal pond and a small tributary draining into Sag Harbor Bay. The most seaward of these water bodies is Sag Harbor Bay, followed by a man-made mooring area called Sag Harbor. The interior water bodies consist of a series of at least three inland tidal embayments known

collectively as Sag Harbor Cove, actually consisting of Outer Sag Harbor Cove, Inner Sag Harbor Cove, Upper Sag Harbor Cove and Morris Cove. Ligonee Brook is a small freshwater brook that drains into the southwestern end of Inner Sag Harbor Cove. Otter Pond is a tidal pond just north of Mashashimuet Park. John Street Pond is an isolated intertidal pond that is connected to Upper Sag Harbor Cove. Little Northwest Creek is the small tributary draining into greater Sag Harbor on the eastern Village boundary. The qualitative water quality classification system utilized in the following narrative is based on the ranking system discussed in Section 2.3B(b).

The surface water bodies and tidal wetlands which occupy the Village of Sag Harbor LWRP area are described briefly as follows (see Figure 6):

- Sag Harbor Bay

Sag Harbor Bay is a shallow sub tidal embayment adjunct to Northwest Harbor and Shelter Island Sound. There is very little intertidal vegetation within the bay area, except a small patch of smooth cordgrass (*Spartina alterniflora*) occurring just east of the breakwater. The shallower sub-tidal portions of the bay, however, support extensive beds of eelgrass (*Zostera marina*). The surface water quality classification for Sag Harbor Bay is SA.

- Sag Harbor

Sag Harbor is a semi-enclosed, man-made mooring area at the entrance to Outer Sag Harbor Cove. This area is protected from the open sea by an elongated stone breakwater and is connected to Outer Sag Harbor Cove by a tidal strait spanned by the North Haven/State Route 114 Bridge. This area experiences incomplete tidal flushing twice daily by strong tidal currents. Water quality is strongly affected by boat traffic and dock/marina facilities. As discussed in Section 2.3B(b), the surface water quality classifications for these water bodies is SA.

- Sag Harbor Cove Complex

The Sag Harbor Cove Complex is a series of basins (Outer Sag Harbor Cove, Inner Sag Harbor Cove, Upper Sag Harbor Cove and Morris Cove) that are interconnected by narrow navigation channels; a strait from the northern end of the Cove connects these waters to Sag Harbor. The overall surface area of the Sag Harbor Cove system is approximately 0.7 square miles; average depth within this area is approx. 4.9 feet. The entire cove complex is nearly well-mixed and is strongly influenced by coastal salinities. The surface water quality classification for the cove complex is SA.

The series of embayments that comprise the Sag Harbor Cove Complex consists of some of the most productive waters within the Village of Sag Harbor. The intertidal fringe of the Cove is surrounded by typical estuarine marsh species (*Spartina alterniflora & patens*) where structural fortification and dock facilities are absent. The width of the fringe is determined by the slope of the intertidal shoreline and the presence of upland disturbances and barriers. In the shallow intertidal waters starting at the marsh fringe there are extensive areas of highly productive mudflats and sand bars colonized by numerous species of algae including: bladder wrack (*Fucus vesiculosus*), knotted wrack (*Ascophyllum nodosum*) and Irish moss (*Chondorus crispus*). Sea lettuce (*Ulva lactuca*) common throughout the cove is indicative of high nutrient conditions. Deeper waters within the cove support dense beds of eelgrass (*Zostera marina*) which provides shelter for young bay scallops and greatly increases primary productivity.

- Little Northwest Creek

Little Northwest Creek is a small tributary feeding into the eastern portion of Sag Harbor Bay. This creek is divided into tidal and freshwater segments. The tidally-influenced segment is surrounded by approximately 190 acres of State-owned wetland and vegetated upland that is managed by the NYSDEC. The intertidal portions of the marsh consist of undisturbed high marsh with salt meadow cordgrass (*Spartina patens*), spike grass (*Distichlis spicata*), black grass (*Juncus gerardii*), perennial glasswort (*Salicornia virginica*), sea lavender (*Limonium carolinianum*), perennial salt marsh aster (*Aster tenuifolius*) and seaside gerardia (*Agalinis maritima*), with a low marsh fringe with smooth cordgrass (*Spartina alterniflora*). The upland fringe is dominated by a narrow to wide stand of common reed (*Phragmites australis*). Reeds are more extensive in the upper reaches of the tidally influenced portion of the creek. The surface water quality classification for the tidal segment of Little Northwest Creek is SC. The freshwater segment of this creek, which is discussed below, is classified B.

- Otter Pond

Otter Pond is a shallow intertidal pond of approximately 4 acres located within Mashashimuet Park. Otter Pond receives saltwater from a tidal creek originating in Upper Sag Harbor Cove which flows under Main Street (CR 79). Tidal fluctuation for the pond is approximately 1 foot, while the tidal amplitude in Upper Sag Harbor Cove is approximately 1.7 feet.

Freshwater enters the eastern end of the pond from a large Maple swamp across Jermain Street between Joel's Lane and Archibald Way.

The quality of Otter Pond is generally poor (SC classification) with a silty organic bottom and near eutrophic conditions. Extensive growth of sea lettuce (*Ulva lactuca*) are indicative of a high nutrient flux. Widgeon grass (*Ruppia maritima*) is also found in the pond. The creek running under Main street has a water quality classification of SD.

At one time, Otter Pond was bordered by a healthy fringe of estuarine wetland. Today the majority of the pond perimeter is vegetated by turf grasses and only a fringe of smooth cordgrass (*Spartina alterniflora*) remains on the northern shorelines. Public use of Otter Pond consists primarily of feeding the many domesticated water fowl and relaxing on the pond shores. Waterfowl concentrations in this area have contributed significantly to the degradation of the water quality in Otter Pond.

- Ligonee Brook

Ligonee Brook is a small freshwater brook running from east to west, draining into the southeastern end of Inner Sag Harbor Cove. The Sag Harbor Village boundary is centrally located along the entire length of the brook. For surface water classification purposes, this creek is conveniently divided into two reaches: from the mouth to Brick Kiln Road, and from Brick Kiln Road to the source. Water quality in the estuarine portion of the brook is classified SC; from Brick Kiln Road to the source it is classified C. West of Brick Kiln Road in the lower reach of the Brook there is some salt water influence; east of the road in the upper reaches there is little if any salt influence except during extreme storm surges.

The entire length of the lower intertidal portion of Ligonee Brook is bordered by typical estuarine marsh vegetation (i.e., cordgrass and salt hay grass) with pockets of Common Reed (*Phragmites australis*) where upland disturbance has taken place. Just west of Brick Kiln Road, there is occasional tidal influence, but the species composition is more representative of a freshwater-dominated wetland with a small pocket of maple swamp north of the creek adjacent to Brick Kiln Road. This extremely small maple swamp is unique to this portion of the Village. The upper, freshwater portion of Ligonee Brook is discussed below.

- John Street Pond

The John Street Pond is an isolated intertidal pond and associated wetland fringe that is connected to Upper Sag Harbor Cove via a culvert running under John Street. Freshwater enters the southwestern portion of the area through storm drains and flows towards the culvert at the northeastern corner of the pond. The pond is very shallow with a sandy bottom overlain by pockets of organic matter. Tidal fluctuation is minimal due to restrictions caused by the diameter and elevation of the culvert under John Street. Vegetation surrounding the pond is typical of disturbed estuarine marsh; common reed (*Phragmites australis*) forms a dense stand

at the upland edge of otherwise native intertidal species such as cordgrass (*Spartina alterniflora*) and salt hay grass (*Spartina patens*). Poison ivy and switchgrass (*Panicum virgatum*) are also well represented at the site.

Freshwater Systems

An updated wetland inventory has been compiled for the Village (Blumer, 1994). This map includes NYSDEC regulated wetlands with some additions as well as some previously unrecognized and therefore unregulated wet areas in the Village. These wetlands and additional areas are shown in Figure 6. The following freshwater systems can be found on this figure, and are the most significant of the freshwater wetland systems within Sag Harbor:

- Ligonee Brook

The headwaters of Ligonee Brook originate outside of the Village boundary within the Long Pond Green Belt Complex. The upper reaches of the Brook that lie within the Village run from Middle Line Highway to Brick Kiln Road. Most years water flows intermittently in this portion of Ligonee Brook; on wet years this reach may run continuously. There is some disturbance to native vegetation surrounding the Brook, but for the most part there is a dense cover of native species within the corridor surrounding the stream-bed. The upper portion of the Brook has a surface water quality rating of C.

- Round Pond

Round Pond is an approximately 7-acre freshwater pond lying within the northern end of the Long Pond Green Belt system designated by the Nature Conservancy. Only the northern portion of the pond lies within Sag Harbor Village, at the southern end of Joel's Lane. This green belt, which runs from Mashashimuet Park in the north to Sagaponack Lake and the Atlantic Ocean in the south, is a wildlife and open space corridor which has received special attention from the Nature Conservancy and Southampton Town. This entire area is a relatively undisturbed system of ponds, wetlands and surrounding woodlands.

There is some development around the perimeter of Round Pond, with little structural fortification. Seven houses have been built in close proximity to the pond, three of which have lawns extending down to the shoreline. Several more houses are set back further from the shoreline. The west shoreline of the pond is natural and undisturbed.

This pond, and the associated native species surrounding its shoreline, are unique within the Village of Sag Harbor and deserve special protection. Surface water quality for this water body is rated as C. The quality of the coastal plain pond shore habitat at the site has been rated as "B" by the Natural Heritage Program standards. This rating system is based on several factors including: relative quality, condition, viability and defensibility of the site. An "A" is the highest habitat assessment rating.

- Fore and Aft Pond

Fore and Aft Pond is a one-acre wetland pond, directly west of Round Pond. This wetland pond is hydrologically connected (through groundwater) to Round Pond. This area is well buffered by native vegetation and has a coastal plain pond shore habitat with one State rare species identified by the New York State Natural Heritage Program. Water quality for this pond has not been classified, but the coastal plain pond shore habitat on the site was given a rating of "BC" from the Natural Heritage Program. Several years ago this pond was severely impacted by the activities of a developer who attempted to drain the pond by excavating a large hole (Held, pers. com.). The system seems to have survived, but the effects of this major disturbance may not be known for years. Fore and Aft Pond is included in the *Conservation Water Use District (CD).*

- Rattlesnake Creek

Rattlesnake Creek is a small freshwater sub-tributary of the Little Northwest Creek system lying on the eastern boundary of the Village. Most of the area is composed of flooded maple swamp with associated native understory vegetation. The northern boundary of the swamp abuts the large New York State wetland which surrounds Little Northwest Creek. For the most part, this maple swamp is intact and undisturbed. Dominant species include: red maple (*Acer rubrum*), sweet pepperbush (*Clethra alnifolia*), cinnamon fern (*Osmunda cinnamomea*) and swamp azalea (*Rhododendron viscosum*). Common reed (*Phragmites australis*) has not entered the Rattlesnake Creek area. Surface water quality for the head waters of Little Northwest Creek and Rattlesnake Creek is rated as B. Rattlesnake Creek is included in the *Conservation Water Use District (CD).*

- Maple Swamp feeding Otter Pond

This large wooded wetland lies between Joel's Lane and Archibald Way, southeast of Otter Pond. The perimeter of the area rises steeply on three sides where it meets the surrounding roads. The entire area has been heavily impacted by past trenching activity (Suffolk County Vector Control activity) which has significantly altered natural drainage patterns. Parallel and interconnecting ditches channelize all flow from south to north and generally preclude the natural water purification potential of this wooded wetland. Construction and maintenance (vegetation was cleared from the ditches as recently as the of summer 1994) of these ditches has enabled common reed (*Phragmites australis*) to become well established. Fortunately, this species is concentrated in the center of the wetland where ditching has had the greatest impact. The dominant tree species is red maple (*Acer rubrum*). The understory consists of sweet pepperbush (*Clethra alnifolia*), shadbush (*Amelanchier canadensis*), chokeberry (*Aronia arbutifolia*), highbush blueberry (*Vaccinium corymbosum*), and swamp azalea (*Rhododendron viscosum*). The herbaceous layer consists of soft rush (*Juncus effusus*), cinnamon fern (*Osmunda cinnamomea*), royal fern (*Osmunda regalis*) and skunk cabbage (*Symplocarpus foetidus*) - among others.

Water quality across the swamp is variable, with road runoff contributing to surface flow from both Joel's Lane and Archibald Way and groundwater base flow in the south. The system of channels can be roughly divided into east and west sections with little if any transfer between them. The west side of the system (Archibald Way) appears far more impacted by nutrient inputs than the east side (Joel's Lane). Trenches on this side are covered with dense algal growth while those of the east side have no indication of algal growth despite the fact that there are two stormwater discharges from Joel's Lane. Where the two sides of the system meet in the north there is some duckweed (*Lemna sp.*) growth. Maple Swamp is included in the *Conservation Water Use District (CD).*

(b) Fish and Wildlife Studies

General

The following information describes the various fish and wildlife habitats present within Village boundaries, focusing on wetlands and coastal areas. Upland habitats are not specifically addressed. However, since "uplands" within the Village are not far-removed from the coast and wildlife that use wetlands also uses upland habitats, the following introductory paragraphs will briefly describes wildlife that may be found throughout the Village.

Sag Harbor Village contains most, if not all, of the commonly found large and small mammal species (Table 3). A significant population of little brown bats (*Myotis lucifugus*) has also been located in the eastern end of the Village (Penny, pers. com.). There have also been sightings of a "black" gray squirrel in the Village. Mink (*Mustela vison*) were found in the area 20-30 years ago, but have not been seen recently.

Reptiles that can be found within Village boundaries include those that occupy strictly upland habitats as well as wet areas and the estuarine coastline (Table 4). The eastern hognose snake (*Heterodon platyrhinos*) may be present in the Sag Harbor, but to date there is no record of it being found. There is however, a significant population of the uncommon little brown snake (*Storeria dekayi*) residing in the Village (Penny, pers. com.).

As with all of the other wildlife described above, many of the more common species of amphibians can be found throughout the Village of Sag Harbor (Table 5). Significant populations are usually concentrated in or near wetlands, but these animals can be found wherever there is sufficient moisture.

Nesting coastal birds and winter waterbirds common to the area are listed in Appendix C and Appendix D, respectively.

Estuary Environment

- Sag Harbor

The large water body, Sag Harbor, is contiguous with Northwest Harbor. These two water bodies combined comprise a significant fin and shellfish habitat. Least tern (*Sterna antillarum*), piping plover (*Charadrius melodus*), and osprey (*Pandion haliaetus*) feed throughout this system. However, there have not been any recent osprey nests in the area. Diamondback terrapin (*Malaclemys t. terrapin*) breed along the bay coastline and feed in tidal creeks such as Little Northwest Creek. From November through March, Sag and Northwest Harbors support wintering waterfowl concentrations of county-level significance. Midwinter aerial surveys of waterfowl abundance have indicated from 400-1000 birds in Sag Harbor. From November through March, the following wintering waterfowl can be observed from Long Wharf: scaup (*Aythya sp.*), black duck (*Anas rubripes*), common goldeneye (*Bucephala clangula*), bufflehead (*Bucephala albeola*), red-breasted merganser (*Mergus serrator*), canvasback (*Aythya valisineria*), common loon (*Gavia immer*), mallard (*Anas platyrhynchos*) and Canada goose (*Branta canadensis*).

Sag Harbor and adjacent Northwest Harbor support expanses of eelgrass (*Zostera marina*) beds and for this reason are extremely productive habitats for marine fin and shellfish. This area is one of the most important bay scallop (*Aequipectin irradians*) producing areas on Long Island, supporting a commercial shellfishery significant in the northeastern United States. The 1994 harvest was the best in recent years. Oysters (*Crassostrea virginica*) are present in lesser numbers, providing limited recreational and commercial shellfishing opportunities. The bay also serves as a nursery and feeding area (April-November, generally) for many estuarine finfish of regional significance, such as weakfish (*Cynoscion regalis*), winter flounder (*Pseudopleuronectes americanus*) and porgy (*Stenotomus chrysops*). Fishing pressure in the area extends from spring through fall. Table 6 lists fish species of the Sag Harbor area.

The presence of the large stone breakwater protecting the mooring area in the Harbor attracts a large number of harbor seals (*Phoca vitulina*) a species of regional significance (Okeanos, 1994). Other species of seal such as harp seal (*Phoca groenlandica*) and grey seal (*Halichoerus grypus*) have been seen in this area on occasion (Sadove, 1994). During December through early May the exposed rocks near the Sag Harbor Cove jetty provide an important "haulout" area, which seals use for resting and sunning. This location is one of about five major haulouts around Long Island, serving as a focal point for seals feeding in the Sag Harbor area.

- Sag Harbor Cove Complex

The series of basins comprising the Sag Harbor Cove Complex, including Outer Sag Harbor Cove, Inner Sag Harbor Cove, Upper Sag Harbor Cove and Morris Cove, consist of some of the most productive waters within the Village of Sag Harbor. The intertidal fringe of the Cove

is surrounded by typical estuarine marsh species (*Spartina alterniflora & patens*) where structural fortification and dock facilities are absent. The width of the fringe is determined by the slope of the intertidal shoreline and the presence of upland disturbances and barriers. In the shallow intertidal waters starting at the marsh fringe there are extensive areas of highly productive mudflats and sand bars colonized by numerous species algae including: bladder rack (*Fucus vesiculosus*), knooted wrack (*Ascophyllum nodosum*) and Irish moss (*Chondorus crispus*). Sea lettuce (*Ulva lactuca*) common throughout the cove is indicative of high nutrient conditions. Deeper waters within the cove support very dense beds of eelgrass (*Zostera marina*) which greatly increases primary productivity. Bay scallops (*Aequipecten irradians*), which are often abundant in the Cove Complex, utilize this habitat. Hard clams (*Mercenaria*) can be found on both intertidal and sub tidal bottom.

In a 1992 study conducted by the Okeanos Ocean Research Foundation, significant numbers of diamondback terrapins (*Malaclemys terrapin*) were observed throughout the Cove Complex (Morreale, 1992). This area had a smaller apparent population then other locations studied, but was regionally significant.

Weakfish (*Cynoscion regalis*), striped bass (*Morone saxatilis*), winter flounder (*Pseudopleuronectes americanus*) and porgy (*Stenotomus chrysops*) have all been caught in the Cove. Late summer (1994) shallow water seining in the area indicated the presence of large numbers of locally-significant fish species including: bay anchovy (*Anchoa mitchilli*), menhaden (*Brevoortia tyrannus*), Atlantic silverside (*Menidia*), snapper bluefish (*Pomatomus saltatrix*) and winter flounder (*Pseudopleuronectes americanus*). Other species caught during this seining include: sheepshead minnow (*Cyprinodon variegatus*), mummichog (*Fundulus heteroclitus*), killifish (*Fundulus majalis*), three-spined stickleback (*Gasterosteus aculeatus*), naked goby (*Gobiosoma bosci*), Atlantic needle fish (*Strongylura marina*) and bay pipefish (*Syngnathus leptophynchus*).

- Little Northwest Creek

The tidal portion of Little Northwest Creek is typical of small estuarine creeks found in this area. Surrounding the creek is a 190-acre State-owned wetland and buffering upland managed by the NYSDEC. The intertidal portions of the marsh consist of undisturbed high marsh with salt hay grass (*Spartina patens*), spike grass (*Distichlis spicata*), black grass (*Juncus gerardii*), perennial glasswort (*Salicornia virginica*), sea lavender (*Limonium carolinianum*), perennial salt marsh aster (*Aster tenuifolius*) and seaside gerardia (*Agalinis maritima*) and a low marsh fringe with cordgrass (*Spartina alterniflora*). Both of these habitats are colonized by typical estuarine species of molluscs and arthropods (Table 7). The upland fringe is dominated by a narrow to wide stand of common reed (*Phragmites australis*). Reeds are more extensive in the upper reaches of the tidally influenced portion of the creek. Diamondback terrapins (*Malaclemys terrapin*) have been observed moving up the creek, and are known to utilize this area for feeding.

- Otter Pond

This very shallow habitat is characterized by high nutrient loads and near eutrophic conditions. At one time the pond was bordered by a healthy fringe of estuarine wetland. Today, the majority of the pond perimeter is vegetated by turf grasses. Extensive growth of sea lettuce (*Ulva lactuca*) is indicative of high-nutrient conditions. Much of the bottom of this water body is covered by a thick layer of organic sediment which contributes to nutrient availability and is indicative of high primary production and low decomposition rates. The Pond supports large numbers of waterfowl throughout the year. Domesticated Peking duck, mallard (*Anas platyrhynchos*), mute swan (*Cygnus olor*) and Canada goose (*Branta canadensis*) can be found here at any time of year. This area also supports significant wintering waterfowl concentrations. The most recent (1994) New York State winter waterfowl counts for Otter Pond include Canada goose (*Branta canadensis*), American black duck (*Anas rubripes*), canvasback (*Aythya valisineria*), and almost 200 mallard (*Anas platyrhynchos*) on the day of the count. Fin and shellfish species present are those typical of local estuarine water bodies. Late summer (1994) seining in Otter Pond yielded sheepshead minnow (*Cyprinodon variegatus*), mummichog (*Fundulus heteroclitus*), killifish (*Fundulus majalis*), three-spined stickleback (*Gasterosteus aculeatus*) and naked goby (*Gobiosoma bosci*). In the past striped bass (*Morone saxatilis*) have been caught in the Pond. Diamondback terrapins (*Malaclemys terrapin*) have utilized this area for feeding in the past.

- Ligonee Brook

The entire length of the lower intertidal portion of Ligonee Brook is bordered by typical estuarine marsh vegetation with pockets of common reed (*Phragmites australis*) where upland disturbance has taken place (e.g., near houses). Just west of Brick Kiln Road, there is occasional tidal influence, but the species composition is more representative of a freshwater-dominated wetland with a small pocket of Maple swamp north of the Creek adjacent to Brick Kiln Road, unique to this area of the Village. The vegetative buffer along the lower reaches of the brook, although narrow in places, affords considerable cover for amphibians, small mammals and migratory songbirds. The mouth of the brook supports common estuarine species of fish, molluscs and arthropods (Tables 6 & 7). In the estuarine portion of the Brook, amphibians are restricted to the upper reach near Brick Kiln Road. Late summer (1994) sampling in the Brook indicated only one fish species, killifish (*Fundulus majalis*). Alewives (*Alosa pseudoharengus*) were found in the area in the past, but have not been observed recently (Penny, pers. com.).

- John Street Pond

The John Street Pond is an isolated intertidal pond and associated wetland fringe that is connected to Sag Harbor Cove by a culvert running under John Street. Freshwater drains from the southwestern portion of the area towards the culvert at the northeastern corner of the pond. The pond is very shallow with a sandy bottom overlain by pockets of organic sediment. Tidal

fluctuation is minimal due to restrictions caused by the diameter and elevation of the culvert. Freshwater enters this system through two storm drains on Jesse Halsey Lane, just south of the corner with John Street. From here the water runs through a narrow ditch surrounded by an extremely dense stand of reed.

Vegetation surrounding the pond is typical of a disturbed estuarine marsh; common reed (*Phragmites australis*) dominates the upland edge of otherwise native intertidal species such as cordgrass (*Spartina alterniflora*) and salt hay grass (*Spartina patens*). The presence of the reeds forms an effective barrier around the entire pond system which is located in the middle of a residential neighborhood. As a result, this area acts as "oasis" in the center of this otherwise heavily populated area. Numerous species of nesting coastal birds have been observed at this site. The extremely shallow water is ideal for wading birds to feed. Fish species using this pond include: sheepshead minnow (*Cyprinodon variegatus*), mummichog (*Fundulus heteroclitus*) and killifish (*Fundulus majalis*). Numerous shellfish species including: oyster (*Crassostrea virginica*), ribbed mussel (*Modiolus demissus*), soft-shelled clam (*Mya arenaria*) and mud snail (*Nassarius obsoletus*) are evident in the pond.

Freshwater Systems

- Ligonee Brook

The freshwater portion of Ligonee Brook, east of Brick Kiln Road, comprises a significant wildlife corridor along the southern boundary of the Village. Dense plant cover throughout most of the area provides shelter for common species of migratory birds, small and large mammals, common reptiles and amphibians. Mammals, reptiles and amphibians are those commonly found throughout the Village (Tables 3, 4 & 5). At one time alewife (*Alosa pseudoharengus*) moved up the Brook as far as Brick Kiln Road, but they have not been seen for many years.

- Round Pond

Only the northern tip of this pond falls within Village boundaries. This water body and the associated smaller system to its west fall within the Long Pond Green Belt designated by the Nature Conservancy and Southampton Town. As such, this area is recognized as being significant to the maintenance and protection of open space and wildlife habitat in the area. The Natural Heritage Program rates Round Pond as a "B" in their qualitative assessment of the coastal plain pond shore habitat. An "A" is the highest rating possible. This pond/wetland complex and the Fore and Aft Pond system adjacent to it supports the most significant mole salamander population within the Village. Spotted salamander (*Ambystoma maculatum*), marbled salamander (*Ambystoma opacum*) and the tiger salamander (*Ambystoma tigrinum*) have all been found here (Penny, pers. com.). This may be the only location in the Village that supports these species. Commonly found amphibians include: fowlers toad (*Bufo fowleri*), eastern newt (*Demicttylus viridescens*), spring peeper (*Hyla crucifer*), gray treefrog

(*Hyla versicolor*), green frog (*Rana clamitans melanota*) and bullfrog (*Rana catesbeiana*). Painted turtles are found in this system and there may be spotted turtles (*Clemmys guttata*). During the early 90's a pair of otters was observed in the pond, but they have not been seen recently. Fish species observed in past surveys include: largemouth bass (*Micropterus salmoides*), pumpkinseed (*Lepomis gibbosus*), bluegill (*Lepomis macrochirus*) and common pickerel (*Esox sp.*) (Guthrie, pers. com.). Mammals and reptiles are those typical for the Village (Tables 3 & 4). Large populations of ducks and swans frequent this pond and are thought to reduce water quality through the input of organic waste.

The following significant upland and coastal plain pond shore species have been identified as being in this area by the New York Heritage Program: pine barren gerardia (*Agalinis vigata*), white milkweed (*Asclepias variegata*), silver aster (*Aster concolor*), rose coreopsis (*Coreopsis rosea*), knotted spikerush (*Eleocharis equisetoides*), creeping St. John's wort (*Hypericum adpressum*), carolina redroot (*Lachnanthes caroliana*), velvety lespedeza (*Lespedeza stuevei*), ludwigia (*Lugwigia sphaerocarpa*), crested fringed orchis (*Platanthera cirstata*) and wafer-ash (*Ptelea trifoliata*).

- Fore and Aft Pond

Fore and Aft Pond is a one acre wetland pond directly west of Round Pond. The Natural Heritage Program rates the quality of the coastal plain pond shore at this site as "BC." This system is hydrologically connected to Round Pond. For this reason, the entire system (both ponds) is the most significant mole salamander habitat in the Village - as noted above in the description for Round Pond. Fore and Aft Pond is fairly well buffered by native vegetation and supports the Heritage Program recognized, long-beaked bald-rush (*Psilocarya scirpoides*). As mentioned previously, this site suffered considerable damage as a result of the excavation by a developer. The effects of this disturbance have not been completely elucidated. Only time will tell whether this fragile system will survive.

- Upper Little Northwest Creek/Rattlesnake Creek

The headwaters of Little Northwest Creek and Rattlesnake Creek are surrounded by an expansive Maple swamp. These wetlands are classic habitat for spotted turtles (*Clemmys guttata*); mud turtles (*Kinosternum subrubrum*) would be expected in this area, but they have not been found. Commonly found amphibians include: fowlers toad (*Bufo fowleri*), eastern newt (*Demicttylus viridescens*), spring peeper (*Hyla crucifer*), gray treefrog (*Hyla versicolor*), green frog (*Rana clamitans melanota*) and bullfrog (*Rana catesbeiana*). Mole salamanders may be present in this area, but have not been documented. Diamondback terrapins commonly feed within Little Northwest Creek and may move up as far as Rattlesnake Creek. Mammals, reptiles and amphibians are those commonly found in Sag Harbor Village (Tables 3, 4 & 5).

- Two Kettles between Suffolk and Madison Street

These two hydrologically connected wetlands are unique in the Village. Both support numerous species of wetland sedges uncommon to the area (*Sparganium americanum* and two *Carex spp.*). Due to the fact that these wetlands are groundwater fed, water level fluctuations can be drastic within and between years. Therefore, observations made on any one year may not be applicable to latter years. The most important characteristic of this site is that it may support a population for the eastern spadefoot toad (*Scaphiopus holbrooki*) (Penny, pers. com.). However, there has not been a significant enough rainfall event in recent years to trigger emergence of this species (Ash, pers. com.).

- Maple Swamp feeding Otter Pond

What was once a healthy deciduous swamp has been heavily impacted by past trenching activity (vector control activities) which has significantly altered natural drainage patterns. Parallel and interconnecting ditches channelize all flow from south to north and generally preclude the natural water purification potential of this wooded wetland. Standing water is present in the trenches at various times of the year depending on season and weather patterns.

Construction and maintenance (recent clearing around some of the ditches was apparent during field work in summer 1994) of these ditches has unfortunately allowed common reed (Phragmites australis) to become well established. Fortunately, this species is concentrated in the center of the wetland where ditching has had the greatest impact. The dominant tree species is red maple (*Acer rubrum*). The understory consists of sweet pepperbush (*Clethra alnifolia*), shadbush (*Amelanchier canadensis*), chokeberry (*Aronia arbutifolia*), highbush blueberry (*Vaccinium corymbosum*) and swamp azalea (*Rhododendron viscosum*). The herbaceous layer consists of soft rush (*Juncus effusus*), cinnamon fern (*Osmunda cinnamomea*), royal fern (*Osmunda regalis*) and skunk cabbage (*Symplocarpus foetidus*) - among others.

The dense vegetation of this area provides substantial habitat for wildlife. Migratory birds frequent the area and can feed within the tree canopy and understory. Common larger mammals present include: white-tailed deer (*Odocoileus virginianus*), muskrat (*Ondatra zibethicus*), raccoon (*Procyon lotor*), grey squirrel (*Scirus carolinensis*), eastern cottontail (*Sylvagus floridanus*) and red fox (*Vulpes fulva*). A very high concentration of raccoon tracks indicate the suitability of this variably wet site to this species. Amphibians such as fowlers toad (*Bufo fowleri*), spring peeper (*Hyla crucifer*), gray tree frog (*Hyla versicolor*), green frog (*Rana clamitans melanota*) and bullfrog (*Rana catesbeiana*) utilize the system of trenches for breeding and habitat on a seasonal basis. Mole salamanders have not been observed at this site, but portions of the area may be suitable for these important species. Despite the presence of standing water, fish were not observed on the site in late summer (1994).

(c) Significant Coastal Fish and Wildlife Habitats

- Sag Harbor/Northwest Harbor

Location and Description

Sag Harbor and Northwest Harbor are adjoining bays on the north shore of the south fork of Long Island. The bays are located between North Haven and Cedar Point, in the Towns of East Hampton, Southampton, and Shelter Island, Suffolk County (7.5 Quadrangles: Greenport, NY, and Gardiners Island West, NY.). This area is approximately 3000 acres in size, consisting primarily of open water. However, the fish and wildlife habitat also includes the tidal wetlands associated with Little Northwest Creek, and exposed rocks located near the Sag Harbor Cove jetty. Water depths in most of Sag and Northwest Harbors range from six to 20 feet below mean low water. The bays are bordered by much undeveloped land, including Suffolk County park lands, and The Nature Conservancy's Mashomack Preserve. The NYSDEC owns approximately 190 acres of land surrounding Little Northwest Creek. The only major developments along the entire shoreline of these bays are the boating facilities in Sag Harbor Cove.

Fish and Wildlife Values

Sag Harbor and Northwest Harbor are generally representative of the Peconic Bays ecosystem, with broad expanses of moderately shallow water. This habitat type is unlike the very shallow bays on the south shore of Long Island or the relatively narrow bays on the north shore. Little Northwest Creek is an important component of this ecosystem, contributing to the biological productivity of the area.

Sag Harbor and Northwest Harbor are important to fish and wildlife throughout the year. Least tern (E), piping plover (T), and osprey (T) feed in the harbor area. Diamondback terrapin are scattered along the harbor coastline and tidal creeks, but the importance of the area to this species is not well documented. From November through March, Sag and Northwest Harbors support wintering waterfowl concentrations of county-level significance. Midwinter aerial surveys of waterfowl abundance for the ten-year period 1975-1984 indicate average concentrations of over 440 birds in the bays each year (1082 in peak year), including scaup, black duck, common goldeneye, bufflehead, red-breasted merganser, canvasback, mallard and Canada goose. During much of the same time period (December-early May), concentrations of harbor seals also occur in Sag Harbor and Northwest Harbor. Exposed rocks near the Sag Harbor Cove jetty provide an important "haulout" area, which seals use for resting and sunning. This location is one of about five major haulouts around Long Island, serving as a focal point for seals feeding in the Sag Harbor area. Northwest Harbor may also be an important feeding and resting habitat for juvenile Kemp's Ridley sea turtles (E) especially during the late summer and fall. More documentation is needed on the use of the area by this species as well as other sea turtle species.

Sag Harbor and Northwest Harbor are productive habitats for marine finfish and shellfish. This area is one of the most important bay scallop producing areas on Long Island, supporting a commercial shellfishery significant in the northeastern United States. Oysters are present in lesser numbers, providing limited recreational and commercial shellfishing opportunities. The bays serve as nursery and feeding areas (April-November, generally) for many estuarine species, such as weakfish, winter flounder and scup. Northwest Harbor sustains a commercial and recreational winter flounder fishery of county-wide significance. Fishing pressure in the area extends from spring through fall.

Impact Assessment

Any activity that would substantially degrade the water quality in Sag Harbor or Northwest Harbor would affect the biological productivity of this area. All species of fish and wildlife would be adversely affected by water pollution, such as chemical contamination (including food chain effects), oil spills, excessive turbidity or sedimentation, and waste disposal. It is essential that high water quality be maintained in the area to protect the shellfishery. Efforts should be made to control discharges of sewage from recreational boats and upland sources. Thermal discharges, depending on the time of year, may have variable effects on the use of the area by marine species and wintering waterfowl. Installation and operation of water intakes would have significant impacts on juvenile (and adult, in some cases) fish concentrations, through impingement or entrainment. Construction of shoreline structures, such as docks, piers, bulkheads, or revetments, in areas not previously disturbed by development (i.e., natural beach or salt marsh), may result in the loss of productive areas which support the fish and wildlife resources of Sag and Northwest Harbors. Undeveloped woodlands bordering Sag Harbor and Northwest Harbor are particularly important for maintaining the water quality and habitat value of the harbors, and should be preserved as a buffer zone. Any permanent alteration or human disturbance of the harbor seal haulout area, or obstruction of seal migrations, would adversely affect this species. Significant underwater noise, from dredging or other activities, could also preclude harbor seals from using this area.

(d) Additional Significant Coastal Fish and Wildlife Habitats

The following State-recognized significant coastal fish and wildlife habitats do not directly include the waters within the Sag Harbor local waterfront revitalization area. However, it is important to point out these areas, due to their proximity to Sag Harbor and the fact that wildlife do not recognize bureaucratic boundaries. In addition, both the New York State Department of State and the citizens of Sag Harbor Village feel that it is important to include these narratives in this section, due to their proximity to the Village.

- Northwest Creek

Location and Description

Northwest Creek is located south of Northwest Harbor, on the south fork of Long Island, in the Town of East Hampton, Suffolk County (7.5' Quadrangles: Greenport, NY, Gardiners Island West, NY, and Sag Harbor, NY). The fish and wildlife habitat consists of approximately 440 acres of tidal wetlands, of which about one-third is a shallow bay (less than four feet deep at mean low water) which connects to Northwest Harbor through a narrow inlet. This area displays a classic zonation of natural estuarine habitats, including intertidal creek banks, cordgrass marshes, salt marsh shrub communities, and transition areas into the surrounding oak-pine forests. The habitat area also includes approximately 25 acres of immediately adjacent upland forest areas. Northwest Creek is located within an undeveloped park land owned by Suffolk County. The only human development within the area is a residential area at Northwest Landing at the northeast end of the bay. A small amount of shoreline in this area has been bulkheaded for boat docking facilities.

Fish and Wildlife Values

Northwest Creek is one of only a few examples of relatively large, undisturbed, estuarine ecosystems on Long Island, outside of the major coastal bays on the south shore. The diversity and well-defined zonation of plant communities is especially rare in the region, as is its location within a watershed which is almost entirely undeveloped. Northwest Creek is utilized by a variety of fish and wildlife species, including several which are of special ecological and economic significance. At least two pairs of osprey (T) nested successfully in the area in 1984. The creek serves as an important feeding area for these and other osprey nesting in the vicinity, along with various species of herons, egrets, waterfowl and other wildlife. Diamondback terrapin (SC) nest on the beach bordering the creek. The tidal creek and salt marshes provide feeding areas and cover for the terrapins during their nesting period (April-July). Other probable or confirmed nesting bird species at Northwest Creek include green-backed heron, Canada goose, mallard, black duck, belted kingfisher, horned lark, red-winged blackbird, and sharp-tailed sparrow. The sand peninsula which separates Northwest Creek from the harbor may be suitable nesting habitat for least terns (E), common terns (T), or piping plovers. Least terns nested here in 1977. Northwest Creek is a highly productive area for marine finfish and shellfish. This area serves as a nursery and feeding area (from April-November, generally) for many estuarine fish species, including scup and winter flounder. Ribbed muscles and fiddler crabs are abundant in the tidal creek banks surrounding the bay. The Northwest Creek estuary and nearby portions of Northwest Harbor may be an important feeding and resting habitat for juvenile Kemp's Ridley sea turtles (E) especially during the late summer and fall. More documentation is needed on the use of the area by this species as well as other sea turtle species. Northwest Creek contributes significantly to the productive commercial and recreational fisheries in Northwest Harbor, and receives some local fishing pressure within the area as well. The area is locally important for waterfowl hunting, especially black duck and also for scaup and canvasback.

Impact Assessment

Any activity that would substantially degrade the water quality in Northwest Creek would adversely affect the biological productivity of this area. All species of fish and wildlife would be affected by water pollution, such as chemical contamination (including food chain effects), oil spills, excessive turbidity, and waste disposal. Alteration of tidal patterns in Northwest Creek (e.g., by modifying the inlet) could have major impacts on the fish and wildlife species present. Elimination of salt marsh and intertidal areas, through dredging, excavation, or filling, would result in a direct loss of valuable habitat area. Unregulated dredge spoil disposal in this area would be detrimental, but such activities may be designed to maintain or improve the habitat for certain species of wildlife. Diamondback terrapins inhabiting the beach are vulnerable to disturbance by humans from mid April through July. Significant pedestrian traffic or recreational vehicle use of the beach could easily eliminate the use of Northwest Creek as a breeding area and should be minimized during this period. Fencing and/or posting of the area could help protect this species. Establishment of a nesting tern population on the Northwest Creek barrier peninsula may be possible through habitat management activities. Nesting osprey inhabiting the area may be vulnerable to disturbance by humans from March through mid-August. Recreational activities (e.g., boat landing and picnicking) in areas near osprey nest sites should be minimized during this period. Construction of shoreline structures, such as docks, piers, bulkheads, or revetments, in areas not previously disturbed by development, may result in the loss of productive areas which support the fish and wildlife resources of Northwest Creek. Undeveloped forest bordering the wetlands, including Barcelona Neck are particularly important for maintaining the water quality and habitat value of Northwest Creek and should be preserved as a buffer zone.

- Shelter Island - Harbor Bays Complex

This habitat narrative is part of the U.S. Fish and Wildlife Services Northeast Coastal Study Area Report. There is no official State designation for this area.

Location and Description

This habitat complex of lands and waters is located between the two eastern forks of Long Island, and includes portions of Shelter Island, Shelter Island Sound, Sag Harbor Bay, Northwest Harbor and Gardiner's Bay and a narrow section of coastline along the bay shoreline of the South Fork in the vicinity of Sag Harbor (7.5 Quadrangles: Sag Harbor, NY, Gardiners Island West, NY and Greenport, NY).

There are three principal habitat units within this complex: (1) Shelter Island (2) Open Bay Waters and, (3) South Fork Wetlands and Beaches. The general outline of this complex includes the entire southeastern peninsula of Shelter Island and the long narrow peninsula immediately north of it (Ram Island and Little Ram Island) as well as the intervening waters of Coecles Inlet. South of Shelter Island, the boundary encloses the waters of eastern Shelter

Island Sound and Sag Harbor Bay and an area of land to the east known as Barcelona Neck and the adjacent marshes of Northwest Creek. From there the boundary extends northwards along the eastern shoreline of Northwest Harbor, enclosing the areas of Alewife and Scoy Ponds, Cedar Pond and Cedar Point, and then cuts northwestwards across a section of Gardiners Bay before connecting with Reel Point on Shelter Island. The approximate linear dimensions of this complex are 8 miles (13 km) long in a northwest-southeast direction and 3 miles (5 km) wide in a southeast-northeast direction. Ownership over this complex is a mixed pattern of public waters and lands (mostly County). The Nature Conservancy preserve lands, and private lands.

Fish and Wildlife Values

This area, particularly the eastern section of Shelter Island, contains one of the highest nesting densities (mostly on natural snags) and numbers of osprey (*Pandion haliaetus*) in the region, second only to Gardiners Island; it is likely that this population will continue to expand under the present environmental conditions. The sand beaches of Mashomack Preserve, Cedar Point and others along the South Fork shoreline are regionally important, though seasonally variable, nesting beaches for piping plover (*Charadius melodus*), a U.S. Threatened species and least tern (*Sterna antillarum*). Sea-beach knotweed (*Polygonum glaucum*), a regionally rare plant, also occurs on beaches in this general area. The tidal marshes and freshwater wetlands are used extensively as feeding areas for colonial wading birds and wintering waterfowl, and American black ducks (*Anas rubripes*) nest here. The open bay waters and tidal marshes along the shoreline support large numbers of wintering waterfowl of regional significance, including common loon (*Gavia immer*), American black duck, mallard (*Anas platyrhynchos*), Canada goose (*Branta canadensis*), greater and lesser scaup (*Aythya marila* and *A. affinis*, respectively), common goldeneye (*Bucephala clangula*), red-breasted merganser (*Mergus serrator*), bufflehead (*Bucephala albeola*), oldsquaw (*Clangula hyemalis*) and canvasback (*Aythya valisineria*).

Northern diamondback terrapins (*Malaclemys t. terrapin*) feed and nest in the tidal marshes and sandy creek banks throughout the area, particularly around Coecles Harbor. Recent evidence indicates that the waters and bay bottoms of the Peconic Bays, Gardiners Bay and other bodies of water in this area may serve as a significant summer feeding and nursery habitat for juvenile Kemp's Ridley (*Lepidochelys kempii*), a U.S. Endangered species and one of the rarest sea turtle species. Harbor seals (*Phoca vitulina*) use several rock areas in Sag Harbor Bay and Northwest Harbor as haulouts during winter and early spring, often in fairly large concentrations. The harbor areas and bays are also productive habitats for finfish and shellfish, and support a regionally significant commercial shellfishery for bay scallop (*Aequipecten irradians*) and, to a lesser extent, American oyster (*Crassostrea virginica*). These waters serve as important nursery and feeding areas for weakfish (*Cynoscion regalis*), winter flounder (*Pseudopleuronectes americanus*) and scup (*Stenotomus chrysops*). Scoy and Alewife Ponds and their associated steam systems are one of the few alewife (*Alosa pseudoharengus*) spawning areas on Long Island.

Impact Assessment

Residential development along the South Fork shoreline in this area poses a potential threat to water quality and elimination of shoreline habitat of regionally important fish, wildlife and plant species. The impressive and growing population of ospreys in the area attests to the present quality of their nesting and feeding habitat, which could, however, be reversed by large scale poorly planned or unregulated development or shoreline construction. Human disturbances to nesting beaches of piping plovers and terns, in the form of destruction of nests or eggs through trampling, off-road vehicles, boat landings, vandalism or pets, is a common problem of these sites. Vegetation succession at these sites can also lead to these sites no longer being suitable for nesting. Osprey are also affected by human disturbances during the nesting and fledgling periods.

Protection of water quality and significant aquatic habitats should be given the highest priority to ensure the continued high value of this area to wintering and migrating waterfowl, shellfish, spawning and juvenile fish, marine and estuarine turtles, nesting waterbirds and ospreys. Protective measures should include the full array of available mechanisms, including regulatory overview and enforcement of existing environmental laws and regulations, development and implementation of ecologically sound zoning and planning policies and practices, seeking opportunities to develop cooperative conservation and management agreements, conservation easements, land exchanges and acquisition. There are a number of opportunities and challenges here for various governmental agencies, conservation organizations, citizen groups and private landowners to work cooperatively in conserving and protecting the living resources of this area. Disturbances to nesting beach birds, wintering waterfowl and nesting ospreys should be minimized or eliminated by a variety of means, including protective fencing, area closures, posting, warden patrols and public education. Where predation by pets or feral animals, particularly on nesting beaches of terns and piping plovers, is determined to be a problem, predator removal practices should be implemented. Efforts should be made to identify and implement objectives and tasks outlined in the piping plover recovery plan. Conservation and management plans, including fire management, for certain rare plants, for example, sea-beach knotweed, and unique plant communities on Mashomack Preserve and Suffolk County park lands should be developed cooperatively to enhance, restore and protect such regionally important populations and natural communities on these lands.

(e) Locally-Important Estuarine and Freshwater Fish and Wildlife Habitats

- Sag Harbor Cove Complex

Location and Description

Sag Harbor Cove is actually a series of four water bodies, including Outer Sag Harbor Cove, Inner Sag Harbor Cove, Morris Cove and Upper Sag Harbor Cove, that are referred to as the Cove Complex. Each of the four basins is connected by narrow navigation channels; a strait from the northern end of the Cove connects these waters to Sag Harbor. The overall surface area of the Sag Harbor Cove Complex is approximately 0.7 square miles. The average depth within this area is approximately 4.9 feet. Average tidal amplitude is at least 1.7 feet and the average spring tide is closer to 3.0 feet. As noted in Section 2.3B(a), a limited salinity study was conducted in 1991 which indicated that the entire Cove Complex was nearly well-mixed and influenced strongly by coastal salinities. There was a slight longitudinal salinity gradient, with salinity decreasing mildly in an upstream direction (Najarian Associates and Cornell Cooperative Extension, 1992). Portions of the Cove Complex support extensive eelgrass (*Zostera marina*) beds which contribute significantly to productivity in surrounding waters and provide shelter for young bay scallops. Surface water quality for the entire Cove Complex is rated SA.

Fish and Wildlife Values

The series of basins comprising the Sag Harbor Cove Complex consists of some of the most productive waters within and adjacent to the Village of Sag Harbor. The intertidal fringe of the Cove Complex is surrounded by typical estuarine marsh species (*Spartina alterniflora and Spartina patens*) where structural fortification and dock facilities are absent. The width of the fringe is determined by the slope of the intertidal shoreline and the presence of upland disturbances and barriers. In the shallow intertidal waters starting at the marsh fringe there are extensive areas of highly productive mudflats and sand bars. These areas are colonized by numerous species of algae including: bladder rack (*Fucus vesiculosus*), knotted wrack (*Ascophyllum nodosum*), and Irish moss (*Chondorus crispus*). Sea Lettuce (*Ulva lactuca*), which is common throughout the Cove Complex, is indicative of high nutrient conditions. Deeper waters within the Cove Complex support very dense beds of eelgrass which greatly increases primary productivity. Bay scallops (*Aequipecten irradians*), which are often abundant in the Cove Complex, utilize this habitat. Hard clams (*Mercenaria mercenaria*) can be found on both intertidal and sub tidal bottom lands. A set of oysters (*Crassostrea virginica*) has recently appeared in this system (J. Semlear, 1994). It is not clear whether these animals will survive to achieve harvestable size.

In a 1992 study conducted by the Okeanos Ocean Research Foundation, large numbers of diamondback terrapins (*Malaclemys terrapin terrapin*) were observed throughout the Cove

Complex (Morreale, 1992). This area had a smaller apparent population then other locations studied, but was still regionally significant.

Weakfish (*Cynoscion regalis*), striped bass (*Morone saxatilis*), winter flounder (*Pseudolpleuronectes americanus*), and porgy (*Stenotomus chrysops*) have all been caught in these waters. Late summer shallow seining in the area in 1994 indicated the presence of large numbers of locally-significant finfish species including: bay anchovy (*Anchoa mitchilli*), menhaden (*Brevoortia tyrannus*), Atlantic silverside (*Menidia menidia*), snapper bluefish (*Pomatomus saitatrix*), and winter flounder. Other species caught during this seining include: sheepshead minnow (*Cyprinodon variegatus*), mummichog (*Fundulus heteroclitus*), killifish (*Fundulus majalis*), three-spined stickleback (*Gasterosteus aculeatus*), naked goby (*Gobiosoma bosci*), Atlantic needle fish (*Strongylura marina*), and bay pipefish (*Syngnathus leptophynchus*).

Impact Assessment

Due to the prominent position of this system and the fact this area supports a significant shellfishery, water quality in the Sag Harbor Cove Complex should be of utmost concern to citizens of Sag Harbor Village. In addition to the commercial fishing activity, there is also considerable recreational boating and sightseeing occurring in this area. Any activities that degrade the environmental quality or aesthetics of the shoreline should be avoided.

One major cause of degraded water quality in the Sag Harbor Cove Complex is input of untreated roadway runoff. For example, significant quantities of stormwater runoff enter the Outer Cove from the northern end of County Route 60 (Noyack Long Beach Road). At this location, there are at least four points where runoff is channeled directly into the waters of the Cove. These direct runoff points should be addressed by the Suffolk County Department of Public Works. In addition, there is a major source of road runoff entering Paynes Creek from the residential area located west of Noyack Road (County Route 38). This source of contamination is being addressed by Southampton Town.

The southeastern portion of Upper Sag Harbor Cove is another problem area. This area has been closed year-round to shellfishing by NYSDEC due to consistent failure to meet the standards for total and fecal coliform bacteria. The causes of the deteriorated water quality in this area are not fully clear, but the discharge from Otter Pond, road runoff, cesspools and marinas are highly suspect and considered the primary factors. Otter Pond is tidally-connected to Upper Sag Harbor Cove by a small outlet stream. Otter Pond is known to support a large population of waterfowl, which is a significant contributor of fecal matter to surface waters. The pond has also lost a significant extent of its fringing wetlands and directly intercepts a large amount of stormwater runoff. The shoreline at the southeastern end of the Upper Cove is also closely surrounded by older homes which may be adding to the water quality problem in this area due to inadequately treated septic wastes. Poor mixing at the eastern end of the Cove Complex may also be a factor in elevated coliform levels.

Every effort should be made to improve the water quality of Otter Pond and restore the pond to a preimpacted state. Restoring the fringing wetlands and discouraging the feeding of waterfowl in this area would be helpful in mitigating water quality problems here. The tidal outlet leading from the pond to the Upper Cove should also be fully restored to improve flushing in this area.

Another reason for degraded water quality in the Sag Harbor Cove Complex has been the loss of most of the original wetland fringe from the perimeter of this area. Construction of shoreline stabilization structures and docks, and the deposition of dredge spoils, has incrementally reduced the total salt marsh area in this system and prevented the inland retreat of wetland habitats as sea level rises. One way of addressing this deficit would be to restore the tidal wetlands along Noyack Long Beach Road. Most of the wetlands have been lost here as a result of dredge spoil disposal. Working with Southampton Town, much of this area could be restored to yield a net gain in wetland area in the Cove Complex. This increase would help to improve water quality and provide habitat for young finfish and shellfish species.

The number of new residential docks on the cove should be kept to a minimum considering the amount of shoreline that has already been impacted by human activities. Residents should be encouraged to consider less harmful alternatives to traditional docking structures. The use of linear mooring systems, for example, or similar alternatives should be encouraged over permanent structures. In addition, bulkheading and other types of shoreline hardening should be discouraged.

- John Street Wetland

Location and Description

The John Street Pond is an isolated intertidal pond and associated wetland fringe that is connected to Upper Sag Harbor Cove by a culvert running under John Street. Freshwater drains from the southwestern portion of the area towards the culvert at the northeastern corner of the pond. The pond is very shallow, with a sandy bottom overlain by pockets of organic matter. Tidal fluctuation is minimal due to restrictions caused by the diameter and elevation of the culvert. Vegetation surrounding the pond is typical of disturbed estuarine marsh; common reed (*Phragmites australis*) forms a dense stand at the upland edge of otherwise native intertidal species. The presence of the reeds forms an effective barrier around the entire pond system which is located in the middle of a residential neighborhood. This area acts as "oasis" in the center of this otherwise heavily populated area.

Fish and Wildlife Values

Numerous species of nesting coastal birds have been observed at this site. The extremely shallow water is ideal for wading birds to feed. Fish species using this pond include:

sheepshead minnow (*Cyprinodon variegatus*), mummichog (*Fundulus heteroclitus*) and killifish (*Fundulus majalis*). There is also evidence of numerous shellfish species including: oyster (*Crassostrea virginica*), ribbed mussel (*Modiolus demissus*), soft-shelled clam (*Mya arenaria*) and mud snail (*Nassarius absoletus*). Songbirds are likely to feed and nest within the dense plant cover surrounding the pond.

Impact Assessment

Clearing of vegetation, especially trees adjacent to and within this area, could drastically reduce the quality of wildlife habitat. At this time, the tree canopy and understory plants effectively isolate this area from outside disturbance and make it suitable as wildlife habitat. Input of additional road runoff should be controlled. That which is already entering the area has drastically altered plant species composition and reduced wildlife values. Maintenance of the culvert under John Street is essential to the health of this system. Without this connection to Upper Sag Harbor Cove, this area would stagnate and cease to be productive.

- Otter Pond and Maple Swamp

Location and Description

Otter Pond is a shallow intertidal pond of approximately four acres located within Mashashimuet Park. The Park consists of a total of 11.8 acres and is owned by the Sage Foundation. Otter Pond receives saltwater from a tidal creek originating in Sag Harbor Cove which flows under Main Street (CR 79). Due to restrictions caused by stones and debris at the pond's connection to the creek, tidal fluctuation for the Pond is only about one foot, while the tidal amplitude in Upper Sag Harbor Cove is approximately 1.7 feet. Underwater lands within the Pond are owned by Southampton Town; the Village has no jurisdiction. Freshwater enters the eastern end of the pond through a culvert under Jermain Street that drains a large Maple swamp west of Joel's Lane.

The swamp, which was once a healthy deciduous swamp, has been heavily impacted by past trenching activity (vector control activities) which has significantly altered natural drainage patterns. Parallel and interconnecting ditches channelize all flow from south to north and generally preclude the natural water purification potential of this wooded wetland. Standing water is present in the trenches at various times of the year depending on season and weather patterns.

Fish and Wildlife Values

Otter Pond is a very shallow water body characterized by high nutrient loads and near eutrophic conditions. At one time the pond was bordered by a healthy fringe of estuarine wetland. Today the majority of the pond perimeter is vegetated by turf grasses. Extensive growth of sea lettuce (*Ulva lactuca*) is indicative of high-nutrient conditions. Much of the

bottom of this water body is covered by a thick layer of organic sediment which contributes to nutrient availability and is indicative of high primary production and low decomposition rates. The Pond supports large numbers of waterfowl throughout the year. Peking ducks, mallards and Canada goose can be found here at any time of year. This area also supports significant wintering waterfowl concentrations. The most recent (1994) New York State waterfowl counts for Otter Pond include Canada goose (*Branta canadensis*), American black duck (*Anas rubripes*), canvasback (*Aythya valisineria*) and almost 200 mallard (*Anas platyrhynchos*). Fin and shellfish species present are those typical of local estuarine water bodies. Late summer (1994) seining in Otter Pond yielded sheepshead minnow (*Cyprinodon variegatus*), mummichog (*Fundulus heteroclitus*), killifish (*Fundulus majalis*), three-spined stickleback (*Gasterosteus aculeatus*) and naked goby (*Gobiosoma bosci*). In the past, striped bass (*Morone saxatilis*) have been caught in the Pond. Diamondback terrapins (*Malaclemys terrapin*) have utilized this area for feeding.

The Maple Swamp has a dense stand of vegetation which provides substantial cover for large and small mammals. Migratory birds frequent the area and can feed within the tree canopy and understory. Common larger mammals such as white-tailed deer (*Odocoileus virginianus*), muskrat (*Ondatra zibethicus*), raccoon (*Procyon lotor*), grey squirrel (*Scirus carolinensis*), eastern cottontail (*Sylvagus floridanus*) and red fox (*Vulpes fulva*) utilize this area. A very high concentration of raccoon tracks indicate the suitability of this site to this species. The occasional standing water in the trenches most certainly provides an ideal habitat. Common amphibians utilize the system of trenches for breeding and feeding habitat (Table 5). To date, mole salamanders have not been observed at this site but portions of the area may be suitable. Fish were not observed on the site in late summer (1994).

Construction and maintenance (recent clearing around some of the ditches was apparent during field work in summer 1994) of these ditches has unfortunately allowed common reed (*Phragmites australis*) to become well established. Fortunately this species is concentrated in the center of the wetland where ditching has had the greatest impact. The dominant tree species is red maple (*Acer rubrum*). The understory consists of sweet pepperbush (*Clethra alnifolia*), shadbush (*Amelanchier canadensis*), chokeberry (*Aronia arbutifolia*), highbush blueberry (*Vaccinium corymbosum*) and swamp azalea (*Rhododendron viscosum*). The herbaceous layer consists of soft rush (*Juncus effusus*), cinnamon fern (*Osmunda cinnamomea*), royal fern (*Osmunda regalis*) and skunk cabbage (*Symplocarpus foetidus*) among others.

Impact Assessment

There is little that can be done to Otter Pond that has not been done already. Reducing organic and nutrient inputs could help to revitalize this near-eutrophic water body and return it to something resembling its former state. However, any serious effort to restore this site would have to address the issue of public access (involving recreation and feeding of waterfowl).

The Maple Swamp has already been significantly impacted by trenching. As a result, surficial drainage patterns have been drastically altered. In addition, an upstream input of nutrients and that from road runoff has already favored the invasion of a portion of the area by the common reed. Every attempt should be made to prevent stormwater from entering this system. Existing trenches should be blocked and "natural" hydrology restored. The dumping of debris and yard waste along Joel's Lane should be discouraged.

- Little Northwest Creek

Location and Description

Little Northwest Creek is a small tributary feeding into Sag Harbor Bay. This tidal creek is the dividing line between Sag Harbor Village (Southampton Town) and East Hampton Town. The western bank of this water body forms the eastern boundary of the Village. The tidally-influenced portion of the creek is surrounded by approximately 190 acres of State-owned wetlands and buffering uplands managed by the NYSDEC. The intertidal portions of the marsh consist of undisturbed high marsh with salt hay grass (*Spartina patens*), spike grass (*Distichlis spicata*), black grass (*Juncus gerardii*), perennial glasswort (*Salicornia virginica*), sea lavender (*Limonium carolinianum*), perennial salt marsh aster (*Aster tenuifolius*) and seaside gerardia (*Agalinis maritima*) and a low marsh fringe with cordgrass (*Spartina alterniflora*). Both of these habitats are colonized by typical estuarine species of molluscs and arthropods (Table 7). The upland fringe is dominated by a narrow to wide stand of common reed (*Phragmites australis*). Reeds are more extensive in the upper reaches of the tidally influenced portion of the creek. Surface water quality for the tidal portion of the Little Northwest Creek is rated as SC. The upper reaches of Little Northwest Creek are connected to Rattlesnake Creek. This entire area comprises an expansive maple swamp of a size and quality unique to the Village. Surface water quality for this system is rated as B.

Fish and Wildlife Values

Tidal portions of the creek support most of the commonly occurring species of estuarine fish, molluscs and arthropods found in the region (Tables 6 & 7). The headwaters of Little Northwest Creek and Rattlesnake Creek are surrounded by an expansive Maple Swamp. These wetlands support the largest population of spotted turtles (*Clemmys guttata*) in the Village (Penny, pers. com.). Mud turtles (*Kinosternum subrubrum*) would be expected in this area, but they have not been observed to date. Commonly found amphibians include: fowlers toad (*Bufo fowleri*), eastern newt (*Demicttylus viridescens*), spring peeper (*Hyla crucifer*), gray treefrog (*Hyla versicolor*), green frog (*Rana clamitans melanota*), and bullfrog (*Rana catesbeiana*). Mole salamanders may be present in this area, but have not been documented. Northern diamondback terrapin (*Malaclemys terrapin terrapin*) feed within Little Northwest Creek and may be found in Rattlesnake Creek. Mammals and reptiles occurring in this area are those commonly found in Sag Harbor Village (Tables 3 and 4).

Impact Assessment

Any activities that would alter hydrology (surficial and groundwater) in this area would drastically alter the nature of this wetland/creek system. Actions that restrict tidal flushing would degrade the lower reaches of the creek. In the headwater region, clearing or alteration of vegetation or change of grade would disrupt current water movement to the creek. Input of road derived stormwater flow could negatively affect water as well as nutrient budgets for this habitat possibly making the area unsuitable for existing wildlife and encouraging the spread of nonnative and invasive plant species. Considerable input of yard waste (organic matter) from surrounding private properties should be prevented to reduce the chance of significantly altering the carbon cycle for this wetland system. Property owners along the western edge of the system commonly discard leaves, tree limbs and other organic materials onto this property.

- Round Pond and Fore and Aft Pond

Location and Description

Round Pond is an approximately seven-acre freshwater pond lying within the northern end of the Long Pond Green Belt system designated by the Nature Conservancy. Only the northern portion of the pond lies within Sag Harbor Village, at the southern end of Joel's Lane. The green belt, which runs from Mashashimuet Park in the north to Sagaponack Lake and the Atlantic Ocean in the south, is a wildlife and open space corridor which has received special attention from the Nature Conservancy and Southampton Town. This entire area is a relatively undisturbed system of ponds, wetlands, open space and surrounding woodlands.

There is some development around the perimeter of Round Pond, with little structural fortification except for that at the end of Middle Line Highway. Seven houses have been built in close proximity to the pond, three of which have lawns extending down to the shoreline. Several more houses are set back further from the shoreline. The west shoreline of the pond is natural and undisturbed. This pond and the associated coastal plain pond shore species surrounding its shoreline are unique within the Village of Sag Harbor and deserve special protection. Surface water quality for this water body is rated as C. The quality of the coastal plain pond shore habitat at the site has been rated as "B" by the Natural Heritage Program. An "A" is the highest rating.

Fore and Aft Pond is a one acre wetland pond directly west of Round Pond. This wetland pond is hydrologically (via groundwater) connected to Round Pond. This area is fairly well buffered by native vegetation and has a coastal plain pond shore habitat and one State rare species identified by the New York State Natural Heritage Program. Water quality for this pond has not been classified, but the coastal plain pond shore habitat present on the site was given a rating of "BC" from the Natural Heritage Program. An "A" is the highest qualitative rating that can be received.

Fish and Wildlife Values

This pond/wetland complex and the Fore and Aft Pond system adjacent to it supports the most significant mole salamander population within the Village. Spotted salamander (*Ambystoma maculatum*), marbled salamander (*Ambystoma opacum*) and the tiger salamander (*Ambystoma tigrinum*) have all been found here (Penny, pers. com.). This may be the only location in the Village that supports these species. Commonly found amphibians include: fowlers toad (*Bufo fowleri*), eastern newt (*Demicttylus viridescens*), spring peeper (*Hyla crucifer*), gray treefrog (*Hyla versicolor*), green frog (*Rana clamitans melanota*), and bullfrog (*Rana catesbeiana*). Painted turtles are found in this system and there may also be spotted turtles (*Clemmys guttata*). During the early 1990's, a pair of otters was observed in the pond, but they have not been seen recently. Fish species observed in past surveys include: largemouth bass (*Micropterus salmoides*), pumpkinseed (*Lepomis gibbosus*), bluegill (*Lepomis macrochirus*) and common pickerel (*Esox sp.*) (Guthrie, pers. com.). Mammals and reptiles are those typical for the Village (Tables 3 and 4). Large populations of ducks and swans often inhabit this pond and are thought to reduce water quality through the input of organic waste.

The following significant upland and coastal plain pond shore species have been identified as being at Round Pond by the New York Heritage Program: pine barren gerardia (*Agalinis vigata*), white milkweed (*Asclepias variegata*), silver aster (*Aster concolor*), rose coreopsis (*Coreopsis rosea*), knotted spikerush (*Eleocharis equisetoides*), creeping St. John's wort (*Hypericum adpressum*), carolina redroot (*Lachnanthes caroliana*), velvety lespedeza (*Lespedeza stuevei*), ludwigia (*Lugwigia sphaerocarpa*), crested fringed orchis (*Platanthera cirstata*) and wafer-ash (*Ptelea trifoliata*). Fore and Aft Pond is fairly well buffered by native vegetation and supports the Heritage Program recognized, long-beaked bald-rush (*Psilocarya scirpoides*).

Impact Assessment

The habitat in and around Round Pond and Fore and Aft Pond is some of the most significant to wildlife in Sag Harbor Village. Disturbance of vegetation, grade or hydrology in any way could drastically affect this fragile system. Fore and Aft Pond is especially susceptible to future land use decisions. An increase or decrease in water input would negatively impact the existing coastal plain pond shore habitat. Input of nutrients derived from surface water runoff or groundwater movement could drastically affect species composition and favor invasive species such as the common reed (*Phragmites australis*) over native species.

- Ligonee Brook

Location and Description

Ligonee Brook is a small freshwater brook running from east to west draining into the southeastern end of Sag Harbor Cove. The Sag Harbor Village boundary is along the entire

length of the Brook. For classification purposes, this creek is conveniently divided into two reaches: from the mouth to Brick Kiln Road, and from Brick Kiln Road to the source. West of Brick Kiln Road in the lower reach of the Brook there is some salt water influence; east of the road in the upper reaches there is little if any salt influence. The lower or estuarine portion of Ligonee Brook is that considered in this section.

The entire length of the lower intertidal portion of Ligonee Brook is bordered by typical estuarine marsh vegetation with pockets of common reed where upland disturbance has taken place. Just west of Brick Kiln Road, there is occasional tidal influence, but the species composition is more representative of a freshwater-dominated wetland with a small pocket of maple swamp north of the Creek adjacent to Brick Kiln Road. Water quality in the estuarine portions of the Creek is rated as SC.

Fish and Wildlife Values

The entire length of the lower intertidal portion of Ligonee Brook is bordered by typical estuarine marsh vegetation with pockets of common reed where upland disturbance has taken place. Just west of Brick Kiln Road, there is occasional tidal influence, but the species composition is more representative of a freshwater-dominated wetland with a small pocket of maple swamp north of the Creek adjacent to Brick Kiln Road, unique to this area of the Village. The mouth of the Brook supports common estuarine species of fish and shellfish found in Tables 6 and 7. In the estuarine portion of the Brook, amphibians are restricted to the upper reach near Brick Kiln Road. Late summer (1994) sampling in the Brook indicated only one fish species, killifish (*Fundulus majalis*). Alewives (*Alosa pseudoharengus*) were found in the area in the past, but have not been observed recently.

The freshwater portion of Ligonee Brook, east of Brick Kiln Road, comprises a significant wildlife corridor along the southern boundary of the Village. Dense plant cover throughout most of the area provides shelter for common species of migratory birds, small and large mammals, common reptiles and amphibians. Mammals, reptiles and amphibians are those commonly found throughout the Village (Tables 3, 4 and 5). At one time, alewife (*Alosa pseudoharengus*) moved up the Brook as far as Brick Kiln Road, but they have not been seen for many years.

Impact Assessment

Ligonee Brook is fairly well vegetated and screened from surrounding development. However, clearing of any type would significantly reduce the value of this important wildlife corridor. Increase in the quantity of stormwater runoff input to the brook would greatly reduce wildlife habitat. At this time, there are at least two major points of stormwater influx: Brick Kiln Road and Main Street. Both of these sources should be mitigated in some way to increase water quality along the brook. Berming the edge of the road and allowing the water to pass over the Brook, before it leaves the road surface, would preclude the discharge of raw

stormwater to Ligonee Brook. At that point, the water can either be allowed to flow overland away from the road or be diverted to a dry well or small infiltration basin. Either option would be helpful in this situation.

TABLE 1

NEW YORK STATE WATER QUALITY CLASSIFICATIONS
DEFINED ACCORDING TO BEST USAGE

Freshwater Classification	**Best Usage**
AA	Source of water supply for drinking, culinary or food processing purposes and any other usages.
A	Source of water supply for drinking, culinary or food processing purposes and any other usages.
B	Primary contact recreation and any other use except as a source of water supply, for drinking, culinary or food processing purposes.
C	The waters are suitable for fishing and fish propagation. The water quality shall be suitable for primary and secondary contact recreation even though other factors may limit the use for that purpose.
D	The waters are suitable for fishing. The water quality shall be suitable for secondary contact recreation even though other factors may limit the use for that purpose. Due to such natural conditions as intermittent flow, water conditions not conducive to propagation of game fishery, or stream bed conditions, the waters will not support fish propagation.
Saline Classifications	**Best Usage**
SA	The waters shall be suitable for shellfishing for market purposes and primary and secondary contact recreation.
SB	The waters shall be suitable for primary and secondary contact recreation and any other use except for the taking of shellfish for market purposes.
SC	The waters are suitable for fishing and fish propagation. The waters shall be suitable for primary and secondary contact recreation even though other factors may limit the use for that purpose.
SD	All waters not primarily for recreational purposes, shellfish culture or the development of fish life, and because of natural or man-made conditions cannot meet the requirements of these uses.
Special Classification	**Best Usage**
I	The waters shall be suitable for secondary contact recreation and any other usage except for primary contact recreation and shellfishing for market purposes.

Definitions:

- **Best usage of waters** as specified for each class shall be those used as determined by the commissioner and the administrator in accordance with the considerations prescribed by the Environmental Conservation Law and the Federal Water Pollution Control Act of 1972.
- **Primary contact recreation** shall mean recreational activities where the human body may come in direct contact with raw water to the point of complete submergence. Such uses include swimming, diving, water skiing, skin diving and surfing.
- **Secondary contact recreation** shall mean recreational activities where contact with the water is minimal and where ingestion of the water is not probable. Such uses include, but are not limited to, fishing and boating.

TABLE 2

CLASSIFICATIONS ASSIGNED TO SAG HARBOR WATER BODIES

WATER BODY	CLASSIFICATION
Sag Harbor Bay	SA
Sag Harbor Cove Complex (All of cove southwest of North Haven/State Route 114 Bridge)	SA
Upper Sag Harbor Cove	SA
Morris Cove	SA
Ligonee Brook --	
Mouth to Brick Kiln Road	SC
From Brick Kiln Road to source	C
Otter Pond --	SC
Connecting water/Tributary of Upper Sag Harbor Cove	SD
John Street Pond*	--
Round Pond	C
Little Northwest Creek --	
Tidal portion	SC
Freshwater portion	B
Sub tributary/Rattlesnake Creek	B

*Note: The surface waters of John Street Pond are currently unclassified by NYSDEC. It is uncertain whether these waters will be classified in the future.

Sources: 6NYCRR, Chapter 10, Article 16
Jacobson, NYSDEC, February 10, 1995

TABLE 3

LARGE AND SMALL MAMMALS FOUND IN SAG HARBOR VILLAGE AND SURROUNDING AREAS

LARGE

opossum (*Didelphis marsupialis*)
white-tailed deer (*Odocoileus virginianus*)
muskrat (*Ondatra zibethicus*)
harbor seal (*Phoca vitulina*)
raccoon (*Procyon lotor*)
grey squirrel (*Scirus carolinensis*)
eastern cottontail (*Sylvagus floridanus*)
red fox (*Vulpes fulva*)

SMALL

short-tailed shrew (*Blarina brevicauda*)
meadow vole (*Microtus icus*)
house mouse (*Mus musculus*)
little brown bat (*Myotis lucifugus*)
white-footed mouse (*Peromyscus leucopus*)
pine mouse (*Pitymys pinetorum*)
norway rat (*Rattus norvegicus*)
eastern mole (*Scalopus aquaticus*)
masked shrew (*Sorex cinereus*)
eastern chipmunk (*Tamias striatus*)

TABLE 4

COMMON SPECIES OF REPTILES FOUND IN SAG HARBOR VILLAGE AND SURROUNDING WATERS

snapping turtle (*Chelydra serpentina*)
painted turtle (*Chrysemys picta picta*)
northern black racer (*Coluber constrictor constrictor*)
northern ringneck snake (*Diadophis punctatus edwardsi*)
eastern milk snake (*Lampropeltis doliata triangulum*)
northern diamondback terrapin (*Malaclemys terrapin terrapin*)
little brown snake (*Storeria dekayi dekayi*)
box turtle (*Terrapene carolina carolina*)
eastern ribbon snake (*Thamnophis sauritus sauritus*)
eastern garter snake (*Thamnophis sirtalis sirtalis*)

TABLE 5

COMMON AND RARE AMPHIBIANS FOUND IN SAG HARBOR VILLAGE

spotted salamander (*Ambystoma maculatum*) (rare)
marbled salamander (*Ambystoma opacum*) (rare)
tiger salamander (*Ambystoma tigrinum*) (rare)
fowlers toad (*Bufo fowleri*)
eastern newt (*Demicttylus viridescens*)
spring peeper (*Hyla crucifer*)
gray treefrog (*Hyla versicolor*)
green frog (*Rana clamitans melanota*)
bullfrog (*Rana catesbeiana*)
eastern spadefoot (*Scaphiopus holbrooki*)

TABLE 6

FINFISH COMMONLY FOUND IN THE WATERS SURROUNDING SAG HARBOR

blueback herring (*Alosa aestivalis*)
alewife (*Alosa pseudoharengus*)
American shad (*Alosa sapidissima*)
American sandlance (*Ammodytes americanus*)
bay anchovy (*Anchoa mitchilli*)
American eel (*Anguilla rostrata*)
menhaden (*Brevoortia tyrannus*)
weakfish (*Cynoscion regalis*)
sheepshead minnow (*Cyprinodon variegatus*)
mummichog (*Fundulus heteroclitus*)
killifish (*Fundulus majalis*)
three-spined stickleback (*Gasterasteus asculeatus*)
naked goby (*Gobiosoma bosci*)
Atlantic silverside (*Menidia menidia*)
striped bass (*Morone saxatilis*)
rainbow smelt (*Osmerus mordax*)
summer flounder, fluke (*Paralichthys dentatus*)
bluefish (*Pomatomus saltatrix*)
winter flounder (*Pseudopleuronectes americanus*
porgy (*Stenotomus chrysops*)
Atlantic needlefish (*Strongylura marina*)
bay pipefish (*Syngnathus leptorhynchus*)
blackfish, tautog (*Tautoga onitis*)

TABLE 7

MOLLUSCS AND ARTHROPODS COMMONLY FOUND IN THE WATERS SURROUNDING SAG HARBOR

bay scallop (*Aequipecten irradians*)
blue crab (*Callinectes sapidus*)
rock crab (*Cancer irroratus*)
green crab (*Carcinus maenas*)
American oyster (*Crassostrea virginica*)
slipper shell (*Crepidula fornicata.*)
mud crab (*Eurypanopeus depressus*)
American lobster (*Homarus americanus*)
spider crab (*Libinia spp.*)
horseshoe crab (*Limulus polyphemus*)
common periwinkle (*Littorina littorea*)
hard-shelled clam or quahog (*Mercenaria mercenaria*)
ribbed mussel (*Modiolus demissus*)
soft-shelled clam (*Mya arenaria*)
blue mussel (*Mytilis edulis*)
mud snail (*Nassarius obsoletus*)
hermit crab (*Pagurus longicarpus*)
oyster drill (*Urosalpinx cinerea*)

E. FLOODING AND EROSION

(a) Natural Protective Features and Man-made Shoreline Conditions

Natural Protective Features

Protection from coastal erosion is provided by a variety of natural shoreline features. In the Village of Sag Harbor, these features primarily comprise near shore areas, beaches, and vegetated marshes. Although there are notable bluffs at Barcelona Point and dune formations in the vicinity of Little Northwest Creek to the east of the Village, these features are virtually absent from the Village's shoreline.

Near shore areas, beaches, and vegetated marshes protect the adjacent upland in the Village from coastal erosion by dissipating the energy of incident waves. In general, maximum protection is provided by gradually sloping near shore areas and wider, more gently sloped beaches; wave impacts are more forceful, and thus the degree of erosion susceptibility is greater, if these features have a steeper gradient. Wide, thickly vegetated marshes also provide the greatest level of protection against waves.

The large section of shoreline containing bluffs on Barcelona Neck, less than one mile to the northeast of the Village, serves an important function in protecting the Village shoreline from coastal erosion (particularly along the beachfront to the east of the breakwater) by providing a continuous natural supply of sand in the littoral drift system.

See subsection (b), below for further discussion of the role of these bluffs with respect to the Village's shoreline.

Man-made Shoreline Conditions

A large portion of the shore front in the Village of Sag Harbor has been developed with structural protection devices (see Figure 9; this *Figure 9* appears in the Village Harbor Management Plan as "Figure 12 - WATER USE PLAN"). The general design and function of the primary categories of structures found in the Village is described as follows:

- Bulkheads - These wall-like structures are usually composed of timber, but are sometimes constructed with steel, concrete, masonry, or other materials. Bulkheads are built along the shoreline and are intended primarily to retain upland material, but also provide a barrier against shoreline recession. Bulkheads are the most common coastal structures in the Village, particularly on the commercial properties between the breakwater and *Ship Ashore Marina*. Bulkheads are also present on numerous residential properties throughout the Village.

- Revetments - These devices are also built along the shoreline, but are composed of heavy rocks or concrete rubble that is intended strictly to provide "armoring" for protection against wave attack. Revetments are also fairly common in the Village, being found beneath the North Haven/Route 114 Bridge, at Sag Harbor Cove West Marina, between Haven's Beach and Beach Road, and at several other locations.

- Breakwaters - These structures can consist of uncemented rocks or rubble, concrete, and a variety of other materials. Breakwaters are oriented perpendicular to the primary path of travel of waves, and are designed mainly to provide a sheltered harbor area on the lee side by intercepting or dissipating incoming wave energy.

- Groins - These structures, which are usually composed of rock or concrete rubble, but can also be constructed of timber, are installed perpendicular to the shoreline for the purpose of trapping sediment moving near shore in the littoral drift system. Groins are not present in the Village, except the finger of concrete and masonry rubble projecting perpendicular to the shore at the Cor Maria property, which functions somewhat like a groin. Additionally, the breakwater also acts as a groin, intercepting sand carried in the westward-flowing littoral drift system at this location.

The Village originally consisted of a broad low-lying expanse of meadow and marsh land, extending in some areas a considerable distance south from the shoreline, surrounded by a series of low hills further back from the water. Today, much of the lower, or northerly

portion of the Village, consists of filled marshland with some vestigial wetland remaining, particularly to the west of the North Haven/Route 114 Bridge. The development that has occurred on these filled lands comprises a large portion of the area in the Village that is susceptible to coastal flooding - see further discussion in subsection (b), below.

(b) Flood-Prone and Erosion Hazard Areas

Flood-Prone Areas

The Village contains flood zones that have been designated by the Federal Emergency Management Agency (FEMA). There are several categories of flood zones, as depicted on FEMA's Flood Insurance Rate Maps, based on the degree of susceptibility to flood damage. Four flood hazard zones exist within the Village, as shown on Figure 7 and summarized below:

- V Zone (i.e., high velocity zone, also called the coastal high hazard area) - that area of land which would be subject to breaking waves of three feet or greater height, in addition to still water flooding, during the 100-year storm event;

- A Zone (also called the area of special flood hazard) - that area of land which would primarily experience still water flooding, without significant wave activity, during the 100-year storm;

- B Zone - areas between the limits of the 100-year flood and the 500-year flood; or certain areas subject to 100-year flooding with average water depths of less than one foot or where the contributing drainage area is less than one square mile; or areas protected by levees from the base flood; and

- C Zone - areas of minimal flooding.

Figure 7 depicts the 100-year floodplain (i.e., V and A zones), which encompasses all or a portion of every waterfront property in the Village. The width of the floodplain depends on topography. To the east of Milton Avenue, the floodplain lies immediately adjacent to the beach due to the relatively steep gradient of the adjacent upland. Between Milton Avenue and the breakwater, where the land is flatter, the floodplain extends further inland (especially at Haven's Beach). The low-lying lands to the west of Main Street have the most extensive areas in the 100-year floodplain, especially on the Redwood and Morris Cove peninsulas and the westerly portion of the Village Business District.

The V zone is located entirely to the east of the breakwater, and generally occurs as a narrow band along the shore. At Haven's Beach, the V zone extends inland several hundred feet, due to the relatively level contour of the land here. A zones extend landward

of the narrow V zone to the east of the breakwater, and occupy the entire 100-year floodplain in the inner harbor area.

Areas of B zone, which occur between the 100-year and 500-year floodplain boundaries, are also present within the Village. B zones extend inland from the A zones.

Most of the upland in the Village is designated as C zone. These areas of higher ground have minimal potential for flooding.

Erosion Hazard Areas

When the supply of sediment naturally brought to an area by longshore transport is blocked by a barrier, such as a groin, jetty or similar structure, the beaches on the down drift side of the structure will tend to erode since they no longer receive sediment nourishment from up drift beaches. The littoral currents associated with the eroding beach may become "starved" in the sense that they are not receiving an adequate supply of depositing materials derived from upstream beaches.

The directions of near shore sediment transport vary due to the configuration of the shoreline and the predominant direction of incoming waves. Although qualitative and anecdotal information suggests that the rates of longshore drift vary considerably throughout the Peconic Estuary system, no detailed studies have been made to determine the rates at various locations.

Mapped observations indicate that the Village of Sag Harbor lies between two headlands: the North Haven peninsula and Barcelona Neck. In both instances the longshore transport directions are split around the projecting headland, with bluffs at these headlands contributing sediment to the littoral drift system. This sediment is carried into Sag Harbor Bay by southerly transport along the east shore of North Haven and southwesterly transport along the western side of Barcelona Neck.

The Village shoreline does not contain any State -designated erosion hazard areas, and generally does not suffer from a significant erosion problem. Slight shoreline erosion was noted at several locations during a field survey conducted in January 1995; these included the bayfront at the extreme easterly end of the Village (near Little Northwest Creek), the area to the immediate east of Ship Ashore Marina, and the northwest corner of the Redwood peninsula.

The virtual absence of significant coastal erosion in the Village is attributable to a number of factors. The area to the west of the North Haven/Route 114 Bridge is sheltered from the most energetic waves originating in the open bays of the Peconic system. The two shoreline segments that were noted to have experienced minor erosion in the inner harbor, to the east of Ship Ashore Marina and at the northwest corner of the Redwood peninsula,

are oriented perpendicular to the longest fetch lines in Outer and Inner Sag Harbor Cove, respectively (where "fetch" is the distance of continuous open water over which winds can blow to create waves). However, both of these sites have suffered only minor slumping of the low embankment along the shore, and no structures are threatened. Consequently, neither site can be characterized as being an area of critical erosion.

The portion of the Village shore front between the North Haven/Route 114 Bridge and the breakwater is effectively sheltered from most waves by the breakwater. Additionally, almost this entire stretch of shoreline has been armored with bulkheads or revetments, providing artificial structural protection against potential erosion. However, it should be noted that the effectiveness of the breakwater has reportedly decreased dramatically over the years due to the gravitational settlement and wave-induced shifting of the rocks. As a result, even moderate storms, especially northeasters (which drive waves directly against the breakwater) can cause surging waves to overtop the breakwater. During a relatively modest storm in December 1994, waves that bypassed the breakwater caused substantial damage to the bulkhead at the Village Sewage Treatment Plant.

The shoreline to the east of the breakwater has the greatest potential for coastal erosion damage, since this area is exposed to waves traversing the open waters of Sag Harbor. Although the beach in this area is narrow, generally only 10 to 20 feet wide, active erosion here is presently limited to minor slumping of the low embankment at the easterly end of the beach. This lack of a significant erosion problem is due largely to the virtual absence of artificial impediments to the natural supply of sand delivered via littoral drift. Sand derived from the erosion of the bluffs at Barcelona Point is carried to the southwest by littoral currents. The shoreline along the west side of Barcelona Neck is undeveloped (including State natural resource management lands and an expansive tidal marsh), and shoreline structures (e.g., groins and jetties) that could interfere with littoral drift are not present.

In the area to the east of Walker Avenue, which includes the area of minor erosion near Little Northwest Creek discussed earlier, the individual residential lots are generally more than 200 feet deep. The houses on these properties are situated close to the street, allowing a large buffer against potential future erosion along the shore front. These properties do not have structural protection along the shoreline.

The housing lots between Walker Avenue and Haven's Beach are generally 100 feet deep or less. The homes on these parcels, which are situated much closer to the water than the homes further to the east, are all protected with structural devices (i.e., a continuous wooden bulkhead for the properties on Terry Drive, and a concrete rubble revetment for the properties between Beach Road and Haven's Beach).

F. HISTORIC RESOURCES AND OVERALL VISUAL QUALITY

(a) Sag Harbor's Historic District

In 1974, a local historic district was identified for Sag Harbor, and subsequently entered on the State and National Registers. The Sag Harbor Village Historic District was listed as significant at the State level. The district included a large portion of the waterfront, the central business district, and core portions of the nineteenth century residential neighborhoods. The statement of significance for the district nomination stated, in part:

> ...the Sag Harbor Village District is an historical environment of 18th and 19th century structures remarkably uninterrupted by 20th century intrusions. Maritime and cultural links with New England associate the Village with ports of that region rather than with other communities of New York ... the Village is extraordinary for the quantity of structures present from the 18th and first half of the 19th century, as well as for the quality of individual buildings.

Some outstanding individual buildings were described in the nomination, but the emphasis was on describing the character of the district as a whole. The predominant theme of the text and referenced buildings was Sag Harbor's whaling heritage, although buildings of several periods were included in the district.

In 1990, an intensive level survey of historic resources was undertaken to determine if a new district should be drafted for nomination. The survey concluded that the district should be enlarged, and in 1992 a new nomination was prepared and submitted to the State Board for Historic Preservation. The nomination presented new boundaries, based on the location of historic resources which relate to the six identified historic contexts of Sag Harbor (see below). The nomination was submitted to the State Board, and received its final revisions for listing on the National Register of Historic Places. The local district was amended to closely match the new State and National Register boundaries. The nomination included a full inventory of resources included in the expanded district.

There are no identified historic resources of local, State or national significance located outside the historic district boundaries (the district is shown on Figure 8).

(b) Overview of Historic Contexts and Existing Conditions

- *Settlement*

There are very few sites in Sag Harbor related to the settlement period which preserve their 18th century integrity. There are well-documented reasons for such sparse survival. The earliest construction for shelter may have been temporary in nature, since permanent settlement was delayed in Sag Harbor vis-a-vis the surrounding area. The opening years

of settlement involved rearranging the topography of the Village to fill marshes and reduce the earliest buildings to survive this kind of earthwork. Also, two major fires swept through the area known to have first been settled, destroying most of what remained. Finally, Sag Harbor's influx of prosperity in the early 19th century allowed residents to radically upgrade or build new structures, which would have been more commodious and stylish than their 18th century counterparts.

Several buildings are thought to have 18th century frames, including the Custom House, the Long Island Herald House, both on Main Street, and the George Snooks House on Hempstead Street in Eastville. None of these currently read as a settlement period house from the exterior or from interior plan. Those houses which do read as 18th century buildings from the exterior, Sagaponack House on Union Street and the Captain David Hand House on Church Street, are actually relocated from other communities. The Umbrella House, on Division Street, though much altered and in a deteriorating condition, is an 18th century building on its original site; its masonry construction adds to its uniqueness and has served to protect more of the building's integrity.

The Old Burying Ground located on Union and Madison Streets and laid out in 1767, is the most valuable cultural resource for Sag Harbor's interpretation as an 18th century community. Closed to interments in 1840 when Oakland Cemetery was opened, the site and memorial stones retain integrity as an 18th century resource.

While Sag Harbor's built environment from the 18th century is largely gone, the Village still retains its original orientation towards the harbor. Its major streets, all laid out in the 18th century, have not been altered in later years. Main, Madison, Division and Hampton Streets all follow the same basic routes they did in the 18th century. Main Street still terminates at Long Wharf, though the wharf itself is a modern construction. Hempstead Street, the old route to East Hampton later replaced as a thoroughfare, also retains part of its 18th century layout.

- *Whaling*

The survival of the structures which related to the many industries involved in keeping Sag Harbor's whale ships on the seas - shipyards, cooper shops, ropewalks, sail lofts, chandleries, wharfs, spermicetti warehouses, and blacksmiths - would greatly increase the understanding of the whaling industry. Most of these structures would have been located on the waterfront, along East Water Street (now Bay Street), and West Water Street. However, Sag Harbor's waterfront is an area that is continuously altered and rebuilt. Besides the natural process of decay that afflicts buildings in a marine environment, the technology related to maritime industries constantly changes. Sag Harbor's waterfront was also involved in both of the major 19th century fires. As the second fire occurred near the end of the whaling era, none of the industrial structures related to whaling remains. Other services related to the port activity, such as shipping offices and presses which may have

once existed in the commercial area, have also perished. The Custom House and post office are preserved in the home of Henry Dering, formerly located on Union Street but moved to Main Street, but the later arsenal, post office and police office are gone.

By far the largest survival of the whaling era is the residential building stock, spread through most of the historic area of the Village. A full range of buildings, both of designed and formal architecture and more indigenous vernacular building forms, is preserved. The most fully developed classical buildings, such as the Huntting House, are located on the major thoroughfares - Main Street and Hampton Street - which serve as "high" streets similar in character to New England communities such as Nantucket Town and Newburyport. The smaller houses owned by those engaged as crew or in supporting industries are located on the streets of less consequence, such as Rysam Street and Garden Street, or in a cluster as in Eastville. It is impressive that design details found in formal designed architecture recur in buildings of less consequence with regularity, and that these details seem to have been retained through the later 19th and early 20th centuries.

Another property type surviving from the whaling era is that of religious architecture. Whaler's Presbyterian Church replaced the earlier meeting house; the Baptist, Methodist and A.M.E. Zion churches were all built during the whaling era and survive with good integrity. The location of these buildings follows a pattern similar to the residential buildings. The Whaler's Church, designed by Minard Lafever, is located prominently on the hill of Union Street, displaying both its seniority in the community and its function as a beacon of home port for returning sailors. St. David's A.M.E. Zion Church, located on Eastville Avenue in the heart of Eastville, is relatively unknown even today, its location is so discreet.

Another resource from the whaling period are the 19th century burying grounds. Zion cemetery, located across Eastville Avenue from St. David's church, contains stones of families associated with Eastville since 1840, and is invaluable as a record of their culture. Oakland Cemetery, on Jermain Avenue, was opened for interments in 1840. Its location was nearly rural, and today it retains the attributes of a 19th century pastoral and picturesque burial ground.

- *Industry and Invention*

Fortunately, the record of Sag Harbor's industrial past exists in several building types, including residential, industrial and commercial buildings. The loss of such significant structures as the Byram-Sherry Works and the Montauk Steam Cotton Mill reduces the full picture of industrialization, though the archival record of these industries is quite complete.

The most significant survival of the industrial period of Sag Harbor is the Fahys Watchcase Factory, a.k.a. Bulova Watchcase Factory, a four-story, 73,000 square foot brick building. It is located in the center of the Village on Division Street, and retains much of its original

building material. Even in its current state of abandonment, the size and siting of the factory created an imposing statement about the importance of this industry to the community. The identification of several houses known to have been built by the Fahys Company for the workers who came to Sag Harbor furthers our understanding of the importance of this industry to the 19th century residents. Residential structures, serving as single family, multiple family or boarding house residences, all of which served the industrial population, have been identified in several parts of the Village.

Areas of the community developed for the working population in the late 19th century include areas south of Jermain Avenue (Grand, Harrison, Marsden and Hamilton Streets and Montauk Avenue), all of which were laid out by the Latham family before 1853. The declining economy of the community and the swamps and thick forests that persisted in this area delayed development until later in the century. Those lots which fronted Madison and Hampton Streets were developed first, but most of the lots were developed between 1873 and 1902. The houses in this area vary greatly in their integrity, as many of them have been altered and enlarged. In 1905, the largest remaining lot (ten acres) was acquired for Pierson High School. Other areas developed for workers in both the resort and factory industries include Bayview Avenue, Franklin Avenue, Oakland Avenue, and Jermain Avenue (formerly known as Parker, Wadsworth and Montauk Streets).

It is likely that many of the commercial structures were also developed during Sag Harbor's industrial growth. There are a few neighborhood commercial structures, but the majority of commercial activity was, and still is, focused on the northern end of Main Street. Unfortunately, these buildings have been greatly altered through the 20th century, and very few of them retain integrity as 19th century commercial structures.

- *Resort and Tourism*

The resort era brought a new population to Sag Harbor, both as transient visitors and seasonal residents. The influence of this influx is evident in all aspects of residential properties. Large houses built for successful whaling families were converted to use as summer homes and boarding houses, and new cottages were constructed for rent or purchase. Hotels were built on waterfront property formerly devoted to the whaling industry. The building activity was not limited to one area of the Village, but areas not previously built on were developed at this time.

Land in the eastern section of the Village between Hampton Street and the water, property previously owned by Mulford and Sleight, was developed by the Sag Harbor Real Estate Company. Franklin Street and Prospect Avenue were laid out between 1890 and 1902, and several houses on Bay Street (formerly East Water Street) were also built in this period. A large number of these cottages survive today, displaying characteristics of the late 19th century such as wraparound porches, decorative shingling, turrets and bays. The area became more completely associated with the construction of the Frank Havens estate (now Cor Maria). In general, tourist oriented sites within the Village are found in the early

settlement and harbor area which make up the Historic District established by the Village Board of Trustees to help preserve them.

Palmer Terrace, opened in 1891 in an area known previously as "Huntting Hill," has large, shingled Queen Anne style homes built over a twenty-year period. Although many of these houses were constructed for the resort industry, some may also have associations to the industrial leaders of the community. For example, Eaton's house was built as a summer cottage, but seems to have served as a full time residence after Eaton's establishment of his business in the Village. The buildings on Palmer Terrace survive with a high level of integrity. On the west side of the Village, cottages were constructed on John Street, near Upper Sag Harbor Cove, which also survive with a high level of integrity.

Buildings designed to house the more transient visitor survive in less quantity, and often in an altered form. Boarding houses such as Mary King's Rooms on Rysam Street are extant, but not currently functioning as boarding houses. The only hotel surviving from the resort period is the American Hotel on Main Street, which retains much of its 19th century material. Other wood frame hotels which survived into the 20th century have burned or been taken down.

Structures designed to serve the tourist population's leisure activities and transportation needs have also disappeared. The only railroad building extant is a freight depot, relocated and now used as a garden center. None of the steamship accommodations survive. The Sag Harbor Yacht Club - built in Deering Harbor as New York Harbor Yacht Club Cruise Station - retains both its original use and building form, and is representative of other waterfront structures that have been demolished. Some features of the fairgrounds survive in the current Mashashimuet Park, but the grounds as a whole are more reflective of Mrs. Russell Sage's work. Marine Park and Haven's Beach are both important open spaces reserved for recreational use early in the 20th century, and continue in that use today.

- *Eastville*

The area known locally as Eastville consists of Hampton Street, Hempstead and Liberty Streets, and Eastville Avenue. This area lays well outside the developing Village of Sag Harbor. Not until the industrial development of the late 19th and early 20th centuries, when houses for factory and resort workers were built on the outskirts of the Village, did the Eastville area become part of the fabric of Sag Harbor Village.

The history of the Eastville area dates to the first decades of the 19th century when the area was known as Snooksville. George Snooks' house on Hempstead Street, a known 19th century route, contains mid-18th century timbers. Freed Afro-Americans came to the Snooksville/Eastville area in the opening decades of the 19th century as well, though it is not yet clear from where they may have come. Sag Harbor, because of its ample maritime job opportunities, was a likely destination for freed Afro-Americans. Crew lists from the first quarter of the 19th century indicate that from 20 to 30 percent of seamen sailing on Sag Harbor whalers were either Afro-American or Native American.

The institution that brought stability and a sense of community to Eastville was St. David's A.M.E. Zion Church, constructed in 1840 on Eastville Avenue. During the mid-1850's the ethnic mix of Eastville, already including Afro-Americans, Native Americans and white English, expanded to include other immigrant groups, particularly from England and Ireland. During the 1860's, the women of Eastville took jobs as domestic servants in the homes of Sag Harbor's wealthier residents. Many also earned extra money as dressmakers, laundresses or tailoresses. In the last quarter of the 19th century, many of Eastville's residents found employment in the tourist industry of Sag Harbor.

As a result of these demographics, the small houses of Eastville, many built during the more prosperous years of the 1840s, were enlarged by the addition of dormers, rear ells and front porches. These types of additions are more common than the addition of new structures. Due to the small size of the Eastville buildings, in general, most have been greatly altered or modernized for suitable living conditions. The significance of Eastville lies in the preservation of the homes of a distinctive integrated working-class community, and the importance of St. David's Church as a religious community committed to the Afro-American and Native American populations.

- *Mrs. Russell Sage*

All of the buildings restored and built by Mrs. Russell Sage still exist, and attest to her vision and thoroughness. Her two restoration projects, the John Jermain House and the Benjamin Huntting House, both on Main Street, retain much of this 19th century material. Unfortunately, the wood columns of the Huntting House were replaced with aluminum columns which detract from its integrity. The buildings constructed with funds donated by Mrs. Sage - the John Jermain Library and Pierson High School - also both survive. The library has remained intact, while the high school has been enlarged and new windows have been installed - both detracting from the original form. The two open spaces developed by Mrs. Sage, Otter Pond and Mashashimuet Park, continue to provide a location to pursue recreational interests for Village residents. New construction on the lots surrounding Otter Pond has respected the mandate to keep the pond undeveloped. The buildings erected in the Park for the superintendent and groundskeeper retain features of their early 20th century construction.

(c) Archaeological Resources

An Algonquian Village called Wegwagonock preceded the European settlement of Sag Harbor. The name of the village and its location were recorded in the East Hampton Town records of 1711, 1718 and 1728. The topography of Sag Harbor was different in Wegwagonock days. The land under the American Hotel, the Corner Bar and the Bay Street Theater rose to form a bluff 50 feet high, known as Turkey Hill beside a small kettle pond (now the American Legion) where a freshwater stream (now Burke Street) emptied into the bay. The kettle, called the "frog pond" in time past, and the stream were surrounded by a broad, flat meadow where grass grew luxuriantly as late as the 1840's. The shoreline near the frog pond reached out for almost one-half mile to form a long, low

point of land to the northeast (later called Conking's Point), creating a half moon bay of graceful proportions. Inland to the southeast, the land rose to become another 50 feet high hill (today's High Street). Wegwagonock was a safe harbor, tucked between protecting hills, supplied with ample fresh water by the pond and the stream, with a high lookout point over the bay on one side, and low, easy access to the water on the other. The village enjoyed a varied diet of fish, shellfish, wild foul, game, nuts and berries. It prospered on a profitable trade in wampum shell beads.

William Wallace Tooker, Long Island's pioneer ethnographer who was a resident of Sag Harbor, identified the boundaries of the old village based on the Algonquian artifacts he found. He wrote that Turkey Hill was leveled to fill the surrounding low land, and although Wegwagonock graves were found on the southeast side of the hill, they were discarded as landfill.

The Algonquians gave Sag Harbor a name. Each fall the women of Wegwagonock harvested ground nuts - apios tuberose - twining vines with tubers the size of hen's eggs. They foraged in nearby Sagaponack which meant "the place where the big ground nuts grow" in the Algonquian language, according to historian W.S. Pelletreau. When the Europeans who settled in Sagaponack needed a harbor on the bay, Sag Harbor acquired the "Sag" part of the ground nut name.

All of Sag Harbor was designated an area of intensive aboriginal habitation in the 1978 Suffolk County Resources Inventory. This same publication lists early twentieth century sources which indicate Native American sites and artifacts. While many sites have been disturbed by development activity, there are a few sites - vacant lots, back yards, parks, roads and cemeteries - that could have significant remains. The earliest part of the Village, located in the central business district, is also likely to have been obliterated by development. Evidence of the foundations of the waterfront industrial buildings can be seen in shadings in vacant land, and it is very likely that archaeological evidence could be found underground. Shipwrecks have been found in the waters, along the waterfront, and it is very likely that the waterfront holds significant remains of piers, wharves, docks and ships.

The New York State Archaeological Sensitivity Map, dated March 1992, shows that Sag Harbor has multiple site sensitivity.

(d) General Community Character

Sag Harbor's general community character is a combination of several elements, including the pattern of its streets, the scale and placement of its buildings; the relationship of structures to the waterfront; landscaping and street scape features; and the views from different areas to the water. There are also important views from the water to the Village to consider, which are often seen across a water body and framed by other built or natural features. Sag Harbor's history constantly refers to the water, and therefore the visual

connection to the water is an important feature of any area. Conversely, Sag Harbor has been approached by hundreds of people by the water, and so its water side is also critical.

The developed areas of Sag Harbor are reflective of a street pattern established in the 18th and 19th centuries. The oldest streets are closest to the waterfront, and radiate from the focus of marine activity, Long Wharf. The central business district - Main Street - has been continuously developed and rebuilt following successive fires; though it follows its 18th century route, most of its buildings are reflective of post-1850 building traditions. To the east of the business district are a group of short, densely settled streets (Rysam, Cross, Rector and parts of Division) which are reflective of the street patterns and building scale of the 18th and early 19th centuries. To the southwest of the central business district, Garden Street also maintains this early character. As the community developed to the south, new streets were opened through the early 19th century. Union, Jefferson, Suffolk and parts of Madison Street, are notable for their buildings of the Greek Revival style, built in the 1820's and 1830's. The character of these early residential areas is defined by narrow streets which often are not straight; mature trees; and buildings with decorative details designed to be viewed from the street. The lot sizes in the 18th century portions of the Village are considerably smaller than the 19th century lots.

Later 19th century residential areas can be found to the east, in the High and Bay Street, Prospect and Franklin Avenue areas. These houses were built for Sag Harbor's resort trade in the 1880-1920 period, and feature wide streets and large houses set well back from the street. The porches, towers and bays of those houses take advantage of summer breezes and views.

Twentieth century development is found to the extreme east and west of the Village, in neighborhoods known as Azurest, Ninevah and Sag Harbor Hills (to the east), and Redwood (to the west).

As noted above, much of the historic connection of the Village to the waterfront has been lost due to fires and loss of waterfront industries. In many places the loss of buildings has resulted in visual access to the water which would not have been as likely in the 19th century. The views which have resulted increase the appreciation of Sag Harbor's picturesque setting.

(e) Character Areas

The 1986- LWRP identified three individual character areas: Village Business Center/Waterfront, Eastern Residential Waterfront, and Western Waterfront. These areas might be more succinctly defined by the breakdown of character areas as provided below. The eleven individual character areas are relatively intermingled near the center of the community, and more homogenous toward the boundaries. Photographs depicting each character area are included in Appendix F.

1. Marina Character Areas - include water-dependent and water-enhanced marine commercial activities, including boat dockage/mooring and repair, boat storage, and retail sale of marine fuel and equipment. These are the areas available to the public for waterfront commercial activity on a fee basis, and are indicative of the popularity of Sag Harbor as a recreational boating area. Although the buildings within these character areas are largely undistinguished, the visual landscape consists of boat hulls, masts, moorings, piers, docks and usually hosts a lot of activity. The character of these areas changes dramatically with the seasonal changes in boating activity - during the late fall, winter and early spring, when boats are hauled, the boat yards become congested, while in the spring, summer and fall, the waters are more densely populated. This fluidity allows for vastly different views, particularly as there are few permanent buildings in these areas. Several areas along the waterfront fit this description, including the Bay Street boat yard, Sag Harbor Yacht Club, both public and private boat dockage and mooring areas; also, included in marina character areas is the marina and boat yard use of Redwood Canal.

2. Marine Recreational Character Areas - include water-dependent and water-enhanced activities such as boat launching, boat dockage and mooring, beach use, and passive recreation facilities. These character areas include sites that are accessible and available to the public on a noncommercial basis, and are largely in public ownership. Many of these sites maintain natural landscape features, such as trees, lawns, open space, unpaved areas, and there are few buildings. Most have facilities such as benches, piers, bulkheads or other "perching" places to enjoy water views. These areas would include Haven's Beach, Marine Park, Windmill Park, Long Wharf and Otter Pond.

3. Marine Natural Character Areas - include sites that remain in an undeveloped state, such as a beach shore and wetlands area. These areas are inclusive of areas never developed and those areas which, once developed, are returning to their natural state. These areas support both vegetation and wildlife. The major areas include the wetlands on SPLIA's Custom House property, the area west of Northwest Creek, and the upper reaches of the Ligonee Brook drainage area, though there are several other small lots scattered throughout the Village.

4. Marine Residential Character Areas - include sites that have been developed with residential dwellings. Certain aspects of the visual character in these areas may reflect retained or restored natural scenery, such as wooded and landscaped portions of the properties, and fringing beaches and wetlands. However, the difference between these areas and Marine Natural Character Areas lies in the presence of structures and appurtenances associated with the residential development. Sites along the waterfront identified as Marine Residential Character Areas include the entire shoreline in the cove complex, west of Ship Ashore Marina (i.e., Redwood Neck, Inner Sag Harbor Cove, Upper Sag Harbor Cove, Morris

Cove, and outer Ligonee Brook), and the shoreline to the east of the breakwater, between Haven's Beach and the wetlands at Little Northwest Creek.

5. Business District Character Areas - include retail businesses, public buildings, pedestrian amenities, parking lots and, commercial buildings designed for commercial purposes and built as such, or buildings converted to commercial use from another use. These businesses are not maritime in character, but are a mix of "core" businesses such as grocery stores, hardware stores, delicatessens, offices, banks, and "specialty" stores such as art and craft galleries, clothing stores, and antique shops. Sag Harbor is fortunate to have maintained a mixed palette of commercial interest and a low vacancy level. The commercial activity is primarily located on Main Street, from Long Wharf to the fork at Madison Street, but commercial activity is also found near the waterfront east of Long Wharf, along Long Island Avenue southwest of the North Haven/Route 114 Bridge, and in the motel area on West Water Street. Small neighborhood ventures are found on Division Street, south of the Village's core, and on Main Street, near the Otter Pond bridge.

6. Residential Character Areas - include residential units, primarily single-family structures. While the historic housing described above dominates most of the central Village, large tracts of land have been developed in the past 50 years to the east and west of the Village. These neighborhoods (Azurest, Ninevah, Sag Harbor Hills, and Redwood) were developed primarily for their proximity to the water. They are largely single-family 2-4 dwelling units/acre and 5-10 dwelling units/acre. Those developments in the eastern portion of the Village have the quality of "houses amongst the trees," resulting from a high number of undeveloped lots and a low density unit/acre figure. In fact, very few houses actually have water views or waterfront locations. Redwood, located in the western part of the Village, is more landscaped and more fully developed. Here the waterfront plays a primary role in shaping the development of new buildings and additions, with wetlands abutting many of the building lots. The historic core of the Village draws its character from a more historic mix of fences, building setbacks, curbing, sidewalks and mature trees.

7. Industrial Character Areas - Although industrial and manufacturing activities are not permitted in the waterfront or marine districts, there are still several sites close to the waterfront which are industrial in character. These sites reflect Sag Harbor's 19th and early 20th century history of a manufacturing center, and are not unlike those found in the mill towns of upstate New York or New England. The natural gas storage container, Bulova Watchcase Factory, Eaton's Building on Jermain Avenue, and two small industrial buildings on Bay Street remain to represent this important era of Sag Harbor's development.

8. Open Space Character Areas - include upland areas without direct access to the waterfront which may be in private or public ownership, but visually accessible by

the public. These areas may be land "yet to be developed," or, in fact, protected. The lots exist as small oases in the more heavily developed areas. Often they provide a stand of trees or thicket of brush which has become home to birds and animals, and they also provide screening from more heavily developed areas.

9. Multi-Unit Residential Character Areas - include apartments, condominiums, villas, motels and inns. This high density development houses seasonal, temporary and permanent residents, and is found largely in the western part of West Water Street. The units are all of 20th century design and construction, and are designed to take maximum advantage of water views and access. These areas tend to have an atmosphere of privacy and seclusion, using limited access driveways, landscaping which screens activity from the public roadways, and water access restricted to residents.

10. Institutional Character Areas - include schools, churches, meeting halls, retreat centers and museums. These institutions are often located in adaptively-reused structures, such as Cor Maria (the former Havens Estate), and the Whaling Museum (the former Benjamin Huntting house); others are custom built for their purpose, such as the library, firehouses and most of the churches. These buildings are scattered throughout the historic district and the waterfront area, and are important as publicly accessible historic buildings.

11. Agricultural Character Areas - There is one site, the Cilli farm located on Glover Street, which maintains the qualities of its prior use as a dairy farm, including barns, fields, outbuildings and equipment. As agriculture was not historically common in Sag Harbor, the surrounding areas of Bridgehampton and Sagaponack being more suitable for farming, this singular site is unique and retains badly needed open space within the Village.

(f) Views/Visual Access Points

Because of the high level of public ownership, open space, and accessibility of the waterfront, good views toward the bays and coves are quite common. In fact, a large number of residents enjoy water views from their residences, and also from their places of work.

The view of the Village is linked with the water. The temporary visitor will most likely first see Sag Harbor in relation to the water, whether arriving by boat, the North Haven/State Route 114 Bridge, the Bridgehampton/Sag Harbor Turnpike, or County Route 60 (Long Beach). The irregular coastline which consists of inlets and developed and undeveloped shoreline combines with the built environment and trees to produce a complex picture. Sag Harbor "sits" in its environment, with neither the built nor natural environment dominating.

Visual access to the water from the Village is available at a great number of locations. Photographs seen on the following pages depict views from Long Wharf, Marine Park, Otter Pond, Redwood, and Windmill Park. These views include manmade features in the foreground, and marine and natural features in the middle and backgrounds. (Viewpoints are shown on Figure 8; accompanying photographs are in Appendix F).

2.4 SUMMARY: ANALYSIS OF ISSUES, PROBLEMS AND OPPORTUNITIES

A. LAND USE AND ZONING

Development Potential

- **Cor Maria**. Cor Maria is a 16.7-acre Roman Catholic Church retreat which lies between Haven's Beach and the WF Waterfront Zoning District. It has more than 1,600 linear feet of shoreline on both the active harbor and Sag Harbor Bay. The breakwater structure that protects the harbor area extends from the shoreline of the Cor Maria property. Although no change is anticipated in the use of this property, if it should become available for reuse, it would have a significant impact on the entire Village and its character. This property is zoned for residential use and could yield an estimated 30 dwelling units.

In an effort to preserve the quality and character of the historic Cor Maria property - if the Roman Catholic Diocese should decide to sell this property - the Village should manage redevelopment of the site in congruence with zoning standards.

- **Cilli Farm**. This 8.97-acre property, located along Glover Street and Long Island Avenue, is referred to as "the Cilli Farm." This presently undeveloped property was previously a working dairy farm. It is zoned as R-20 One-Family Residence.

The Village is pursuing alternatives to maintain the property as open space.

Underutilized and Deteriorated Sites

A number of deteriorated and underutilized sites have been addressed since the first LWRP was adopted in 1986: Long Wharf has been reconstructed; Bay Street and West Streets have been repaved and rebuilt; a tourist information center has been established at Windmill Park; Marine Park has been renovated; Haven's Beach has been upgraded; the Village's business center has improved parking, and various landscaping improvements have been made; additional overnight accommodations in the Village are now available; water quality in Upper Sag Harbor Cove has been improved; and a portion of the Mobil Oil property has been acquired and improved as a park and parking area. Deteriorated and/or underutilized sites which remain and require attention are as follows:

- **Bulova Watchcase Factory Building**. The Bulova Watchcase Factory Building is a four-story, 80,000 square-foot, brick building. It is vacant, but considered to be in very

good condition. It is a locally designated historic/cultural landmark building, located within the Sag Harbor National Historic District. The Village approved an adaptive reuse of the building - to residential condominiums in the early 1980s. The capacity of the sewage treatment plant has been expanded to accommodate these condominiums, among other anticipated uses.

The Bulova Watchcase Factory site has undergone remediation to mitigate soil and groundwater contamination problems resulting from the former use of the site.

Water Use Districts

The waters around Sag Harbor are heavily used by both recreational boaters and commercial water craft. The high intensity of use in certain areas has caused conflicts in waterway usage (including dockage, moorings and anchorage), and navigation. The Sag Harbor shoreline has areas devoted to harbor use, residential areas, and other natural shorelines. Environmental quality requires that the shoreline area be managed in a manner which directs development, human activity, and shoreline hardening activities to the harbor area, and guides development away from environmentally sensitive lands.

Local regulatory standards and guidelines to be applied along the shore and to govern surface water uses are identified in Section 6 of the Village's Harbor Management Plan (1996). They address the physical design of structures and maintenance of navigational infrastructure, as well as use of surface waters. These standards have been adopted as an amendment to Chapter 53 (Waterways).

Using the powers granted by the State - to regulate construction up to the shoreline, and surface waters extending 1500 feet beyond - the Village can implement many of the harbor management concepts put forth in the Harbor Management Plan. Planning concepts which are not implemented through local legislation should be used by the Village to guide future efforts and to support responses provided the Towns of Southampton and East Hampton on their respective land use decisions about underwater land use within the Village's harbor.

A set of standards which should apply in all water use districts is put forth in the Village's Harbor Management Plan. These will serve generally to protect water-dependent uses, navigation utility, and environmental quality. The plan also puts forth more specific standards to guide development in each of the water use districts, in a manner which is both compatible with historic development trends and appropriate to environmental characteristics.

Water use districts are necessary to define appropriate surface water activities and to promote shoreline management in the Village of Sag Harbor. Identified on Figure 3, in order of use intensity, these are: *Harbor District, Low Intensity District, and Conservation District*. A fourth water use district, the *Preservation District*, is recommended for ultra environmentally sensitive areas.

A premise of harbor management is that surface water use should be related to environmental characteristics, land use and navigational patterns. The *Harbor District*, for example, is the appropriate center for boat fishing, boating, and shellfishing for market purposes (known as "secondary contact recreation"). It is not a suitable area for human water sports such as swimming, diving, water skiing, and surfing ("primary contact recreation"). Primary contact recreation, in addition to secondary contact recreation, can be accommodated in the *Low Intensity* and *Conservation Districts* - provided safety and harbor management standards are enforced. Only unmotorized human water sports would be appropriate surface water uses for the *Preservation District*.

The *Harbor District* is best suited for accommodating high concentrations of water-dependent uses along the Sag Harbor waterfront. Water-dependent uses are defined as activities requiring a location in, on, over, or adjacent to, coastal waters because the activities require direct access to the water. Uses with the highest degree of dependence on waterfront access for navigation include commercial activities that require water depths to navigate, such as marinas, turning basins and docking facilities. Under the standards, preference will be toward water-dependent uses in areas that have been previously developed and do not exhibit significant natural resource values. Shoreline hardening to protect water-dependent uses is appropriate in the *Harbor District*.

The *Low Intensity District* serves as a transitional area between more intensive harbor uses, and conservation areas. The district is appropriate for residential waterfront uses, sited in a way which protect and promote public access opportunities. More intensive water-dependent uses such as marinas - appropriate for the *Harbor District* - are not appropriate for the *Low Intensity District* unless dictated by the unique siting requirements of a given use, and then only if all potential significant impacts are mitigated. Shoreline hardening should be limited to locations above the mean high water line and should only be utilized after all other nonstructural alternative erosion control protection methods have been exhausted.

- **The Village recommends that structures in waters be limited to the lesser of 60 feet in length, or 4 feet in depth in the *Low Intensity District*.**

The *Conservation District* is intended to support sensitive environmental resources and habitats. Construction in this area should avoid disturbance of natural shorelines. Projects which protect and enhance beaches, nearshore, bars, spits, wetlands, and other natural protective features shall be promoted. Shoreline hardening should only be used when no other practical design consideration is suitable, and only when essential to protect principal upland structures. Practical nonstructural vegetative measures should be used initially.

- **The Village recommends that structures in waters be limited to the lesser of 60 feet in length, or 4 feet in depth in the *Conservation District*.**

- **Preservation District. A *Preservation District* is recommended for areas which, because of their environmental character, deserve the highest protection from human**

activity. These areas proposed for the *Preservation District* include Round Pond, Otter Pond, Fore and Aft Pond, portions of Ligonee Brook and Little Northwest Creek. Only passive recreation activities, such as walking and viewing, should be allowed. The Village recommends that construction of shore hardening structures in the *Preservation District* be prohibited.

B. PUBLIC ACCESS AND RECREATION

The Village has the opportunity to expand and improve municipal facilities and public access by implementing infrastructure improvement projects and land use regulations. The ability of the Village to improve recreation facilities depends upon the human and financial resources available. The Village will continue to solicit grant support, donations and assistance from outside organizations (e.g., Suffolk County, nonprofit agencies, private owners) to upgrade public recreation facilities.

Parks

The Village of Sag Harbor owns four parks/recreation facilities: Haven's Beach, Windmill Park, Marine Park, and the Long Wharf. They are all located on or near the harbor. Long Wharf is owned by the County, and managed by the Village. Cumulatively, these facilities provide a considerable amount of waterfront access and recreational activities to the public.

- **Zoning. Haven's Beach is zoned for residential use. Marine Park, Windmill Park and the Long Wharf are zoned for waterfront use. To insure that park lands will remain as public recreational and open space, the Village should rezone Haven's Beach, Marine Park, Windmill Park and Cove End Park to an open space/recreation classification. Conservation lands owned by the NYSDEC on Little Northwest Creek would also be appropriate for this classification.**

- **Windmill Park** encompasses approximately 1.9 acres of shore front area that extends along both sides of the Sag Harbor/North Haven bridge abutment. A tourist information center, operating in the summer, is the only building on the property. It is housed in a windmill structure in the southeast corner of the park. Several benches and a single picnic table are situated on the east. The west is undeveloped and essentially unused. There is no direct connection between the two sides of the park. Minor additions, such as landscaping and walkways and benches, would significantly improve the park. [The State Department of Transportation proposes to reconstruct the North Haven/State Route 114 Bridge (scheduled to begin construction in the spring of 1999). Accessibility concerns could be discussed, with potential improvements made at such time.]

Boat Ramps

The Village has three, public boat ramps which access the bay. Each is in need of repair.

• **Marine Park Boat Ramp**. There is a concrete boat launching ramp at the Marine Park boat basin (see Figure 4) which provides access to the bay. This ramp is heavily used by baymen and recreational boaters, particularly in the summer. It is beginning to crack and subside, and the culvert located to its immediate east is collapsing.

▸ **The Village should repair this public boat ramp, and pursue project funding opportunities as they become available.**

• **Boat Ramps off John Street and Amherst Street**. These two boat ramps provide access to the Sag Harbor Cove Complex. They need to be improved for recreation and to address water quality problems (as discussed in the water quality section). The ramp off John Street provides access to the southeastern end of Upper Sag Harbor Cove. It is regularly used by fishermen and baymen. The second ramp - located on Inner Sag Harbor Cove on the Redwood peninsula, at the terminus of Amherst Road - provides access to Inner Sag Harbor Cove. Both ramps are unpaved, and through years of use have developed ruts and small swales which hinder launching and convey runoff and sediment into the cove.

▸ **Ramps need regrading. Large-size gravel should be installed that will stabilize the ramps, make the launch process easier, prevent sediment from entering the bay, and retain a permeable surface to permit continued percolation. In addition, small berms should be constructed at the top of each ramp, near the road, to prevent surface runoff from traveling down the ramp.**

Street Ends

There are three street ends in the Sag Harbor Cove Complex that provide public access to the waterfront: Yale Road, Notre Dame Road and Dartmouth Road. Selected street ends could be improved to provide better public and visual access to the waterfront.

Pedestrian Circulation

Bay Street and West Water Street, along with a short length of Long Island Avenue, are the Village's waterfront roadway. The development of their frontages and street scape - as they relate to each other and the waterfront - is disorganized, inconsistent in character and, in some instances in poor condition. This area, along with the area of Long Wharf, presents an outstanding opportunity to further improve both the environmental and economic qualities of the Sag Harbor waterfront.

Although Sag Harbor has both an attractive waterfront and a wonderful collection of historic buildings, ease of access, for tourists and other visitors, could be improved. As reported in recent years, approximately 4,800 tourists arrive each year by ferry - all pedestrians. Their enjoyment of Village resources can be substantially enhanced by better guidance and easily discerned pedestrian routings. The objective is to provide a well-

connected pedestrian access system that lends itself to self-guided tours through the Village waterfront and business center.

Many others come to Sag Harbor Village by automobile. Searching for a parking space adds to the congestion in the Village business center streets during the peak season. Finding a place to park is only the first step toward a successful visit. They must become pedestrians to really enjoy the beauty of Sag Harbor.

An important prerequisite in developing this opportunity is the planning coordination of public and private projects in such a manner as to achieve the greatest benefit for all. A major aspect of this is the opportunity to develop a continuous shoreline pedestrian walkway linking the various waterfront elements and also linking the waterfront with the Village business center and the major historic sites in that vicinity. One problem in considering this shoreline promenade is the lack of a well balanced pedestrian circulation pattern which would connect the promenade's extremities with the middle and southerly sections of Main Street in the Village business center. Encouraging walking would tend to decrease the automobile congestion problem in the center.

Underwater Land Grants

The State of New York Office of General Services (OGS) issued seven grants to various upland property owners for underwater lands in the Sag Harbor area. These grants were issued between 1845 and 1968, and in most of these cases these lands consist of upland properties or portions of the upland that were formerly underwater lands that have been filled in. Research into the status of these seven grants has revealed that all of the grants were issued with full interest given to the grantee. Unless the upland was sold to another party or surrendered to the State, ownership of the underwater lands remains with the original grantee; otherwise, the lands belong to the current upland owner. With the exception of a grant issued to the East Long Island Pottery Company in 1882, which was never utilized, the underwater land grants in Sag Harbor are all accounted for.

There are three waterfront properties that have been developed that do not have grants from the OGS. These include:

- the underwater lands that contain the Waterfront Marina owned by Malloy Enterprises;

- the former underwater lands that comprise the Marine Park property, which is owned by the Village of Sag Harbor; and

- the underwater lands and small upland area of the Sag Harbor Yacht Club property.

▸ **Grants/consents/leases for these lands should be obtained from the State. The Village should urge the State Office of General Services (OGS) to be specific and restrictive regarding the use of the underwater lands in the permit to insure the**

grants/consents/leases serve to prevent future uses and activities that may be inappropriate for waterfront locations.

- **In addition, the Village of Sag Harbor was conveyed a portion of the underwater lands originally granted to the Long Island Rail Road (LIRR) in 1888 - when the existing Sag Harbor/North Haven bridge was constructed. Based on records provided by the Office of General Services, the LIRR still owns those underwater lands. The Village has suggested to the LIRR that the lands be given back to the State.**

C. VESSEL USAGE AND WATERWAYS

Sag Harbor is a popular location for recreational and commercial boaters. During the summer boating season, the *Harbor District* is subject to extensive vessel traffic, particularly on weekends, as evidenced by data collected by the Village Harbormaster's office. Accordingly, vessel congestion occurs in a number of locations throughout the Harbor District. At some of these locations, congestion problems are heightened by localized shoaling.

In Sag Harbor, the area under the North Haven/State Route 114 Bridge tends to get congested due to the fact that the channel narrows just where there is a significant amount of vessel traffic created by boats seeking egress from and ingress to marinas and docking facilities in Outer Sag Harbor Cove. That area provides dockage for up to 385 vessels. The fueling dock at Sag Harbor Cove West Marina is another location of congestion in the Outer Cove.

Significant vessel activity occurs at the head of Sag Harbor, near Marine Park. The marinas and boatyard in this area provide dockage for approximately 225 boats. The Village anchorage area and the boat launch ramp can also accommodate a large number of vessels. As a result, during the summer, the head of Sag Harbor can become congested with vessels seeking to dock or head out into Sag Harbor Bay. Congestion also occurs where the channels meet in the harbor on the eastern side of Long Wharf, or by the docks on the west side of Long Wharf.

The Village's Harbor Management Plan evaluates waterway navigation and vessel use on the surface water bodies surrounding the Village of Sag Harbor. The plan addresses conflicts between surface water uses and harbor congestion. The issues and actions relevant to vessel use and waterways which serve to promote navigational safety and protect harbor infrastructure are summarized here.

Navigational Safety and Minimization of Conflicts

- **Enforcement of Waterways Regulation**. Jurisdiction with respect to over water vessel uses within the harbor complex is divided among the Village of Sag Harbor, the Village of North Haven, and the Towns of Southampton and East Hampton. Pursuant to Chapter 46A of the State Navigation Law, the Villages have the exclusive authority to regulate the over water use of vessels upon the waters that lie within 1,500 feet of their respective mean high water line. Additionally, in accordance with Section 130.17 of the New York State

Town Law, the Towns of Southampton and East Hampton regulate over water vessel use upon waters within their municipal boundaries, but not within the municipal limits of a village or the 1,500-foot area of water surface that extends from the mean high water line adjacent to incorporated villages. The Town of Southampton is responsible for the patrol of surface waters and enforcement of waterways regulations in Southampton Town waters. They include those portions of Outer and Inner Sag Harbor Cove lying outside of the Village's jurisdiction. Throughout the summer boating season, when recreational boating and other in-water recreational activities increase, the Town does not conduct regular patrols in this area due mainly to the fact that these waters are isolated from the main body of the Town's waters. In these areas, the Village Harbormaster can issue warnings to boaters in violation of waterways regulation but cannot issue citations or enforce Town law.

▸ **The Village of Sag Harbor should make an effort to cooperate with the Southampton and East Hampton Boards of Trustees regarding enforcement of common waters; The Village and Towns should each pass a local law to establish a cooperative agreement to allow the Village to assist with patrols in this area, and to transfer authority so the Village can enforce existing Town regulations.**

• **Docks**. The Harbor Management Plan notes that there are a number of docks located along the shoreline of Sag Harbor. Construction of private docks becomes an issue in areas where there is heavy vessel traffic, such as the harbor, because docks can worsen harbor congestion and threaten interference with navigation channels. They are also a concern in areas where there are significant natural resources.

Dock construction requires permits from the Village (and Southampton Town or State Office of General Services, depending on underwater land ownership). The Village should control the construction of docks. Dock construction should be directly connected with the character of the upland use. If the upland use is not water-dependent, then a dock should only be permitted to provide necessary access to reach navigable waters.

In the area west of the North Haven/State Route 114 Bridge, (designated as the *Low Intensity District*), where there is a narrow stretch of navigable waters between the land mass, water use activities have the inherent potential to conflict with navigation. Access through Outer Sag Harbor Cove is dependent on the maintenance of the existing navigation channel. Since the location of the channel in this area is fixed, the expansion of navigational access for private residential uses should not interfere or encroach on the navigation channel, nor result in increased vessel congestion.

▸ **The Village recommends that structures in waters be limited to the lesser of 60 feet in length, or 4 feet in depth in the *Conservation District*.**

Infrastructure

• **Breakwater Repair**. The breakwater that separates Sag Harbor from Sag Harbor Bay acts to shelter the harbor from the open waters of the bay, reducing the impacts of wave action generated in the bay. The breakwater was constructed in 1908 and rehabilitated in 1963. It is once again in need of repair. In the past thirty years, this structure has succumbed to gravitational settlement and wave-induced shifting of the rocks. Some of the supporting stones have fallen off. The effectiveness of the breakwater has been dramatically reduced to the point that even during moderate storms, especially northeasters (which drive waves directly against the breakwater), surging waves overtop the breakwater. The Army Corps of Engineers has conducted a field visit to assess rehabilitation needs, and determined that it needs to be rebuilt.

▸ **The breakwater should be rebuilt. Reconstruction proposals should consider height - appropriate to conditions.**

• **Dredging**. Water-dependent uses in Sag Harbor rely upon the navigational access infrastructure that has been established. Some of these channels have not been dredged since they were first established. In addition, there are areas situated outside of the delineated channels (including the western side of the breakwater, the anchorage area west of Long Wharf, and the area in the vicinity of the north end of the Long Wharf), that are in need of dredging to mitigate shoaling and water depth problems. [Refer to Policy 5.2, and the Village Harbor Management Plan.]

▸ **Dredging is an important activity with costs and impacts that require it to be undertaken to meet the current and future needs of water-dependent uses in the *Harbor District*. Dredging activities undertaken east of the North Haven/State Route 114 Bridge should be continued to the ten-foot depths initiated by the Army Corps of Engineers. West of the bridge, access channels should be maintained at sufficient depths (four feet below mean low water) to meet the needs of existing water-dependent uses.**

▸ **In 1960, the Suffolk County Department of Public Works (SCDPW) constructed an extensive navigation channel through Outer Sag Harbor Cove. This channel extends west from the North Haven/State Route 114 Bridge to the head of Paynes Creek. In 1965, this channel was extended south through Inner and Upper Sag Harbor Cove. The area in the vicinity of Marine Park was dredged in 1977, and the Village A and B Docks area was dredged in 1979. The analysis conducted as a part of development of the Harbor Management Plan determined that the portion of the main channel that extends from the North Haven/State Route 114 Bridge west to the Big Narrows, including the spur for the Village docks and the spur to the Ship Ashore Marina and Redwood Boat Basin, should be maintained in the public interest. That portion of the main channel that extends into Paynes Creek and the Inner and Upper Cove areas should remain as a designated channel, but no longer be publicly**

maintained, except in extreme circumstances --- this area is more appropriately a small craft area.

- The SCDPW has not conducted any maintenance dredging of the channels and basin in the Sag Harbor Cove/Bay Complex since they were originally established. The SCDPW has indicated that they have not received any formal requests for dredging from the Village through the Towns of East Hampton and Southampton, and are unaware of localized shoaling conditions or current dredging needs. Furthermore, with the exception of permit applications that were filed in 1990 for the dredging of a spur from the main channel to the Redwood boat basin at the Ship Ashore Marina in Outer Sag Harbor Cove, all dredging permits for Sag Harbor projects have expired. The administrative process for initiating County-sponsored dredging in local waters is a lengthy one, made worse by the time required to secure the necessary state and federal permit approvals. **The Village should promptly advise Suffolk County of their dredging needs so that the County may commence the application process and facilitate dredging where required.**

- There is a **navigation channel and turning basin** located within the **Sag Harbor area** that was originally dredged by the Army Corps of Engineers (ACE). This channel, which has not been dredged since it was constructed in 1937, was de authorized by the ACE in 1992. The Village is responsible for the placement and maintenance of navigational aids in this area. However, although this channel has shoaled and requires dredging, the federal government is no longer responsible for the dredge maintenance. Therefore, **the Village must either: 1) request that the ACE reauthorize this navigation channel; 2) request that the SCDPW add this channel to their list of dredging projects that are in the public interest; or 3) directly arrange for the private maintenance dredging of this channel.**

- **Shoaling** is impacting the **anchorage area in the harbor near the breakwater and the Long Wharf**. Shoaling is occurring along the western side of the breakwater, particularly near its intersection with the shoreline. This has restricted use of portions of the anchorage area located between the channel and breakwater to shallow-draft vessels. Shoaling is **also a problem in the small anchorage area west of the Long Wharf**, where reduced bottom depths make the area accessible only to shallow-draft vessels. Dredging would reestablish these mooring areas and improve navigation. **Both should also be added to the County's dredging list for the Sag Harbor area.**

- The NYSDEC is taking a closer look at all new dredging projects (those areas that have not been dredged within the past 20 years are considered new projects). New projects are not likely to receive approval unless an overwhelming public need can be demonstrated and the issue of acceptable dredge spoil disposal methods and sites can be addressed. In the past, dredge spoils were disposed in upland areas in the vicinity of the Redwood peninsula; Haven's Beach was utilized for the disposal of spoil materials from the Marine Park dredging site. Disposal of dredge spoils in these areas is no longer feasible because these areas are either residentially-developed, in close proximity to residential development, or (in the case of Haven's Beach) used for active public recreation. There

are no upland areas suitable for dredge spoil disposal in the Village. Therefore, **spoil materials generated from future dredging projects would likely have to be removed from the project site and disposed of at a suitable location outside of the Village.**

D. WATER RESOURCES

Water resources in the Village include surface water and ground waters. Their quality is impacted by point pollutants and nonpoint sources. Water quality problems of the Peconics, including Sag Harbor Cove and Sag Harbor Bay, are the focus of attention of various levels of government.

The Peconic Estuary Program (PEP) is a study of these problems by the local, County, State, and federal governments. The Peconic Estuary Program also focuses on such problems as the occurrence and persistence of brown tide and other especially destructive algae blooms, and the wide variety of nonpoint sources. The water quality of Upper Sag Harbor Cove is being monitored for two years as a part of the Peconic Estuary Program. The PEP has identified Sag Harbor Village as a *priority subwatershed* for analysis and management.

The United States Geologic Survey has commenced activities to assess groundwater underflow quantity in the area. The Suffolk County Department of Health Services, Division of Environmental Quality, will also be monitoring groundwater and surface water quality, evaluating pollution inputs to surface waters, and working with Department surface water quality modelers to support the development of management recommendations for the area.

Federal and State stormwater discharge permit programs are also a major undertaking for reducing the effects of point source pollutants on water bodies. In the State of New York this is accomplished through the administration of the State Pollutant Discharge Elimination System ("SPDES") program.

Point Sources

The principal point sources of pollution affecting waters in the Village of Sag Harbor are the Village Sewage Treatment Plant, marinas, stormwater discharges, and vessels. They are discussed in the following paragraphs:

- **Sewage Treatment Plant**. Sewage flow is presently discharged into Sag Harbor. Expansion of the sewage treatment plant to treat increased sewage flows and projected sewer flows. The treatment process would be upgraded to provide tertiary treatment of all sewage flows - to remove nutrients from the sewage flow that are presently discharged into Sag Harbor.

- **Marinas**. Marinas can contribute significantly to the concentration of pollutants in the water column, bottom sediments, and tissues of benthic organisms living within the limits of the marina itself. Pollutants from marinas and recreational boating may enter the water through discharges from boats, spills, maintenance areas, stormwater runoff and vessel operation. The types of pollutants often associated with marinas and recreational boating

activities include: organic materials discharges from recreational boats; toxic heavy metals associated with boat maintenance and repair operations at boatyards and marinas; petroleum hydrocarbons from refueling activities and bilge or fuel discharges from boats; fecal coliform bacteria; and, disruption of sediments and habitat from boat operations and dredging.

Point sources of pollution from marinas are primarily handled through the NYSDEC general permit for industrial activities, which applies to marinas. To receive a NYSDEC permit, marina operators are required to develop and implement comprehensive stormwater management plans and controls, and monitor runoff and pollutant discharges.

• **Stormwater**. The impacts of stormwater discharge on surface water quality can be mitigated to a large degree by the implementation of structural control measures (e.g., catch basins, leaching pool systems, and retention basins), which serve the multiple purposes of storing a specific volume of stormwater - allowing the stored water to be recharged to groundwater, and creating conditions by which sediment particles can settle out of suspension. The sedimentation function of stormwater management structures is particularly important, since most contaminants (including coliform bacteria) associate with fine-grained sediment particles. Sediment is removed from the stormwater, along with a large fraction of the associated contaminants. To keep these structures functioning, maintenance involving the removal of sediment is critical.

The Village currently applies site plan review procedures to marinas and other nonresidential land uses to assure the adequacy of such site improvements as surface drainage and on-site surface water disposal. The Village's commitment to protecting coastal water quality is also supported by the WF Waterfront Zoning District and MA Marine Zoning District -- where marinas and yacht clubs may not adversely effect adjacent tidal waters.

▸ **Haven's Beach is bisected by a drainage ditch which outlets to Sag Harbor Bay.** This ditch carries stormwater runoff collected along Bay Street and Hempstead Street - the runoff is conveyed into this ditch without pretreatment to remove pollutants. Stormwater runoff can contain a high degree of contaminants, particularly the "first flush" that is collected at the onset of a storm event. **Development of a wet detention system, or other stormwater mitigation measure, would reduce the pollution contributed by the drainage ditch.** Preliminary designs of alternative improvements are underway. The Village will require funding to implement the project and should pursue all feasible opportunities.

• **Vessels**. Vessel discharges can cause water quality problems. The discharge of these sewage wastes from boats can degrade water quality by: introducing microbial pathogens to surface waters; and locally increasing biological oxygen demand. Due to the high concentration of marine vessel activity (three marinas, one boat yard and two anchorage areas) and the location of the sewage treatment plant outfall, the entire area located inside the breakwater (Sag Harbor) is closed to shellfish harvesting by the NYSDEC on a year-

round basis. In addition, the NYSDEC has identified two specific areas in the harbor complex that are of a concern with regard to the potential contamination of shellfish beds due to seasonal water quality degradation and/or vessel discharges. These include the easterly portion of the Outer Sag Harbor Cove, and the waters in the Redwood boat basin. The NYSDEC has indicated that concentrated sewage discharges from vessels in these areas have the potential for the localized contamination of the underlying shellfish beds.

‣ To address the impacts associated with vessel waste discharges, **the Sag Harbor Cove/Bay Complex - west of the breakwater - should be designated by the State, by State statute, as a vessel waste "no-discharge zone."** The advantage of this designation would be to prohibit the discharge of sewage from marine toilets within the bounds of the harbor complex, and requires that vessels being used on these water bodies have their marine sanitation devices secured so that wastes from the marine sanitation devices cannot be readily discharged into those waters. This would be enforced by any police officer or peace officer acting pursuant to their special duties, including State Police, Environmental Conservation Police, State Park Police, Navigation Inspectors, and local Police Officers and Harbormasters. Although federal law prohibits the discharge of untreated sewage within three miles of the shore, treated sewage may be discharged inside this boundary and the U.S. Coast Guard has the sole responsibility for enforcement. The Village would enact a local law, should it be designated.

Installation of additional vessel pump-out facilities - especially in the Outer Sag Harbor Cove area - will support the "no-discharge zone" designation. **The New York State Clean Vessel Act Plan, August 1996, recommends that one additional pump-out facility be installed west of the North Haven/State Route 114 Bridge.**

• **Reclassification of Water Quality**. Water quality in the *Harbor District* is now classified as *SA* - which is the highest ranking for surface waters - indicating that waters are suitable for shellfish harvesting for market purposes, and primary and secondary contact recreation (i.e., boating, swimming). In actuality, the shellfishing and recreation potential of the area is limited because of the sewage treatment plant outfall, marinas, and anchorage areas located in the harbor. Because of these influences, 155 acres of underwater lands in the *Harbor District* (situated between the North Haven/State Route 114 Bridge and the breakwater) are uncertified by the NYSDEC and closed year-round to shellfish harvesting. In addition, in accordance with the National Shellfish Sanitation Program (described in the Village's Harbor Management Plan, Section 5.6.B and Appendix A), a seasonal closure area must be maintained around marinas to mitigate potential contamination problems.

‣ **The NYSDEC should reclassify surface water in the *Harbor District* to reflect actual water quality conditions.** The activities and land uses impacting the surface waters of the *Harbor District* will not change in the future. **The water quality classification for this area should be changed by the NYSDEC from *SA* to *SB* to reflect actual conditions.** [*SB* waters are considered suitable for primary and secondary contact recreation and any other use except the taking of shellfish for market purposes.]

• **Rowe Industries**. The Rowe Industries groundwater contamination site - located in the Town of Southampton - was listed on the Environmental Protection Agency's National Priorities List in July 1987. In 1988, a Consent Order was to conduct a Remedial Investigation/Feasibility Study to evaluate the exact nature and extent of site contamination. A preferred alternative was selected after public comment, and in September 1992, a Record of Decision (ROD) was signed for the site - to begin the remedial design and implement the proposed remedial action.

The remedial action for the Rowe Industries, Inc. Superfund Site will remove volatile organic compounds (VOCs) from the groundwater by pumping it through a series of extraction wells located on-site and in the contaminated groundwater plume. The contaminated groundwater will be conveyed from the extraction wells by underground piping to air-stripping equipment located on the site. Although the actual site is located outside the Village, the treated groundwater will be discharged to Sag Harbor Cove (by way of Ligonee Brook) through a diffuser, via a discharge pipe from the site. The diffuser will extend into Inner Sag Harbor Cove and be placed on the sediment surface. Before pumping of the groundwater begins, contaminated soils will be remediated and disposed of in accordance with all applicable federal and State statutes.

Throughout the life of the remedial action, monitoring of surface and groundwater conditions will be conducted to ensure that pumping and discharge activities do not cause significant adverse effects to nearby surface water bodies and wetlands. Baseline studies will be conducted prior to the remedial action. During the remedial action, monitoring of the condition of surface water, groundwater and the ambient air will be conducted in order to ensure that the remedial action is protective of human health and the environment. Once the clean up action levels are achieved, the air strippers, diffuser, and above ground features of the remedial action will be removed and the ground surface and bay bottom returned to conditions similar to that which existed prior to the remedial action.

Nonpoint Sources

The significant categories of nonpoint pollution impacting the ground and surface waters of Sag Harbor are fertilizers, failing on-site sewage disposal systems, waterfowl wastes, and roadway runoff.

• **Fertilizers**. Several waterfront residences in Sag Harbor have expansive lawns and ornamental plants that require fertilization. Fertilizers contain nitrates and phosphates that, in abundance, cause algae blooms. Since fertilizers constitute one of the largest sources of nitrogen applied to the land surface, they are also a significant potential nonpoint source of ground and surface water contamination.

▸ **Public education should continue, and regulation may be employed to limit or possibly eliminate the use of all or specific types of fertilizers.** Best management practices could include modification of application rates, discontinuance of reliance on fast-acting inorganic fertilizers, and promotion of low-maintenance lawns, which would require

both less fertilizer and less consumptive use of water. The use of natural vegetation and restricted usage of common garden fertilizers and pesticides would also be desirable. Slow-release organic fertilizers, wherever fertilization is necessary, would have a lesser impact. These measures could be described in a publication, such as a brochure, and distributed to Village residents. [E.g., *Save the Peconic Bays, Inc.* published a booklet that provides general information on water pollutants and offers rational actions to lessen negative impacts.]

‣ **Adopt-A-Stream**. A volunteer program should be established that would enable an individual or group to adopt a stream, pond, or length of shoreline. Each "adoption case" would consist of an initial evaluation of existing conditions and potential problems. The responsible individual or group by clearing their adopted water body by picking up trash and other debris at least twice a year, and paying attention to any negative and potentially destructive influences.

• **Failing Sewage Disposal Systems**. When not properly maintained, sewage disposal systems can cause contamination of surface and groundwater resources. Failing septic tank waste disposal systems can present a serious problem that is difficult to pinpoint through direct observation.

‣ **In order to identify faulty on-site sewage disposal systems in the vicinity of Otter Pond and Upper Sag Harbor Cove, a dye-testing program should be conducted.** The Village should investigate sources of funding, possibly in conjunction with the Suffolk County Department of Health Services, to establish a dye-testing program that would allow for the testing of systems in the area of concern, and provide financial incentives to enable local homeowners to upgrade failing systems.

• **Waterfowl Wastes**. Waterfowl waste contaminates water with pathogens and nutrients. The quality of water in Otter Pond, particularly, has become severely degraded as a result - in part - of a large resident waterfowl population. The Sage Foundation, the entity that owns the Otter Pond property, conducts an ongoing program to improve the foreshore so that pollutants are filtered before entering the pond.

• **Roadway Run-Off.**

‣ **Priority capital projects and the development of design standards for roads and bridges would be the important means of addressing urban nonpoint pollution from roads, highways and bridges. Runoff management systems should identify priority pollutant reduction opportunities and schedule implementation of retrofit projects to protect impacted areas and threatened surface waters.**

There are two boat ramps contributing sediment to the Sag Harbor Cove Complex that require improvement (also discussed under *B. Public Access and Recreation*): the boat launch ramp located on the Redwood peninsula, at the terminus of Amherst Road, and the ramp located off John Street, at the southeastern end of Upper Sag Harbor Cove. Boaters

maneuver trailers down these moderately sloped ramps to the water. Through years of use, these sites have developed ruts and small swales that convey roadway runoff and sediment directly into Sag Harbor Cove. The runoff can be reduced by upgrading the surface conditions of these ramps.

- **Both the Amherst Road and the John Street ramps will be regraded and large-size gravel will be spread that will stabilize the ramps, preventing sediment from entering the bay, and retaining a permeable surface to permit continued percolation. In addition, small berms will be constructed at the top of each ramp, near the roadway, to prevent surface runoff from traveling down the ramp. At Amherst Road, the runoff will be conveyed from the berm into a storm grate that is connected to a leaching pool. At John Street, the runoff will be directed into the drainage structure that rings the John Street wetland, rather than conveying it directly into the adjacent outlet stream that connects the pond to Upper Sag Harbor Cove. These upgrades will be instituted without significant cost to the Village, with grant assistance from the *Peconic Estuary Study*.**

E. FISH AND WILDLIFE

The following sites are either estuarine water bodies or wetland systems that have been impacted. These areas have not been designated by New York State as Significant Coastal Fish and Wildlife Habitats, but are locally important. The reasoning behind presenting this information is to outline ways in which the Village and private citizens can preserve and restore these degraded habitats.

- **Sag Harbor Cove Complex**. Water quality in this system is somewhat degraded. One major cause of degraded water quality in Sag Harbor Cove is due to input of untreated roadway runoff. For example, significant quantities of stormwater enter the Upper Cove from the northern end of CR 60 (Noyack - Long Beach Road). At this location, there are at least four points where runoff is channeled directly into waters of the Cove. These gross runoff points should be addressed by the County. Additionally, there is a major source of road runoff entering the Paynes Creek area from the residential area west of Noyack Road. This source of contamination is being addressed by the Town of Southampton.

  Another reason for degraded water quality has been the loss of most of the original wetland fringe from the perimeter of the Cove. Construction of shoreline stabilization structures, docks and the deposition of dredge spoils has reduced the total salt marsh area in this system, incrementally, and prevented the retreat of wetland habitats inland as the sea level rises.

- **Otter Pond/Upper Sag Harbor Cove**. Otter Pond and its surrounding land has been severely degraded as a result of decreased tidal flushing, roadway runoff, public access and a large resident waterfowl population. As a result, the pond contributes coliform bacteria to Upper Sag Harbor Cove and is aesthetically unattractive due to its denuded shoreline and algal laden water. Polluted water from Otter Pond, that flows into Upper Sag Harbor Cove, has contributed to the year-round closure of the southeastern end of Upper Sag

Harbor Cove to shellfish harvesting. The Sage Foundation has an ongoing program to improve the foreshore, restoring the fringe of wetland grasses around the perimeter of the pond. This will aid in the filtration of pollutants entering the pond.

- **On-site sewage disposal systems in the vicinity of Otter Pond and Upper Sag Harbor Cove should be monitored to protect against potential failing.**

Wetlands

• **Round Pond and Ligonee Brook.** It is imperative that the freshwater features of Round Pond and Ligonee Brook be protected by suitable regulation and preserved, wherever possible, by the rigorous application of preservation strategies including acquisition, easements, reserve area and dedication and setbacks. The system of elements should be treated as a whole in any future management plan.

• **Wetlands Regulation.** The Village regulates development in wetland areas under local law: Bulkheading, Dredging, and Canals {Chapter 12}. This law regulates, by permit, dredging or filling and the construction of canals, bulkheads, and other shoreline structures that may impact tidal wetlands (located above mean high water). The law is not comprehensive, however, because it does not protect all wetland resources. In particular, the law does not address impacts from upland development activities. The Village contains a significant number of freshwater wetland areas and extensive areas of tidal marsh throughout the Sag Harbor Cove Complex. These wetland resources warrant stronger protection, and the NYSDEC, under Articles 24 and 25 of the Environmental Conservation Law, cannot be fully relied upon to protect wetland resources.

- **The Village should adopt a separate wetlands law that more specifically outlines provisions for activities that may impact all wetlands - tidal, freshwater, and brackish.** This law should contain a narrative that recognizes all three categories of wetland; outlines the significance of protecting these resources; and delineates where protected resources are found within the Village. This law should also outline the full realm of activities that should be regulated in order to protect wetland resources. The wetlands law would also contain some standards to implement the provisions of the *Conservation* and *Preservation Water Use Districts*. It would specify the necessary setback requirements and structural limitation applicable in these districts. [A copy of the draft Wetlands law is contained in Appendix B.]

• **Wetlands of Otter Pond.** Upland slopes adjacent to Otter Pond should be maintained in as natural a state as possible, with little fertilization. Additionally, Otter Pond has had most of its protective fringe removed. The area to the east of the pond still provides filtration and stabilization for the pond. A wetland restoration project at Otter Pond could restore the beauty, user benefit and quality of the pond. The Sage Foundation is working with Cornell Cooperative Extension - ongoing - to undertake a wetland planting around the perimeter of Otter Pond.

• **Wetland east of Glover Street and Cilli Avenue.** This area, locally referred to as the Cilli Farm, consists of a filled wetland site. Only a remnant ephemeral wetland pool remains to indicate where the original wetland was located. The fill has drastically altered the topography of the system and encouraged the invasion of weedy species such as common reed (*Phragmites australis*) and box elder (*Acer negundo*). Most vegetation has been removed by discing, through farming activity; woolgrass (*Scirpus cyperinus*) is the only valuable wetland plant apparent on the site. Despite the damage, this area still supports numerous species of common amphibians and bird (Held, pers.com.).

▸ **Every effort should be made to restore this area to its original wetland habitat. The Village cannot afford to lose this system due to the limited number of freshwater wetlands remaining in the area. The Village is pursuing alternatives to maintain the property as open space. If possible, the site should be restored and either acquired or protected as open space in perpetuity.**

• **Fore and Aft Pond.** This system has been somewhat degraded by the activities of a developer that attempted to drain the system by excavating a large "drainage" hole (Held, pers. com.). However, the effects of this impact have not been entirely determined. Water levels have been lower in the system since this occurrence, but ascribing this to the excavation is complicated by normal fluctuations in seasonal precipitation.

▸ **The Village should make every effort to protect the site from further impacts and preclude development near this very fragile and valuable system. Additionally, the Village should consider restoring the system if significant negative impact is evident.**

F. HISTORIC RESOURCES AND OVERALL VISUAL QUALITY

Surveys

With the submission of the State and National register nominations in 1992, and the enlargement of the district at the local level, Sag Harbor has identified all of its historic resources. No additional surveys are anticipated. The inventory of properties within the historic district (approximately 1,200) has been entered into a data base which should periodically be updated as new information on properties becomes available. The data base is kept at the Village Clerk's office.

Local Preservation Efforts

Sag Harbor first adopted a local historic preservation local law in 1974. The more recent protection offered under *Chapter 55, Article XV - Historic Preservation and Architectural Review* grants broad regulatory powers to the Board of Historic Preservation and Architectural Review. This Board is "... charged with the duty of maintaining the desirable character of the village ... and exercising sound judgement and of rejecting plans which, in its opinion, are not of harmonious character because of proposed style, materials, mass, line, color, detail ...." Every application for a building permit for the construction, reconstruction, or alteration of a building or structure within the Village falls under the Board's purview. Demolition or removal guidelines are included - designed to especially protect buildings and structures within the Historic District, and designated historic or cultural landmarks.

The historic preservation local law was amended in 1988, when the Secretary of the Interior's "Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings" were adopted as criteria to be used when reviewing plans relating to a property in the Historic District. The amendment allowed the Village to be named a *Certified Local Government (CLG)* in 1989. This program, established through the National Historic Preservation Act, is a nationwide program of financial and technical assistance to preserve historic properties. The naming of the Village of Sag Harbor as a *Certified Local Government* firmly commits Sag Harbor to the protection of its historic resources, in partnership with the State and federal governments. As such, the opportunities for a wide range of preservation projects for the future will enjoy local government support and guidance. Sag Harbor has benefitted from its *CLG* status in receiving grants to assist in performing the Reconnaissance and Intensive Level Survey of Historic Resources (1990/1991); providing training for the Board of Historic Preservation and Architectural Review (1990/1991); producing a training manual for the Board (1991); preparing the State and National Register Historic District nominations (1992); and, preparing brochures concerning Sag Harbor's Historic Preservation Program (1992).

There is constant pressure to further develop/redevelop areas of Sag Harbor, which lie within the Historic District. As the amount of open space within the district is limited, the projects usually involve alterations and additions to existing buildings. The Board sees that constant vigilance, work sessions between building permit applicants and the Board of Historic Preservation and Architectural Review, and cooperation with Village boards and staff members prove to be the most positive forces for preservation advocacy. The relationship with the Village Building Department is particularly critical, and has been useful in resolving some situations on an advisory and work-session basis. However, because of the nature of the Board and its function, preservation is seen largely as a method of controlling development and reacting to permit applicants. Opportunities exist, particularly in the Board's public education role, for preservation to be seen as a positive and pro active force in the community. The Board supports appropriate adaptive reuse of historic buildings, and has taken a lead in publishing information for owners of historic buildings to assist them in appropriate treatments and repairs.

In order to more fully protect the significant nature of Sag Harbor's historic resources, Article XV is further strengthened by the requirement of a "Certificate of Appropriateness." This is required of any building owner who seeks to alter a building exterior within the Historic District, regardless of the requirement of a building permit. In this way, the steady erosion of historic materials and details - that may occur without notice - comes under the same review process as more substantial building projects. Obtaining a Certificate of Appropriateness became a requirement in 1994.

• **Historic Maritime Community**. The Village was included in a study of Long Island Sound and Peconic Bay *Historic Maritime Communities*, conducted by the Department of State; Office of Parks, Recreation and Historic Preservation; and Department of Environmental Conservation during 1996. The study made recommendations regarding the protection and promotion of local maritime heritage resources - including the option that communities may prepare a Historic Maritime Community Plan. Elements of the plan would address developing local awareness of the resources, identifying and protecting resources, maintaining economic vitality, and sharing the community's maritime history. Upon approval of the plan by the Secretary of State and the Commissioner of Parks, Recreation and Historic Preservation, the Village of Sag Harbor would be designated a Historic Maritime Community. The plan would enable the Village to be eligible for assistance under the Department of State-Division of Coastal Resources, and the Heritage Areas Program (Office of Parks, Recreation and Historic Preservation). The Village is in a optimum position to prepare a Historic Maritime Community Plan, since many of the components that would be emphasized in the plan have already been introduced - in other programs.

The following projects should be pursued:

- **Provide outdoor signage which describes, illustrates, and illuminates historic and cultural sites and structures.**
- **Provide accurate historic information to merchants and vendors.**
- **Encourage festivals and celebrations which honor Sag Harbor's past.**
- **Coordinate activities of groups already engaged in interpreting local history to the public -- to make visitation to all institutions logical and progressive, including: Sag Harbor Historical Society/Jail; Old Whaler's Church/Burying Ground; Firehouse Museum; Whaling Museum; Custom House; and John Jermain Library Local history room.**
- **Redesign the existing "Village of Sag Harbor" map - to include information important to visitors: restroom facility locations; museum hours; and park and playground locations. The current map includes both private and public buildings, and gives no indication of which are accessible, or what they have to offer. The street names are unclear, and there is no scale, making the area unappealing to pedestrians.**
- **Design and erect interpretive signage: permanent, year-round signage located near parking areas that would inform visitors about the history and development of the Village.**

- **Design and set up a historic trail: using Village streets as the road map and guide, a painted line could lead visitors to the important sites in the Village. Combined with interpretive signage, the trail would become a self-guided tour.**

Character Areas

There are issues and opportunities within most of the character areas, which need to be addressed to enhance and preserve visual quality. The following provides a description of the issues and opportunities in each character area - many of the opportunities take advantage of the increased visual access to the water - due to the loss of 18th and 19th century structures.

(1) Marina Character Areas - Marinas are important to both the economic health and aesthetic enjoyment of Sag Harbor. Because there are few buildings which relate to marina activities, the views to the water around the marinas are particularly vital and worthy of preservation. Permanent structures which would impede this view should be discouraged.

(2) Marine Recreational Character Areas - This character area is important as it provides public access and use to the waterfront, not just to the view. Public amenities such as rest rooms, changing rooms and service buildings should be located discretely and away from the shoreline.

Long Wharf. While no original material survives its 18th century construction, the existing structure is on the same site as this first construction, and it is symbolic of the long time connection Sag Harbor has to the water and maritime industries. Recent rehabilitation of the wharf has stabilized its structural integrity. However, the visible portions - asphalt pavement, guard rails and minimal bench seating - all ensure that the wharf's primary use will be public parking. Even though the wharf is used as a mooring for the ferry to Connecticut, commercial tour boats, and any visiting commemorative vessel, the overall impression of the wharf is automobiles. The area between the guard rail and the unprotected edge of the wharf is too narrow for safe pedestrian use, yet all the benches are located in this area.

- **A design study should be undertaken which would propose feasible alternatives to the present use, and offer a more attractive space to be utilized by pedestrians, primarily, with less emphasis placed on vehicular use. An opportunity exists to restrict parking on the Long Wharf to the southernmost portion, and to create a park-like atmosphere with planters, seating and other amenities at the northern end. This could be an area for strolling and viewing waterfront activities.**

(3) Marine Natural Character Areas - These areas are best protected and left in their natural state, with extremely limited accessibility. Areas without development are becoming critical in giving wildlife a protected habitat in the increasingly densely populated Village. Marine Natural Character Areas are closely linked with the recommended *Preservation Water Use District*.

▸ **It is recommended that the Village and local land trust continue to acquire privately-owned property in these character areas when the opportunity exists.**

(4) Business District Character Areas - These non-maritime commercial areas are vital to the year-round economy of the Village. Protection to most of the business district is afforded by *Chapter 55, Article XV - Historic Preservation and Architectural Review*. Non-architectural elements, such as the pavement, curbing, trees, fences, parking lots, street lighting, benches, waste containers and street signage all contribute (or detract from) the character. The design of all such site amenities should complement the surrounding landscape.

Curbing. The Village has been experiencing a loss of historic granite curbstones for several years, as the deteriorated stones are replaced with concrete curbs. New curb cuts mandated for accessibility are executed in concrete as well. The concrete curbs form a hard line of uniformity that was uncharacteristic of the sections of granite curbing used formerly.

▸ **Whenever possible, the historic granite curbing should be maintained and reused.**

Trees. The Sag Harbor Tree Committee inventoried the street and publicly-owned trees in the Village - recording their size, species and condition. When completed, this will contribute to a responsible care and replacement program throughout the Village, but particularly necessary in the *VB Village Business District*.

Benches. Benches located in the *VB Village Business District* get plenty of use, but are often located so near to the angled street parking spaces that they are crowded by the bumpers of the cars/trucks that are parked in those spaces. Sitting on a downtown bench becomes an experience with a focus on automobiles, not the street scape or the sidewalk.

▸ **Reorienting or redesigning the benches to take advantage of a more amenable view is recommended, as is locating more benches in areas where parking is not permitted.**

Street layout. The flagpole triangle at the north end of Main Street is on a direct axis with Long Wharf, leading the eye to a view down the wharf to the water. The triangle is also the center of a very confusing 5-way intersection. The overall impression of the spot is one of pavement and traffic, not of an approach to the waterfront.

Signage. Signage is regulated by *Chapter 55, Article XI - Supplemental Use and Dimensional Regulations*, and proposals are reviewed by the Board of Historic Preservation and Architectural Review. Though there are several signs "grandfathered," new signs must be of the type and design appropriate to Sag Harbor's character.

▸ **The design of Town, County and State signs is often less sympathetic, and can be confusing as well as distracting. Signage should be simplified by grouping signs on one post, and matching the size of lettering and color.**

Accessibility. Two public facilities, the Municipal Building and the John Jermain Memorial Library, have recently undertaken major projects to create accessible entrances for the handicapped. As more projects will be required to allow businesses to meet the requirements of the Americans with Disabilities Act (ADA), Sag Harbor must be prepared to work creatively with public officials and business owners to find appropriate solutions.

(5) Residential Character Areas - The Village's historic core residential areas have been well protected under *Chapter 55, Article XV - Historic Preservation and Architectural Review* - projects which require building permits must receive approval from the Board of Historic Preservation and Architectural Review, which uses as criteria for review the Secretary of the Interior's Standards for Rehabilitation.

However, the twentieth century neighborhoods are reviewed with more general design criteria; each of the neighborhoods possess individual character. Maintaining this character when the resident population is increasingly year-round is difficult. More residents are improving and enlarging their houses, and new houses are being built on vacant lots. This is especially critical in the "Azurest," "Ninevah" and "Sag Harbor Hills" neighborhoods, where the overall character is still very much light woodland.

▸ **Maintaining setbacks and encouraging builders to retain existing trees will help this area maintain its character under pressure from development.**

(6) Industrial Character Areas - These sites - which reference Sag Harbor's past manufacturing and industrial involvement - are particularly threatened, since most activities associated with such uses are not permitted under current zoning. Some buildings, such as the Grumman buildings on Long Wharf, have been adaptively reused, but have lost much of their industrial character in the process.

▸ **The Bulova Watchcase Factory is the most substantial of the industrial landmarks in the Village. Any new use proposed for the structure should respect the visual qualities which identify it as an industrial building of the nineteenth century.**

(7) Open Space Character Areas - Available upland open space in Sag Harbor is at a premium. In other local communities, environmentally sensitive small lots have been deeded to the Nature Conservancy, the Peconic Land Trust or the local municipality to insure their perpetual natural state.

▸ **Parcels which are appropriate candidates for such conservation should be identified, and negotiations should be initiated with these appropriate not-for-profits or the Village.**

(8) Multi-Unit Residential Character Areas - These areas of densely developed residential housing are currently limited to the area of West Water Street. As waterfront property east of this area becomes available, it is not likely that new proposals will include development of similar character. The disadvantage of this type of development is the limited public access allowed to the waterfront.

(9) Institutional Character Areas - The schools, churches, meeting halls, retreat centers and museums which fall into this character area category are scattered throughout the Village. Public visibility is a large problem. Most of these institutions could use a higher public profile - to promote activities and services.

- **The Village should redesign the existing "Village of Sag Harbor" map - to show locations and provide information important to visitors regarding such facilities: accessibility concerns; public restroom locations; museum hours; church services.**

(10) Agricultural Character Areas - There is just one site in the Village which still reflects its former agricultural use - the Cilli farm, located on Glover Street. The property has been the subject of debate and draft development proposals for a number of years. The large land area makes the site an attractive one to developers. It is not likely that the site will go undeveloped much longer, although the additional infrastructure necessary to accommodate the development have yet to be put into place.

- **Any development on this site should try to maximize the open quality of the landscape, and emphasize that new buildings be clustered on the lot. The Village is pursuing alternatives to maintain the property as open space.**