

7 MARINE RESOURCES

The Town of St. George is fortunate that its 125 miles of coastline is comprised of a number of diverse physical and cultural waterfront landscapes. Within the past decade, these waterfront areas have witnessed significant residential growth and development, as well as increased demand for access to, and recreation within, harbor areas. The impacts associated with these activities are especially evident in the areas of Tenants Harbor and Port Clyde. Commercial fishermen use privately owned waterfront land to access public fishing grounds and as a place for working on gear and vessels, residential development is attracted to waterfront land for its natural beauty and unique seascapes and the general public desires access to the coastal waters belonging to all Maine residents for recreation and commerce.

The marine resources of St. George contribute to the Town's local economy. Marine resources are also valued for habitat preservation and recreational opportunities such as fishing and boating. The purposes of this chapter are to help the Town identify, manage and adequately protect its marine resources, including critical habitats, protect the health of residents and safeguard the local economy dependent on marine resources.

7.1 Waterfront Land Uses

Patten Point, Rackliff Island and Wheeler Bay. St. George waterfront land begins on the west side of Patten Point Road; two private commercial fishing wharves are operating east of Wheeler Bay. Rackliff Island is a large subdivision with privately owned residential waterfront lots and water access on Seal Cove and Wheeler Bay. On Wheeler Bay there are four families' commercial fishing wharves and two commercial fishing wharves all used to land lobsters, provide fuel, load traps and store bait. Miller's Lobster Deck is a seasonal seafood restaurant at the end of Eagle Quarry Road.

Scraggle Point, Mill Cove and Patricia Lane are residential subdivisions with waterfront lots on Wheeler Bay accessed from Clark Island Road. With access from Clark Island Road, the Hurricane Island Outward Bound School property on Wheeler Bay has a private deep-water wharf and launching ramp usually available to Clark Island village residents and commercial boat haulers. The Craginair Inn at the end of Clark Island Road is open year-round providing meals and lodging. Clark Island itself and the beach are privately owned.

Long Cove. Waterfront land on the east side of Long Cove accessed from Clark Island Road is entirely residential and relatively undeveloped. Waterfront on the west side of Long Cove is accessed from Long Cove Road and is residential with seasonal floats and no permanent wharves. Sea Hag LLC (formerly Great Eastern Mussel Farms) and Carlson's Lobster Wharf are public commercial wharves on the west side of Long Cove

accessed from Mussel Farm Road. Two private commercial wharves are operating on the Seavey Cove side of Long Cove and are accessed from the States Point road. Other waterfront land on States Point is residential and wharves are used for recreational boating.

The William Atwood Lobster Company at the end of Atwood Quarry Road is a public commercial wharf. Waterfront land on Haskell Point is residential and fully developed. A lobster pound and public commercial fishing wharf operates between Haskell Point and Barters Point. Waterfront land on the west end of Long Cove accessed from Barters Point Road is primarily residential and fully developed. Two family commercial fishing wharves operate on Barters Point with frontage on Long Cove.

Tenants Harbor. Waterfront land on the east side of Tenants Harbor has mixed residential and commercial fishing use. Linda Bean's (formerly Witham's) and Cozy Harbor (formerly Art's Lobster) are public commercial fishing wharves serving area fishermen. The Tenants Harbor boatyard is located adjacent to Cozy Harbor. The waterfront on the west end of Barter's point is residential until the East Wind Inn. The Luke's Lobster restaurant is a seasonal restaurant and seafood market with service to the numerous recreational boaters using the Harbor and Long Cove for overnight anchorage during the summer.

Moving south from the village along Route 131, a residential pattern continues which is mixed with bed and breakfast establishments, home businesses and craft shops. A large cemetery, Town baseball field and tennis courts contribute to the open space in this area between Route 131 and Tenants Harbor. This section of the waterfront also includes significant undeveloped wooded areas along the upper reaches of the tidal flats extending south from the main harbor. Waterfront land on the west side of the Harbor (Blueberry Cove Camp) is largely undeveloped and now operated as a marine education center by the University of Maine and Tanglewood 4-H Camp.

In Tenants Harbor, there is now a 75-foot marked main channel with a buoy at the beginning warning "no wake." There are still some moorings that allow boats to swing into the channel. Tenants Harbor supports an increasing number of recreational boats that conflict with commercial use of the harbor. Although the Tenants Harbor mooring field is fully utilized, the 2006 Mooring Plan provides for growth of over ten percent for new moorings in the southwest end of Long Cove near Mouse Island.

On the west side of the Harbor accessed from Hart's Neck Road, in the area known as Elmore, existing waterfront land is again residential and fully developed.

The Back Shore – Hart's Neck. The waterfront land accessed from Hart's Neck Road and Roaring Spout Road proceeding toward Martinsville is bold open ocean land with private residential use and is not fully developed.

Mosquito Harbor. Mosquito Head is privately owned and the waterfront land is undeveloped. The waterfront land on Mosquito Harbor is primarily residential with two family commercial fishing wharves currently operating.

Mosquito Harbor to Drift Inn Beach and Marshall Point. The waterfront land is residential and fully developed. The Drift Inn Beach parking lot is owned by the Town and provides public shore access for swimming and picnicking.

Marshall Point and Port Clyde Harbor. The Marshall Point Light Station is a public open space area owned by the Town, acquired from the U.S. Coast Guard in 1994. There is a museum located in the keeper's house administered by the volunteers of the St. George Historical Society and a Fishermen's Memorial honoring Saint George mariners lost at sea. Between Marshall Point and the village at Port Clyde, waterfront land uses are residential; many of which are seasonal. Herring Gut Learning Center, a lobster pound used for experimental aquaculture is located in a small cove on Factory Road. The Port Clyde Fresh Catch seafood processing plant is adjacent to the lobster pound on Sea Farm Road. Concentrated residential developed areas occur along both sides of Factory Road and west of Marshall Point Road; most of the area east of Marshall Point is developed.

Port Clyde Village. The village at Port Clyde is comprised of the most diverse mix of land uses within St. George. Founded as a fishing village, Port Clyde has retained its character; however, it has witnessed a transition of waterfront land use. The Monhegan Island ferry establishes Port Clyde as an arrival/departure terminal for ferry passengers. A number of commercial businesses operations service island residents as well as tourists. Port Clyde businesses include the Monhegan Boat Lines ferry operation, Port Clyde General Store, The Ocean House, and the Seaside Inn, Village Ice Cream, Port Clyde Kayak Company, gift shops, restaurants, art galleries and home occupations. Many of the remaining properties are devoted to the commercial fishing industry, including the Port Clyde Fishermen's Co-Op. Herring Gut Basin had 17 private commercial wharves operating in the period between WWII and 1980. In 2012, 10 of these are still being used for commercial fishing (lobstering) businesses. In 2009, a new commercial wharf serving the groundfish and shrimp fleet was constructed on the west side of the Port Clyde Fishermen's Co-Op property using state Working Waterfront Fund money and private donations. Superior Bait and Salt Company and Cozy Harbor Seafood use facilities on the Co-Op property for storage and distribution of lobster bait. From the Fishermen's Co-Op property west to the end of Horse Point Road there are two public commercial fishing wharves, Simmons' Wharf (formerly Johnny's Wharf) and Linda Bean's Wharf (formerly Bay Lobster) and an additional two family commercial fishing wharves. The remaining waterfront land is residential, and fully developed. Off the shoreline in the Horse Point area, Raspberry Island and Blubber Island contain one seasonal dwelling each.

Hupper Island. Forming the southwesterly limit of Port Clyde Harbor, Hupper Island is supplied with electrical power and telephone service from the mainland. Land uses on

the island are now limited to residential dwellings, most of which are seasonal homes. Although most developed areas are adjacent to the harbor, the shoreline appears mostly natural due to the presence of significant evergreen vegetation. The remainder of the island's interior is comprised of undeveloped natural areas.

Horse Point to the St. George/South Thomaston Boundary. Waterfront land in town along the southeast shore of the St. George River is residential and mostly developed. Four waterfront properties on the river are protected from further development by easements held by the Georges River Land Trust. Fort Point is protected from development under state ownership and limited management by the Maine Bureau of Parks and Lands. The intertidal clam flats between Fort Point and the South Thomaston town line are one of the most productive in the state.

7.2 Traditional Water Dependent Uses

Commercial Fishing. Over the past ten years, marine activities within Saint George has generally thrived, evolved and diversified. State and federal regulations have affected these activities. The high value of waterfront property has resulted from increased demand for residential development in shoreland areas. However, this has been tempered somewhat by the downturn in the real estate market.

Fishing is a way of life as well as an occupation and that is strongly reflected in the character of our town. Abundant populations of cod, haddock, halibut, flounder, lobsters, scallops, and clams supported native tribes for thousands of years and attracted Europeans to Monhegan Island and natural harbors along the St. George coast line in the early 1600's, nearly two hundred years before the town was incorporated. In 2012, fishing remains the largest industry in town. Port Clyde has the largest dragging fleet east of Portland and the only fleet still working between Port Clyde and the Canadian border.

In recent years even though the commercial fishing fleet has declined, lobstering has increased as well as other fisheries. Lobster fishing areas:

- Wheeler Bay – 27 active lobster boats
- Tenants Harbor – 45 active lobster boats
- Martinsville – 15 active lobster boats
- Port Clyde – 45 active lobster boats

As shown in the **Table 7-1**, the Maine DMR recorded a significant increase in commercial landings of seafood by weight and value for Saint George from 2009 to 2015.

Table 7-1 Saint George Commercial Landings of Seafood			
Year	Species	Live Pounds	Value
2009	All Species	439,560	\$696,687
	of which: Lobster	93,183	\$316,314
2015	All Species	1,620,352	\$2,384,554
	of which: Lobster	394,126	\$1,853,894
Change	All Species	268.6%	242.3%
	of which: Lobster	323.0%	486.1%

Source: Maine DMR, updated 12-20-2016

Since the late 1980's groundfish populations in the Gulf of Maine and inshore fishing grounds traditionally worked by St. George fishermen have declined dramatically, herring stocks have moved offshore and are caught primarily by a few large trawlers while lobster populations and commercial landings have increased fivefold. This has forced fishermen in St. George to shift into the lobster fishery or leave fishing entirely and eliminated the seasonal diversity characteristic of our fisheries for many generations. In recent years many St. George fishermen have worked as crew or captains of groundfish and scallop draggers working out of Massachusetts ports of Gloucester and New Bedford.

Aquaculture. Aquaculture leases are granted by the Maine Department of Marine Resources without input from the Town from public hearings. In 2012, one shellfish aquaculture lease is operating in Long Cove. Other leases in town have expired or are not operational.

7.3 Public Facilities and Access

The primary harbor facilities include the Tenants Harbor Town Landing and the Port Clyde Town Landing. There is a boat launching ramp at Wheeler Bay (accessed from Clark Island Rd). Potential uses of the recently acquired property at 10 Cold Storage Road are currently being explored. See the map titled Public Facilities for the locations of boat launches and parks with water access.

Tenants Harbor Town Landing. Located at the foot of Commercial Street, this facility is a granite crib structure with a paved surface. A number of repairs were made to this facility in 1992. Since then, new floats have been added and the surface of the pier has been repaved.

Parking is provided at the landing (15 spaces) and also at the St. George School (during summer months) and Town Office. The total capacity of 15 spaces is adequate to support existing use; however, the remote parking areas at the school are underutilized.

Public opinion has opposed further improvements that might encourage increased use of the existing landing.

Port Clyde Town Landing. Located at the end of Route 131 in Port Clyde village, this facility consists of concrete walled pier extending into the harbor, with limited parking in the hot-topped surface. The launch ramp has been repaired. New floats have been added on the easterly side of the pier and a deep-water float on the southerly side.

Parking problems in this area are seasonal in nature, and are exacerbated in the summer months, during peak use of the Monhegan Ferry and village shops. Additional parking spaces are located along Factory Road and at Drift Inn Beach. Some commercial parking is provided by Monhegan Boat Lines.

Navigation and Mooring Areas. State laws allow towns to regulate their harbors. St. George has a full time Harbor Master who regulates the location and permitting of all moorings within town boundaries. The Army Corps of Engineers does have jurisdiction over the navigational channel in Tenants Harbor. There are 1,100 moorings permitted in town and 40% of those are to vessels operated for commercial purposes. A small number of moorings are available for rental by visitors.

There is general public support for the new Mooring Plan approved in 2006 for Tenants Harbor, Long Cove and Port Clyde. Nonetheless, parking at all these locations will continue to be constrained. Analysis of Town records as of indicates the following mooring permits by harbor:

Table 7-2			
Moorings by Location and Use			
Location	# of Moorings		
	Commercial	Recreational	Total
Tenants Harbor	118	171	289
Port Clyde	141	162	303
Wheeler's Bay	76	62	138
Long Cove	81	59	140
Mosquito Harbor	1	29	30
St. George River	4	123	127
TOTAL	421	606	1027

Although the Tenants Harbor mooring field is fully utilized, the 2012 Mooring Plan provides for growth of over ten percent for new moorings in the southwest end of Long Cove near Mouse Island. Finally, access to and from the Town landing has been improved by extending the float system further out into the harbor and limiting the anchorage of visiting vessels to the outer harbor.

At Port Clyde, the channel is not federally controlled and is less restrictive than in Tenants Harbor. The U.S. Coast Guard has contacted the Town and has established some channel demarcation within the harbor. Port Clyde has limited parking space available to allow for increased moorings. A special need is to continue to maintain an adequate approach area for vessels to and from the Monhegan Ferry pier.

The Maine State Tax Bureau in 2012 reports that boats registered by the Town of St. George total 1,492, excluding federally documented vessels, which are estimated to be an additional 100 boats weighing at least 5 gross tons or more.

Private Access/Open Space Sites. Numerous private access sites support the commercial fishing industry and may provide limited recreational and tourist-related uses by permission. Several of these private facilities, as listed below, provide for some degree of public access to the waterfront.

Table 7-2 Private Water Access Facilities	
Site/Facility	Location
William Atwood Lobster Company	Long Cove
CY Seafood	Long Cove
Sea Hag, LLC (former Sea Hag property)	Long Cove
Carlson's Wharf	Long Cove
Linda Bean's Perfect Maine Lobster/Witham's Wharf	Tenants Harbor
Cozy Harbor	Tenants Harbor
Tenants Harbor Boat Yard	Tenants Harbor
Miller's Lobster Company	Wheeler Bay
Tenants Harbor Co-Op	Tenants Harbor
Monhegan Boat Line	Port Clyde
Port Clyde General Store	Port Clyde
Port Clyde Fishermen's Co-Op	Port Clyde
Linda Bean's Lobster	Port Clyde

The residents and visitors of St. George value the Town's open spaces and scenic vistas available from a public right of way. Some scenic views worthy of mention are:

Table 7-3	
Scenic Resources	Ownership (Easements)
Marshall Point Light, Port Clyde	Public
Port Clyde Village/Landing	Public
Horse Point Road, Port Clyde	

Drift Inn Beach Area
Mosquito Harbor, Martinsville
Tenants Harbor/Landing
Haskell's Cove/Lobster Pound from Route 131
Seavey Cove, from Route 131
Clark Island from Caignair
Rackliff's Island Causeway
Kallio's Cove, Eastward across marsh
Turkey Cove at intersection
Watt's Cove, Route 131, Wallston Road
Ponderosa, Wallston Road
Roaring Spout
Fort Point
High Island

Source: Town of Saint George

There are also many other places throughout the town with wonderful scenic views. Several sites provide vistas along the road. There is usually parking within walking distance of the best site for viewing. The George's River Land Trust (GRLT) has conservation easements on six parcels of St. George waterfront open space totaling 190 acres that are preserved from development to protect water quality, working farms, wildlife habitat, and scenic views for the Town's benefit. Tommy's Island in Long Cove is owned by the GRLT and is open to the public. One of the easements held by GRLT, Roaring Spout, is also open to the public.

7.4 Habitat and Marine Resources

The following decapod crustaceans, fish and mollusks are present locally. See the map titled Habitat and Marine Resources for Maine DMR data provided. Additional species are found beyond what is shown in the tables below.

Table 7-4 Partial List of Decapod Crustaceans Found in Muscongus Bay and/or Adjoining Waters	
Common Name	Species Name
Acadian hermit crab	<i>Pagurus acadianus</i>
American lobster (Maine lobster)	<i>Homarus americanus</i>
Arctic eualid shrimp	<i>Eualis fabricii</i>
Asian shore crab	<i>Hemigraspus sanguineus</i>
Bristled longbeak shrimp	<i>Dichelopandalus leptocerus</i>
Common shore shrimp	<i>Palaemonetes vulgaris</i>
Common spider crab	<i>Libinia emarginata</i>

Table 7-4 Partial List of Decapod Crustaceans Found in Muscongus Bay and/or Adjoining Waters	
Common Name	Species Name
European green crab	<i>Carcinus maenas</i>
Flat-clawed hermit crab	<i>Pagurus pollicaris</i>
Friendly blade shrimp	<i>Spirontocaris lilljeborgii</i>
Greenland shrimp	<i>Lebbeus groenlandicus</i>
Hairy hermit crab	<i>Pagurus arcuatus</i>
Jonah crab	<i>Cancer borealis</i>
Lady crab	<i>Ovalipes ocellatus</i>
Lesser toad crab	<i>Hyas coarctatus</i>
Long clawed hermit crab	<i>Pagurus longicarpus</i>
Lucifer shrimp	<i>Lucifer faxoni</i>
(No common name was found for this Pandalid shrimp)	<i>Pandalus propinquus</i>
Northern shrimp	<i>Pandalus borealis</i>
Northern stone crab	<i>Lithodes maja</i>
Norwegian shrimp	<i>Pontiphilus norvegicus</i>
Parrot shrimp	<i>Spirontocaris spinus</i>
Pink glass shrimp	<i>Pasiphaea multidentata</i>
Polar lebbeid	<i>Lebbeus polaris</i>
Rock crab	<i>Cancer irroratus</i>
Sand shrimp	<i>Crangon septemspinosa</i>
Sculptured shrimp	<i>Sclerocrangon boreas</i>
Short-browed mud shrimp	<i>Callinassa atlantica</i>
Striped pink shrimp/Aesop shrimp	<i>Pandalus montagui</i>
Toad crab	<i>Hyas araneus</i>
Zebra lebbeid	<i>Lebbeus zebra</i>

Note: Non-decapod crustaceans would include barnacles, isopods and amphipods among others.

Table 7-5 Partial List of Fish Species Found in Muscongus Bay and/or Adjoining Waters		
Common Name	Species Name	Harvested: Yes/No
Acadian redfish	<i>Sebastes fasciatus</i>	Y
Alewife	<i>Alosa pseudoharengus</i>	Y
Alligator fish	<i>Aspidophoroides monopterygius</i>	N
American dab	<i>Hippoglossoides platessoides</i>	Y

Table 7-5
Partial List of Fish Species Found in Muscongus Bay and/or Adjoining Waters

Common Name	Species Name	Harvested: Yes/No
American eel (elver as juvenile)	<i>Anguilla rostrata</i>	Y
American shad	<i>Alosa sapidissima</i>	Y
Atlantic cod	<i>Gadus morhua</i>	Y
Atlantic halibut	<i>Hippoglossus hippoglossus</i>	Y
Atlantic herring	<i>Clupea harengus</i>	Y
Atlantic mackerel	<i>Scomber scombrus</i>	Y
Atlantic menhaden	<i>Brevoortia tyrannus</i>	Y
Atlantic salmon	<i>Salmo salar</i>	N(*5)
Atlantic silverside	<i>Menidia menidia</i>	N
Atlantic tomcod	<i>Microgadus tomcod</i>	N
Atlantic wolffish	<i>Anarhichas lupus</i>	N(*3)
Blueback herring	<i>Alosa aestivalis</i>	Y(*1)
Bluefin tuna	<i>Thunnus thynnus</i>	Y
Bluefish	<i>Pomatomus saltatrix</i>	Y
Blue shark	<i>Prionace glauca</i>	Y
Brown trout	<i>Salmo trutta</i>	Y
Butterfish	<i>Poronotus triacanthus</i>	N(*2)
Cunner	<i>Tautoglabrus adspersus</i>	Y
Cusk	<i>Brosme brosme</i>	Y
Four bearded rockling	<i>Enchelyopus cimbrius</i>	N
Four-spined stickleback	<i>Apeltes quadracus</i>	N
Great white shark	<i>Carcharodon carcharias</i>	N
Grubby	<i>Myoxocephalus aeneus</i>	N
Haddock	<i>Melanogrammus aeglefinus</i>	Y
Hagfish	<i>Myxine glutinosa</i>	Y
Little skate	<i>Raja erinacea</i>	N
Longhorn sculpin	<i>Myoxocephalus octodecemspinosus</i>	N
Lumpfish	<i>Cyclopterus lumpus</i>	N
Monkfish(aka Goosefish)	<i>Lophius americanus</i>	Y
Mummichog	<i>Fundulus heteroclitus</i>	N
Nine-spined stickleback	<i>Pungitius pungitius</i>	N
Northern pipefish	<i>Syngnathus fucus</i>	N

Table 7-5
Partial List of Fish Species Found in Muscongus Bay and/or Adjoining Waters

Common Name	Species Name	Harvested: Yes/No
Ocean pout	<i>Macrozoarces americanus</i>	Y
Pollock	<i>Pollachius virens</i>	Y
Porbeagle shark	<i>Lamna nasus</i>	Y
Rainbow smelt	<i>Osmerus mordax</i>	Y
Red hake	<i>Urophycis chuss</i>	Y
Rock gunnel	<i>Pholis gunnellus</i>	N
Sand lance	<i>Ammodytes americanus</i>	N
Sea lamprey	<i>Petromyzon marinus</i>	N
Sea snail (*4)	<i>Neoliparis atlanticus</i>	N
Sea raven	<i>Hemitripterus americanus</i>	N
Shortfin mako shark	<i>Isurus oxyrinchus</i>	Y
Shorthorn sculpin	<i>Myoxocephalus scorpius</i>	N
Snake blenny	<i>Lumpenus lumpretaeformis</i>	N
Spiny dogfish	<i>Squalus acanthias</i>	N
Striped bass	<i>Morone saxatilis</i>	Y
Striped sea snail (*4)	<i>Liparis liparis</i>	N
Three-spined stickleback	<i>Gasterosteus aculeatus</i>	N
Thresher shark	<i>Alopias vulpinus</i>	Y
Two-spined stickleback	<i>Gasterosteus wheatlandi</i>	N
White hake	<i>Urophycis tenuis</i>	Y
Whiting (Silver hake)	<i>Merluccius bilinearis</i>	Y
Winter flounder	<i>Pleuronectes americanus</i>	Y
Witch flounder	<i>Glyptocephalus cynoglossus</i>	Y
Wrymouth	<i>Cryptacanthodes maculatus</i>	N

Notes:

*1 Closely related and nearly identical to the alewife, the 2 species are often caught together.

*2 Not in Maine.

*3 The fishery for Atlantic wolffish is presently closed.

*4 In spite of its' name, this is a fish, not a snail.

*5 Although currently closed, a recreational fishery for Atlantic salmon traditionally existed in Maine. There is no commercial fishery for them in this state.

Although not targeted in either the recreational or commercial fisheries of the state, several of the non-targeted species listed above are incidentally caught.

Table 7-6 Partial List of Mollusks Found in Muscongus Bay and/or Adjoining Waters	
Common Name	Species Name
American Oyster	<i>Crassostrea virginica</i>
Arctic Rock Borer	<i>Hiatella arctica</i>
Arctic Wedge clam	<i>Mesodesma arctatum</i>
Ax Yoldia	<i>Yoldia thraciaeformis</i>
Baltic Macoma	<i>Macoma balthica</i>
Banded Mitrella	<i>Mitrella zonalis</i>
Blue Mussel	<i>Mytilus edulis</i>
Boreal Squid	<i>Illex illecebrosus</i>
Bushy-Backed	<i>Dendronotus frondosus</i>
Nudibranch	
Chalky macoma	<i>Macoma calcarea</i>
Chink Shell	<i>Lacuna vincta</i>
Chestnut Astarte	<i>Astarte castanea</i>
Club-Gilled	<i>Eubranchus species</i>
Nudibranchs	
Common Periwinkle	<i>Littorina littorea</i>
Common Slipper Shell	<i>Crepidula fornicata</i>
Conrad's Thracia	<i>Thracia conradi</i>
Crescent Mitrella	<i>Mitrella lunata</i>
Cup-and-Saucer	<i>Crucibulum striatum</i>
Limpet	
Deep-Sea Scallop	<i>Placopectens magellanicus</i>
Dog Winkle	<i>Thais lapillus</i>
European Flat Oyster	<i>Ostrea edulis</i>
File Yoldia	<i>Yoldia limatula</i>
Gem Shell	<i>Gemma gemma</i>
Glassy Lyonsia	<i>Lyonsia hyalina</i>
Gould's Pandora	<i>Pandora gouldiana</i>
Great Piddock	<i>Zirfaea crispata</i>
Greenland Cockle	<i>Serripes groenlandicus</i>
Greenland Top Shell	<i>Margarites groenlandicus</i>
Greenland	<i>Epitonium groenlandicum</i>
Wentletrap	
Haliaect's Dove Shell	<i>Anachis haliaecti</i>
Horse Mussel	<i>Modiolus modiolus</i>
Lea's Spoon Shell	<i>Periploma leanum</i>
Long-Finned Squid	<i>Loligo pealei</i>
Maned Nudibranch	<i>Aeolidia papillosa</i>
Naked Sea Butterfly	<i>Clione limacina</i>
Near Nut Shell	<i>Nucula proxima</i>
Northern Cardita	<i>Cyclocardia borealis</i>

Table 7-6 Partial List of Mollusks Found in Muscongus Bay and/or Adjoining Waters	
Common Name	Species Name
Northern Moon Shell	<i>Lunatia heros</i>
Mahogany	<i>Arctica islandica</i>
Clam/Black Clam	
Oval Yoldia	<i>Yoldia myalis</i>
Paper Spoon Shell	<i>Periploma papyratium</i>
Quahog	<i>Mercenaria mercenaria</i>
Razor Clam	<i>Ensis directus</i>
Red-Gilled	<i>Coryphella</i> species
Nudibranchs	
Ridged Top Shell	<i>Margarites cinereus</i>
Rim-Backed	<i>Polycera dubia</i>
Nudibranch	
Salt Marsh Snail	<i>Malampus bidentatus</i>
Shipworms (*1)	<i>Teredo</i> and related species
Short Yoldia	<i>Yoldia sapotilla</i>
Smooth Periwinkle	<i>Littorina obtusata</i>
Smooth Top Shell	<i>Margarites helycinus</i>
Soft-Shell Clam	<i>Mya arenaria</i>
Solitary Glassy Bubble	<i>Haminoea solitaria</i>
Surf Clam	<i>Spisula solidissima</i>
Swamp Hydrobia	<i>Hydrobia minuta</i>
Ten Ridged Whelk	<i>Neptunea decemcostata</i>
Tortoiseshell Limpet	<i>Acmaea testudinalis</i>
Veiled Clam	<i>Solemya velum</i>
Waved Whelk	<i>Buccinum undatum</i>

Note:

*1 In spite of their name, shipworms are bivalves.

7.5 Environmental Concerns

Pollution can be caused by both point and non-point sources. Point sources are direct overboard discharges of sewage effluent from land development and vessels in the harbors. Non-point sources include groundwater contamination from septic systems, as well as pollution created by runoff from land based activities such as, residential landscaping, agricultural operations, and from coastal roadways.

The Maine Department of Marine Resources (Maine DMR) monitors water quality regionally. Water quality testing is conducted regularly that has allowed the re-opening of local flats to harvesting activities outside of the occasional red tide closures.

Is there a local or regional plan in place to identify and eliminate pollution sources?

The Town has taken many positive steps in recent years to correct water pollution problems. There are still some septic overboard discharges in St. George; however, through funding from the Maine Department of Environmental Protection, several of these have been eliminated over the past few years. This is a priority for the Town and will continue as long as funding assistance is available. In addition, the Town has worked closely with the Maine Department of Marine Resources to identify and manage non-point sources of pollution.

Overboard Discharges. The Maine Department of Environmental Protection (DEP), Bureau of Land and Water Quality listed 19 licensed, active overboard discharges and two wastewater facilities approved within Saint George in 2016. By comparison, just five years earlier in 2011, there were 32 licensed active overboard discharges.

Table 7-6 Licensed Active Overboard Discharges (OBD) Wastewater Type 413						
DEP_ID	ATS_ID	Owner	Water Body	Flow	Treatment	Seasonal
2209	78428	Butler Family Trust	Tenants Harbor	300	Sandfilter	Yes
2316	75903	Huber	Seal Harbor	300	Mechanical	No
2374	75605	Simmons	Long Cove	300	Mechanical	No
2700	75280	Bush	St George River	300	Sandfilter	No
2707	76897	Bracy	Tenants Harbor	300	Sandfilter	No
3147	78154	Kerwin	Rackliff Bay	300	Sandfilter	No
3174	81091	Neil Saward	Tenants Harbor	300	Sandfilter	No
3326	78112	Nancy p. Anglada	Atlantic Ocean	300	Sandfilter	Yes
4215	74251	Halcyon Point LLC	Rackliff Bay	300	Sandfilter	Yes
4300	76368	Staman	Rackliff Bay	360	Sandfilter	No
4802	79348	Warren	Seal Harbor	300	Sandfilter	No
6043	80963	Tripp	Seal Harbor	315	Sandfilter	No
6683	80499	Anderson	Port Clyde Harbor	300	Mechanical	No
7163	79211	Lincoln Parkes Trust	Port Clyde	50	Primary (Septic Tank/Chlorinator)	Yes

Source: Maine DEP, 2016 Note: Flow in GPD (gallons per day)

Table 6-2 Wastewater Facilities				
Name	NPDES License	Maine License	Waterbody	Category/Class
East Wind Inc.	ME0036765	1988	Tenants Harbor	Minor/Treated
Great Eastern Mussel Farms, Inc (Two IDs)	ME0023124	3993	Long Cove	Minor/Treated

Source: Maine DEP

7.6 Regulation

Floodplain Management. Saint George participates in the National Flood Insurance Program, and the Town has adopted Floodplain Management Ordinance provisions. Special flood hazard areas are inundated by 100-year floods, i.e., less than a one percent chance of being equaled or exceeded in a given year. Ordinance provisions limit development in flood prone areas and require that the development that is allowed in these areas is suitably designed to withstand flooding.

Shoreland Zoning. Saint George has adopted Shoreland Zoning provisions, which are intended to provide protection to shorefront areas, within a 250-foot area from the normal high-water line of all tidal waters, identified freshwater wetlands that are 10 acres or more, the upland edge of freshwater wetlands, salt marshes, salt meadows, wetlands associated with great ponds, rivers and specified flood hazard areas. An area of 75 feet from the normal high-water line is set for other water bodies including tributary streams. The Shoreland Zoning Ordinance includes a Commercial Fisheries/Maritime Activities District to protect current working waterfront activities as well as a Marine Residential District and Limited Commercial District. It is generally believed that these districts and their standards (permitted uses and dimensional requirements) have served the town well and have helped to maintain the traditional working harbor.

The Shoreland Zoning Ordinance Resource Protection District includes inland or coastal wetlands, significant wildlife habitat, and areas of fragile soils, floodplains or designated as natural, scenic or historic areas of significance. This district applies to such areas as the marsh in Tenants Harbor, Fort St. George in Wiley's Corner, an inlet south of Otis Cove in the St. George River, and inlet just north of Ten Pound Island in the river and two inlets at Mill Cove, including the marsh around Scraggle Point.

Coastal Waters Management Ordinance. The Coastal Waters Management Ordinance addresses regulation of all coastal waters and harbors within the jurisdiction of St. George. Not less than annually, the Harbor Committee is responsible for reviewing the Ordinance and conducting public hearings pursuant to any proposed amendments or updates that may be needed, and submitting warrant changes accordingly to the Select Board for voter approval. While enforcement of all ordinance provisions is vested with the Harbor Master, ordinance appeals are the responsibility of the Appeals Board.

Currently, the Town's only marine management plan is the mooring plan. The Town has benefitted from the priorities allocated under this plan on commercial fishing use, local residents, and non-residents (in that order). The towns of Cushing, Saint George, Thomaston, Warren and South Thomaston work collaboratively to manage their soft-shell clam resource through a formal inter-local agreement enabling a local ordinance

and clam management plan. The goals and objectives of which are “to manage the resource through licensing, limitations on the number of diggers and quantities harvested, limiting size of clams taken, limiting time and areas where digging is permitted, opening and keeping the river open for harvesting, seeding programs, and by rewarding conservation work.” It would be beneficial to coordinate worming activities with clam management. The non-profit Georges River Tidewater Association works collaboratively with the Management Committee on water quality issues.

7.7 Goals, Policies, and Strategies

A. State Goals and Coastal Policies

1. *To protect the State's marine resources industry, ports and harbors from incompatible development and to promote access to the shore for commercial fishermen and the public.*
2. *For coastal communities, the Growth Management Act requires that a local comprehensive plan address the state coastal management policies (38 MRSA §1801).*

These are:

- a. *To promote the maintenance, development, and revitalization of the State's ports and harbors for fishing, transportation and recreation;*
- b. *To manage the marine environment and its related resources to preserve and improve the ecological integrity and diversity of marine communities and habitats, to expand our understanding of the productivity of the Gulf of Maine and coastal waters and to enhance the economic value of the State's renewable marine resources;*
- c. *To support shoreline management that gives preference to water-dependent uses over other uses, that promotes public access to the shoreline and that considers the cumulative effects of development on coastal resources;*
- d. *To discourage growth and new development in coastal areas where, because of coastal storms, flooding, landslides or sea-level rise, it is hazardous to human health and safety;*
- e. *To encourage and support cooperative state and municipal management of coastal resources;*
- f. *To protect and manage critical habitat and natural areas of state and national significance and maintain the scenic beauty and character of the coast even in areas where development occurs;*
- g. *To expand the opportunities for outdoor recreation and to encourage appropriate coastal tourist activities and development;*
- h. *To restore and maintain the quality of our fresh, marine and estuarine waters to allow for the broadest possible diversity of public and private uses; and,*
- i. *To restore and maintain coastal air quality to protect the health of citizens and visitors and to protect enjoyment of the natural beauty and maritime characteristics of the Maine coast.*

B. Local Policies and Strategies

Pursuant to the State goal the Town of St. George will support the wise utilization of the shoreline, harbor, river and island areas to the benefit of current and future

users of those areas. In addition, the Town will seek ways to promote the continuance of water-dependent uses, while maintaining the economic vitality and cultural heritage of waterfront areas, to ensure adequate future public access to shoreline areas while maintaining the environmental integrity of the coast and to maximize the utilization and maintenance of port and harbor areas while protecting water quality, marine resources, open spaces, and functional water-dependent uses.

Strategies proposed in this Comprehensive Plan are assigned responsible parties and a timeframe in which to be addressed. **Short Term** is assigned for strategies to be addressed within one to three years after the adoption of this Comprehensive Plan, **Midterm** for strategies to be addressed within five years, and **Long Term** for strategies to be addressed within ten years. In addition, **Ongoing** is used for regularly recurring activities.

Policy 1. Promote and protect water-dependent uses where site and harbor conditions are most favorable for such uses.

Strategy	Responsibility	Date
Continue to maintain the Shoreland Zoning Ordinance which permits a variety of uses and allows adequate space for water-dependent uses and protect environmentally sensitive issues and commercial fishing, marine activities.	Planning Board	Ongoing
Encourage people to take advantage of State and Federal programs that would preserve the working waterfront through grants and other funding programs.	Harbor Committee/Board of Selectmen	Ongoing
Develop land use regulations that require compatibility with environmentally sensitive areas and with the scale, bulk, and architectural style of existing structures.	Planning Board	Ongoing
Identify future public access needs for commercial fishermen and related maritime activities and identify regulatory and non-regulatory approaches to meet those needs.	Harbor Committee	Ongoing
Support implementation of local and regional harbor and bay management plans.	Select Board	Ongoing
Draft a harbor management plan with public input to improve the use of the harbor for commercial fishermen, residents and recreational users.	Harbor Committee/ Harbormaster	Short Term
Improve public information and education related to coastal management and the use of local marine resources and the potential impacts of ocean acidification, sea level rise and other environmental concerns.	Harbor Committee and Harbormaster	Midterm and Ongoing

Policy 2. Ensure adequate future public access to shoreline areas while maintaining the environmental integrity of the coast, and promoting the retention and development of open space in waterfront areas, and enhancing the working waterfront, wherever economically feasible.

Strategy	Responsibility	Date
Identify needs for additional recreational and commercial access (which includes parking, boat launches, docking space, fish piers, and swimming access).	Harbor Committee/ Harbormaster	Short Term
Ensure there is off-street parking and, where necessary/feasible pedestrian sidewalks to satisfy existing needs at the town landings.	Harbor Committee/Road Commissioner	Ongoing
Acquire property from willing landowners, or seek gifts of land or perpetual use agreements to provide the assurance of recreational swimming opportunities, waterfront parks, and walking trails, open space preservation, and other light impact waterfront uses to current and future residents.	Select Board	Ongoing
Work with local property owners, land trusts, and others to protect major points of physical and visual access to coastal waters, especially along public ways and in public parks and consider purchasing rights of first refusal for access points, permanent easements, or property of critical importance to marine, civic, or recreational activities.	Select Board	Midterm
Continue to make appropriate improvements to public landings as needed. Where feasible, provide off-street parking improvements to satisfy existing needs at these landings. Acquire property or perpetual use rights to support landing use.	Harbor Committee/ Harbormaster	Midterm/ Ongoing
Provide information about the Working Waterfront Access Pilot Program and current use taxation program to owners of waterfront land used to provide access to or support the conduct of commercial fishing activities.	Select Board, Town Clerk, and Harbormaster	Immediate and Ongoing

Policy 3. Continue harbor supervision at Town landings and in harbor areas.

Strategy	Responsibility	Date
Maintain mooring plans for Tenants Harbor/Long Cove and Port Clyde Harbors to increase the efficiency of mooring areas and to comply with Federal and State mooring regulations.	Harbor Master	Ongoing
Maintain and mark a navigational channel in Tenants Harbor. Relocate existing moorings, if necessary.	Harbor Committee/Board of Selectmen	Ongoing
Develop an improvement plan for town landings to help maintain functionality and safe conditions, increase float and dinghy space, and improve parking.	Harbor Master/ Harbor Committee	Ongoing
Annually review mooring fees and adjust as operational expenses and capital improvement needs require after pre-approval by the Select Board and with full participation from the public through public hearings.	Harbor Committee	Ongoing
Acquire property or perpetual use rights to support Town landing use within Port Clyde and Tenants Harbor. The need identified for additional property is primarily focused upon the improvement of the turning areas above the launch ramps and parking.	Harbor Committee/Board of Selectmen	Ongoing
Mooring Plans/Floats: Relocate moorings as necessary to accomplish efficiency of harbor use, improved navigation and safety, and separation of harbor user groups. Increase float space and dinghy space as feasible to meet current needs. Note: Could be included in Harbor Management Plan.	Select Board, Harbor Committee, and Harbormaster	Short Term/ Ongoing
If applicable, provide sufficient funding for and staffing of the harbormaster and/or harbor commission.	Select Board, Planning Board, Harbor Committee, and Harbormaster	Midterm/Ongoing
Amend pier and dock regulations to minimize the potential negative impacts of a proliferation of these structures in ecologically sensitive areas, or areas where navigation might be impeded or where access below the high tide may be limited by construction of docks or piers, which would impede fishing, fowling, boat landings, and other rights of	Select Board, Planning Board, Harbor Committee, Harbormaster, and Town Meeting Vote	Long Term/Ongoing

access as set in state statutes or court decisions.		
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Policy 4. Maintain, and where necessary, restore the quality of coastal waters, marine fisheries, and wildlife.

Strategy	Responsibility	Date
Monitor existing aquaculture operations and the development of future aquaculture operations	Harbor Master	Ongoing
Continue to work with the Department of Marine Resources regarding impacts on water quality resulting from existing and potential pollution sources. Identify and mitigate existing pollution resulting from subsurface septic disposal, overboard septic discharge into coastal waters, and vessel septage discharge into harbor waters.	Harbor Master/Code Enforcement Officer	Ongoing
Improve, implement, and enforce local ordinances in order to monitor and control the use and development of the coastal waters in the Town of St. George.	Planning Board	Ongoing
Improve, implement, and enforce local ordinances in order to control the impact of storm water runoff, phosphorus generation, and erosion on water resources resulting from construction and development projects.	Planning Board	Ongoing
Monitor water quality in the Georges River, coastal waters, and harbors of St. George to protect marine life, recreation, and commerce.	Conservation Commission/Shellfish Committee	Ongoing
Improve public information and education of the issues related to coastal management, and the utilization of the resource. For example, involve schools, owners of shoreland, and scouts in a "Coastal Clean-up Day" and sponsor "Maine Coastal Week" activities.	Conservation Commission/Town Manager	Ongoing
Encourage owners of marine businesses and industries to participate in clean marina/boatyard programs.	Select Board/Harbor Committee	Short Term/ Ongoing
Continue to work with Maine DMR regarding impacts on water quality resulting from existing and potential pollution sources. <ul style="list-style-type: none"> Identify and mitigate existing pollution resulting from subsurface septic disposal, overboard septic discharge into coastal waters and vessel septage discharge into harbor waters to improve shellfish habitats. Meet with and encourage property owners with overboard discharges to replace these point 	Select Board/Harbor Committee/CEO	Short Term/ and Ongoing

<p>sources of pollution with advanced engineered subsurface waste systems to reduce pollution and related shellfish closures. Seek resources from state agencies, non-profits and local donations to cover a portion of the costs for these new systems to assist property owners.</p> <ul style="list-style-type: none"> • Request that Maine DMR more regularly test coastal waters on a timely basis after storms and heavy rains to reduce shellfish closure times so that the closures more accurately reflect the time necessary for safety before shellfishing areas can be reopened. 		
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MARINE RESOURCES AND HABITAT

