COASTAL MANAGEMENT ELEMENT

Data, Inventory and Analysis

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INTRODUCTION

The Town of Sewall's Point is a peninsula comprised of approximately 780 acres uniquely situated between the St. Lucie River and the Indian River Lagoon (IRL) in Martin County, Florida. Because of its long shoreline and unique location, a Coastal Element is required per Florida statute 163.3177(6)(g). Shoreline uses are primarily single-family homes; approximately 600 feet of commercial use adjacent to the river and approximately of 200 feet of public use of along the Indian River. The IRL is a linear estuarine system that extends along more than a third of Florida's east coast, over 155 miles, from Ponce de Leon Inlet in Volusia County south to Jupiter Inlet in Palm Beach County. Numerous freshwater wetlands and sloughs undergo a transition into riverine systems that connect directly to the IRL. The lagoon interacts with the saline waters of the Atlantic Ocean through the inlets, providing tidal exchange with fresh water discharged into the lagoon from the inland rivers.

The IRL provides a higher species diversity than any other estuary in North America. Portions of the IRL have been designated as Aquatic Preserves. The *Jensen Beach to Jupiter Inlet Aquatic Preserve* extends from the southern corporate limits of Fort Pierce (St. Lucie County) south (through Martin County) to Jupiter Inlet (West Palm Beach County) and encompasses 22,000 acres. The aquatic preserve was adopted under Florida Statutes, Sections 258.35 – 258.46 by the State of Florida on October 21, 1969 and are managed by the Florida Department of Environmental Protection, Office of Coastal and Aquatic Managed Areas.

In 2021, the State renewed its ongoing commitment to improving the condition of the IRL with Statute 373.451, the Surface Water Improvement Management Act. The goal of the Surface Water Improvement Management Act is to recognize the water quality of many surface waters, such as the Indian River Lagoon, is degrading.

The Town has a rich diversity of natural resources. These resources are susceptible to human degradation and natural disasters. To that end, the Coastal Management Element will inventory the Town's coastal resources and provide policies to preserve these assets. It is imperative that the Town continue to protect its unique beauty so that it can be enjoyed by future generations. To that end, Legacy 2045 Coastal Management Element will plan for development and, where appropriate, restrict development activities that could damage or destroy coastal resources. Its coastal location also exposes the Town to the risks of human life loss and loss or damage to property from natural disasters (i.e., floods, hurricanes). The Coastal Management Element will also include strategies to address resiliency to prepare for the Peril of Flood and risk of sea level rise.

STATUTORY REQUIREMENTS

Florida Statutes (Statute 163.3177) require the Coastal Management Element address the principles, guidelines, standards, and strategies to guide the local government's decisions and program implementation regarding the following objectives:

- Maintain, restore, and enhance the overall quality of the coastal zone environment, including, but not limited to, its amenities and aesthetic values.
- Preserve the continued existence of viable populations of all species of wildlife and marine life.
- Protect the orderly and balanced utilization and preservation, consistent with sound conservation principles, of all living and nonliving coastal zone resources.
- Avoid irreversible and irretrievable loss of coastal zone resources.
- Use ecological planning principles and assumptions in the determination of the suitability of permitted development.
- Limit public expenditures that subsidize development in coastal high-hazard areas.
- Protect human life against the effects of natural disasters.
- Preserve historic and archaeological resources, which include the sensitive adaptive use of these resources.
- Optional - Develop an adaptation action area designation for those low-lying coastal zones that are experiencing coastal flooding due to extreme high tides and storm surge and are vulnerable to the impacts of rising sea level. Criteria for the adaptation action area may include, but need not be limited to, areas for which the land elevations are below, at, or near mean higher high water, which have a hydrologic connection to coastal waters, or which are designated as evacuation zones for storm surge.
- A redevelopment component with principles that must be used to eliminate inappropriate and unsafe development in the coastal areas - when opportunities arise also known as Peril of Flood provisions.

TOWN OF SEWALL'S POINT CLIMATE

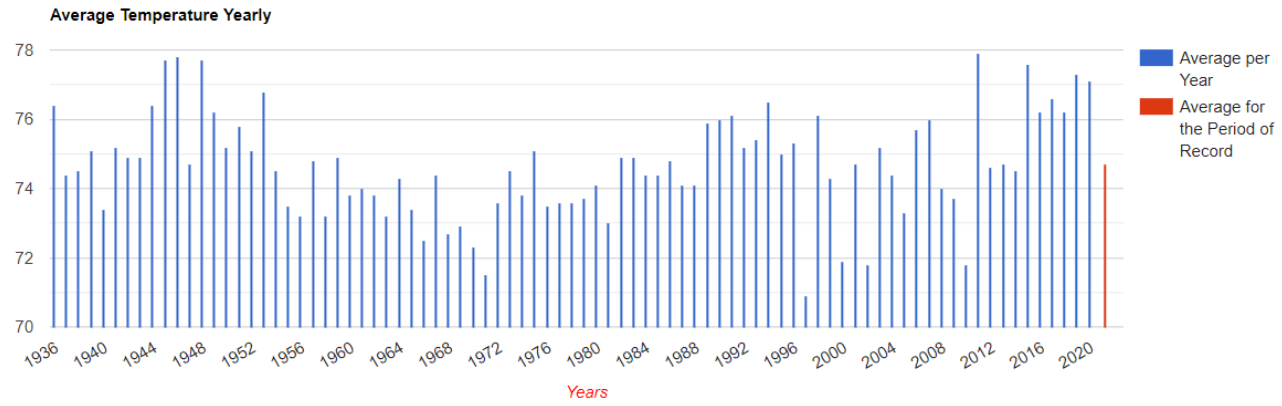
In the Town of Sewall's Point, the summers are long, hot, humid, and wet. The winters are short, comfortable, windy, and partly cloudy. Over the course of the year, the temperature typically varies from 57°F to 89°F and is rarely below 43°F or above 92°F.

The hot season lasts for 3.9 months, from May 30th to September 26th, with an average daily high temperature above 86°F. The hottest month of the year is August , with an average high of 89°F and low of 76°F.

The cool season lasts for 3 months, from December 5th to March 1st, with an average daily high temperature below 76°F. The coldest month of the year is January, with an average low of 57°F and high of 74°F.

Source: Weather Spark

GRAPH CM 7-1 AVERAGE TEMPERATURE (YEARLY)



Source: Florida Climate Institute (FCI)

Graph CM 7-1 charts the average yearly temperatures for the Town of Sewall's Point ranging from 1936 – 2021. The past ten years the average annual temperatures are as follows (in degrees Fahrenheit): 2010 – 72 degrees, 2011 – 78 degrees, 2012 – 75 degrees, 2013 – 75 degrees, 2014 – 75 degrees, 2015 – 78 degrees, 2016 – 76 degrees, 2017, 77 degrees, 2018 – 76 degrees, 2019 – 77 degrees, 2020 – 77 degrees. The average for the period of record so far, 2021, is 75 degrees.

PRECIPITATION

A wet day is one with at least 0.04 inches of liquid or liquid-equivalent precipitation. The chance of wet days in Sewall's Point varies significantly throughout the year. The wetter season lasts 5 months, from May 24th to October 9th, with a greater than 40% chance of a given day being a wet day. The chance of a wet day peaks at 63% on August 24th. The drier season lasts 8 months, from October 9th to May 24th. The smallest chance of a wet day is 17% on December 30th. Based on this categorization, the most common form of precipitation throughout the year is rain alone, with a peak probability of 63% on August 24th.

STORMS AND HURRICANES

Thunderstorms are common during the summer months. Hurricanes, much less frequent occurrences, have the potential to occur from June through November bringing heavy rainfall, high winds, and widespread flooding. Years 2004 through 2005, were active seasons with Hurricanes Frances, a Category 4 and Hurricane Jeanne, a Category 3 hurricane making landfall at Sewall's Point weeks apart causing significant damage and numerous power outages. In 2005, Hurricane Wilma made landfall as a Category 1 when it hit Martin County. The most recent storm event for the Treasure Coast was Hurricane Irma in September 2017 with wind gusts of up to 100 miles per hour and rainfall of more than 20 inches. However, this storm narrowly missed Martin County and did not have the same impact as the storms of 2004 and 2005.

Hurricanes are rated on the Saffir-Simpson Hurricane Wind Scale based upon five intensities:

Category 1 hurricanes have sustained winds of 74 to 95 mph. These very dangerous winds will produce some damage.

Category 2 hurricanes have sustained winds of 96 to 110 mph. These extremely dangerous winds will cause extensive damage.

Category 3 hurricanes have sustained winds of 111 to 130 mph. Devastating damage will occur.

Category 4 hurricanes have sustained winds of 131 to 155 mph. Catastrophic damage will occur.

Category 5 hurricanes have sustained winds greater than 155 mph. Catastrophic damage will occur.

Source: NOAA

INVENTORY AND ANALYSIS OF VEGETATIVE COVER

Vegetation within the coastal zone has both aesthetic and practical value for the citizens of the Town. Shoreline vegetation reduces glare, enhances privacy, and reduces noise. The practical value of vegetative cover is to reduce erosion, filter upland runoff, enhance water quality, and provide habitat for terrestrial and marine organisms. The following is a list of vegetative communities and major plant species associated with each plant community found within the Town:

Coastal Hardwood Hammocks	**Sand Pine Forest**	**Mangrove Forest**	**Marine Seagrass Beds**
Gumbo Limbo	Sand Pine Twin Live Oak	Red Mangrove	Star Grass
Poisonwood	Chapman's Oak	Black Mangrove	Paddle Grass
Paradise Tree	Myrtle Leaf Oak	White Mangrove	Johnson's Seagrass
Wild Mastic	Palafoxia	Buttonwood	Shoal Grass
Cabbage Palm	Rosemary		Manatee Grass
Wild Lime	Blue Eye		Turtle Grass
Coral Bean	Knotting		
	Beak Rush		

MANGROVES

Mangrove forests are important because they stabilize the shoreline and protect the surrounding water quality. Loss of mangroves reduces fishery production, increases land erosion and decreases nearshore water quality. Therefore, to protect the mangroves, the Florida Department of Environmental Protection regulates the maintenance of them as outlined in the Mangrove Trimming and Preservation Act. Town residents must follow these requirements which allow homeowners to trim mangroves if their height exceeds 6 feet but is not taller than 10 feet. Mangroves cannot be trimmed below 6 feet. Mangroves taller than 10 feet require a professional mangrove trimmer. The state has penalties in the way of fines for anyone who violates this Act. For more information visit floridadep.gov.

MARINE SEA GRASS BEDS

Sea grasses are very sensitive to environmental conditions, primarily water quality. Water degradation is caused by surface water runoff entering the estuarine system. Sea grass beds are important habitat areas for many varieties of fish, a means of improving water clarity by filtering sediment in the water, stabilizing the bottom, and preventing shoreline erosion.

WILDLIFE AND MARINE INVENTORY AND ANALYSIS

The most common types of marine and animal species associated with the different types of coastal vegetative communities are as follows:

Coastal Hardwood Hammocks
Land Crab
Raccoon
Brown Rat
Yellow Rat Snake
Black Racer
Indigo Snake
Turkey Vulture
Cooper's Hawk
Osprey
Great American Egret
Royal Tern
Clapper Rail
Mourning Dove
Yellow Shafted Flicker
Pileated Woodpecker
Blue Grey Gnat Catcher
Prairie Warbler
Cardinal
Red Breasted Merganser
Black Vulture
Sparrow Hawk
Blue Jay
House Wren
Carolina Chickadee
Ovenbird

Sand Pine Forest
Gopher Frog
Florida Scrub Lizard
Yellow Rat Snake
Black Racer
Indigo Snake
Squirrel
Raccoon
Florida Mouse
Red Cockaded Woodpecker
Turkey Vulture
Black Vulture
Red tailed Hawk
Bobwhite
White Morning Dove
Red bellied Woodpecker
Eastern Kingbird
American Crow

Mangrove Forest
Mangrove Crab
Land Crab
Ghost Crab
Fiddler Crab
Mangrove Snail
Oyster
Mangrove Water Snake
Eastern Brown Pelican
Anhinga
Osprey
Great American Egret
Great Blue Heron
Little Blue Heron
Yellow Crowned Night Heron
White Ibis
Dunlin
Ruby Turnstone
Frigatebird
Fish Crow
Double Breasted Cormorant
Marsh Hawk
Louisiana Heron
Green Heron
Wood Ibis
Black Bellied Plover
Semipalmated Sandpiper
Heron Gull
Caspian Tern
Black Skimmer
Belted Kingfisher
Black Whiskered Vireo
Florida Prairie Warbler
River Otter

Marine Seagrass
Conch
Starfish
Seabiscuit
Pencil Urchin
Long Spined Sea Urchin
Sea Cucumber
Sea Hare
Amphipods
Pipe Fish
Seahorse
Goby
Lizard Fish
Parrot Fish
Grunt
Snapper

ENDANGERED AND THREATENED SPECIES

Rare, endangered, and threatened species are often dependent upon a particular habitat for their existence. The loss of this critical habitat is the main threat to these species. Manatees are listed as "threatened" under the Endangered Species Act. As the number of power boats in each area increases, the number of boat/manatee collisions increase. Due to their slow speed and relatively high buoyancy, manatees are often struck by vessels, which is the primary cause of human-related deaths of the species. Some manatees have been found with more than 50 scars on them from propeller blades. Natural causes of death include adverse temperatures, predation by alligators on young, and disease.

Additionally, manatees continue to be threatened by loss of warm-water habitat and periodic die-offs from red tides and unusually cold weather events. Florida manatees are managed jointly by both U.S. Fish and Wildlife Service (FWS) and the Florida Fish and Wildlife Conservation Commission (FWC).

FLOOD PLAINS

Significant sources of flooding affecting the Town are the Atlantic Ocean, Indian River and the St. Lucie River. Flooding results primarily from tidal surge (caused by hurricanes and tropical storms) in the coastal areas and shore areas. However, when high winds from an unnamed storm event are directed on shore, the tides they produce can inundate the low coastal areas behind them for some distance inland. Wave action, which accompanies wind-generated tides, can cause flooding, erosion and structural damage to homes.

Flood zones are geographic areas that the Federal Emergency Management Agency (FEMA) has defined according to varying levels of flood risk. The Town of Sewall's Point includes properties in Flood Zones X, AE and VE. These zones are depicted on a community's Flood Insurance Rate Map (FIRM) or Flood Hazard Boundary Map. Each zone reflects the severity or type of flooding in the area. Higher-risk flood zones are designated by the letters **A** and **V**. These zones are known as the Special Flood Hazard Area (SFHA). Flood insurance is required in these zones if a homeowner has a federally backed mortgage. The SFHA is the area where the National Flood Insurance Program's (NFIP's) floodplain management regulations must be enforced and the area where the mandatory purchase of flood insurance applies. These zones are determined by FEMA to indicate a property's risk for flooding and have nothing to do with hurricanes or other emergencies. They are used to determine flood insurance premium rates and some building code requirements.

Flood zones are not the same as evacuation zones, though they are often mistaken for each other. Flood zones and evacuation zones differ in they measure conditions that may not occur at the same time. The Town of Sewall's Point is in the Zone AB on the Martin County Storm Surge Map meaning if a forecasted storm surge is expected to be up to 6 feet, the residents would have a mandatory evacuation. More about mandatory evacuation, evacuation routes and storm shelters can be found in the **Town of Sewall's Point Transportation and Mobility Element.**

TABLE CM 7-1 FLOOD ZONE DEFINTIONS

Below are the definitions for the flood zones found within the Town of Sewall's Point.

X	High Risk Area	Areas with a 1% annual chance of flooding and a 26% chance of flooding over the life of a 30-year mortgage. Because detailed analyses are not performed for such areas; no depths or base flood elevations are shown within these zones.
AE	High Risk Area	The base floodplain where base flood elevations are provided. AE Zones are now used on new format FIRMs instead of A1-A30 Zones.
VE	High Risk Coastal Area	Coastal areas with a 1% or greater chance of flooding and an additional hazard associated with storm waves. These areas have a 26% chance of flooding over the life of a 30-year mortgage. Base flood elevations derived from detailed analyses are shown at selected intervals within these zones.

Source FEMA *Definitions of FEMA Flood Zone Designations*

FLOOD WARNING SYSTEM

The Town of Sewall's Point, in collaboration with Martin County, keeps the residents informed about potential flooding. The Martin County Emergency Operation Center in coordination with the National Weather Service (NWS) provides updates of threatening weather. The NWS issues a flood advisory for an area at least 6 hours before expected rainfall would overflow our drainage systems and cause the isolation of buildings by inland water ponding. Local radio and television stations are utilized to inform residents of flood threats. The main evacuation routes for the town are the Evans Crary Bridge to Monterey Road for residents south of A1A and Indian River Drive to Palmer Road, then to U.S. 1 for residents north of A1A.

STORM SURGE INUNDATION

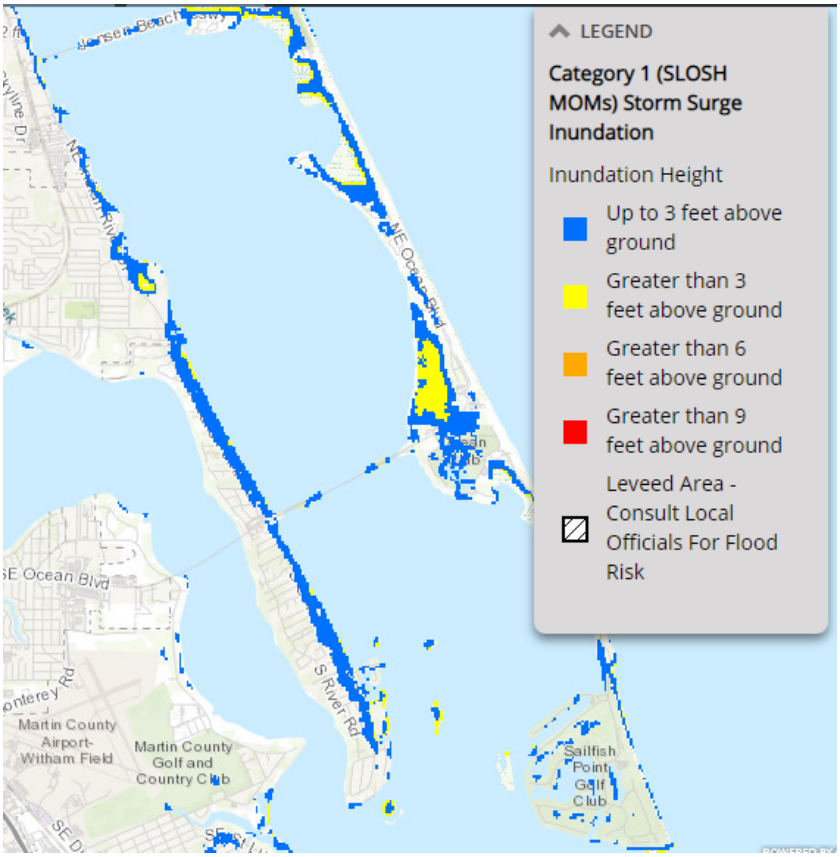
The Sea, Lake and Overland Surges from Hurricanes (SLOSH) model is a computerized numerical model developed by the National Weather Service (NWS) to estimate storm surge heights resulting from historical, hypothetical, or predicted hurricanes by considering the atmospheric pressure, size, forward speed, and track data. These parameters are used to create a model of the wind field which drives the storm surge.

The SLOSH model consists of a set of physics equations which are applied to a specific locale's shoreline, incorporating the unique bay and river configurations, water depths, bridges, roads, levees and other physical features.

Storm surge inundation is the term used when referencing storm surge heights as height above ground level. National Hurricane Center's (NHC) storm surge forecast public advisory statements now reference storm surge as height above ground level. This means when NHC forecasts storm surge of 20 ft that means 20 ft above ground.

As an example, the below map illustrates the potential effect of a Category 1 storm on the Town of Sewall's Point. The area projected to experience the most hurricane damage is the coastal high hazard area (CHHA). The coastal high-hazard area is the area below the elevation of the category 1 storm surge line as established by a SLOSH computerized storm surge model.

MAP CM 7-1 STORM SURGE MODEL



Source: NOAA and NHS

SUSTAINABILITY AND RESILIENCY

Conservation, sustainability, and resiliency are discrete but overlapping disciplines. Conservation acknowledges that some resources are finite and should be preserved, as indicated in the Conservation Element of this Comprehensive Plan. Sustainability typically addresses the interdependence of environmental, social, and economic systems. By managing these systems and through long-range planning, the resources will be available to future generations. Sustainable development is typically defined as development which meets the needs of the present without compromising resources to meet the needs of future generations. Sustainable actions are those that conserve, maintain, support, and enhance the environmental, economic, and social systems.

Resilience refers to the capacity of systems to recover quickly after adverse events. Resiliency strengthens systems to prepare for and recover from disasters and adapt to persistent threats or single events.

Urban resiliency has become an important goal for many local governments including the Town of Sewall's Point. With the onset of climate change, impacts from rising temperatures, extreme weather events, sea level rise, and large volume precipitation events, it is wise to plan and be proactive by establishing policies and regulations to direct development away from the most vulnerable areas of the Town. Sustainable policies such as reducing greenhouse gas emissions or reducing energy and water consumption are important actions which can contribute to larger long-term resiliency and sustainability efforts to avoid the worst impacts of climate change.

Climate change could affect the Town of Sewall's Point in the following ways:

- Increased annual rainfall and higher volume rain events
- Warmer weather and heat waves
- Damage to vital ecological and natural systems
- Greater risk of flooding
- Drought

ADDRESSING THE PERIL OF FLOOD

The 2015 Florida Legislature directed jurisdictions that have a Coastal Management Element as a part of their comprehensive plan to include a redevelopment component with principles that must be used to eliminate inappropriate and unsafe development in the coastal areas - when opportunities arise. The 2021 update to the Town of Sewall's Point Comprehensive Plan includes strategies that prepare the Town for the current and future risks of high-tide events, storm surge, flash floods, stormwater runoff and the related impacts of sea-level rise.

FLOOD PROTECTION STRATEGIES

1. **Procedural** - Outreach and education, real estate disclosure.
2. **Protection** - "Hard" and "soft" structurally defensive measures.
3. **Accommodation** - Altering the design and use of structures to handle flooding.
4. **Strategic Relocation** - Incremental relocation development to safer areas.
5. **Avoidance** - Directing new development away from vulnerable areas.

ADAPTATION STRATEGIES

1. Land-use regulations & building codes
2. Limits on insurance subsidies
3. Redesign and retrofitting of structures
4. Updates for drainage, flood control, and water supply infrastructure
5. Increased coastal protection

In recognition of the risks of sea level rise and flood risk, the Town utilized a tool provided by the National Oceanic and Atmospheric Administration (NOAA) to better understand the Town's risk. The tool facilitates scenario illustration of sea level rise in one-foot increments. For the Town's illustration, staff used a 2-foot rise in the sea level which is considered as a middle risk according to Florida State University Building Resilience Against Climate Effects (BRACE).

Source: NOAA

ESTUARINE POLLUTION

The major water bodies contained in the Town Coastal Zone are the southern portion of Indian River Lagoon System and the St. Lucie Estuary. The surface water surrounding the Town is primarily brackish. Salt water enters the system through the St. Lucie Inlet. Fresh water results from the St. Lucie River and surface runoff, percolation through soils, highway and urban drainage, and private water treatment discharges. One of the biggest challenges to the water quality of the St. Lucie River is the incidents of fresh water being released from Lake Okeechobee into the River by the Army Corp of Engineers when the Lake reaches a certain high level. These periodic releases upset the delicate balance of the brackish waterway.

STATE INITIATIVES

In 2021, the State continued to be committed to improving the condition of the Indian River Lagoon with Statute 373.451, the Surface Water Improvement Management Act. The goal of the Surface Water Improvement Management Act is to recognize the water quality of many surface waters, such as the Indian River Lagoon, is degrading.

Various surface waters are slowly being destroyed from sources of pollution and destruction of natural systems that purify water. These factors are causing the surface waters to lose their aesthetics and recreational pleasure while simultaneously destroying existing animal habitats.

The purpose of the Surface Water Improvement Management Act is to reestablish the beauty and health of the surface waters, provide recreational pleasure for citizens, conserve habitats for native plants, fish, and wildlife, provide safe drinking water, attract visitors, and increase economic benefits.

With the teamwork of the water management districts, the department, and local governments, Legislature finds that many surface water problems can and have been corrected. Legislature's intent is that each water management district will develop plans and programs for the improvement and management of surface waters within its boundaries.

Each water management district, the department, and others will conduct research to dig deeper into understanding the causes and effects of surface water pollution and the destruction of natural systems.

A variety of organizations have been monitoring and researching ways to protect the IRL and its watershed. The Indian River Lagoon Surface Water Improvements and Management (SWIM) Program has been designed to develop and execute a combination of research and practical implementation projects to protect or restore the environmental resources of the Indian River Lagoon. This joint program is administered cooperatively through the St. John's River Water Management District (SJWMD) and the South Florida Water Management District (SFWMD).

LOCAL INITIATIVES

RIVERS COALTION

The Rivers Coalition is a Treasure Coast initiative formed in efforts to stop discharges from Lake Okeechobee into the St. Lucie River. The group began in the 1990s, by presenting a "St Lucie River Report to Congress" which emphasized the toxic ooze at the bottom of the river which was up to 23 feet thick in some areas.

Most recently, the group influenced the governor to update the membership of the South Florida Water Management District Board of Governors to include clean water activist, former Mayor and Sewall's Point native, Jacqui Thurlow-Lippisch. The Rivers Coalition continues to advocate for a clean River. Currently, the group is advocating for new guidelines for the Army Corps to use in the decision-making process for maintaining lake levels and initiating discharges which value health and safety.

RIVERKIDZ

A youth branch of the Rivers Coalition, RiverKidz, was formed in 2011, by two 10-year-old Sewall's Point natives, Naia Mader and Evie Flaugh with a Lemonade stand fundraiser. The mission of this youth not for profit is to "speak out, get involved and raise awareness because we believe kids should have a voice in the future of our rivers." In the years since, the group continues to advocate for clean rivers with hundreds of youths participating to end water pollution. RiverKidz members have lobbied against offshore oil drilling, circulated petitions to limit fertilizer runoff, appeared in a documentary filmed by the Everglades Foundation, attended rallies against Lake Okeechobee discharges and attended a congressional hearing on the Indian River Lagoon's health. Ten years later, the group continues to advocate for the River. Most recently, in May 2021, the RiverKidz started a Rally for Manatees on the Ernest Lyons Bridge. Later that same month, the RiverKidz gathered at the Town of Sewall's Point Town Hall to write the U.S. Department of Interior to urge them to reinstate manatees on the endangered species list.

Reference: Stuart News May 2021

REDEVELOPMENT AND DIRECTION OF DEVELOPMENT AWAY FROM COASTAL AREAS

When opportunities arise, the Town will eliminate unsafe and inappropriate development of coastal areas and implement Peril of Flood policies in its Comprehensive Plan. Public acquisition of land is not a viable option to this effort without grant assistance due to the high cost of land. Relocation of residents in established neighborhoods is also not a viable option. However, the Town Building Official enforces the Florida Building Code which includes building standards that fortitude construction to reduce exposure to the hazards of storm and hurricane events. Areas of special flood hazard, identified by the Federal Insurance Administration in its Flood Insurance Rate Map, are subject to special requirements and terms of use and development. In all areas of special flood hazard, all new construction and substantial improvements are required to be anchored to prevent flotation, collapse or lateral movement; must be constructed with materials and utility equipment resistant to flood damage; must be constructed by method practices that minimize flood damage; and fully enclosed areas below the lowest floor that are subject to flooding must be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of flood waters.

PUBLIC ACCESS FACILITIES

Public access to the Town's shoreline is from Town Commons Park, a 2.9-acre parcel directly across the street from the Town Hall. This park includes a playground for children, fishing for all ages in the river and includes several benches to enjoy water views. The Evans Crary Bridge (State Road AIA) is used as a fishing pier over the St. Lucie River. There are no public marinas or boat ramps within the Town. However, shoreline access, and boat ramps are provided by neighboring jurisdictions. Martin County has many public access areas available to Town residents. This inventory and analysis for open space is also included in the **Recreation and Open Space Element** of this plan.

SANITARY SEWER FACILITIES

The Town does not own or operate a sanitary sewer facility but rather this service is provided by Martin County Utilities. Town residents treat wastewater with a combination of public sewer provided by Martin County while most residents continue to use septic tanks. The Town continues to encourage residents to utilize the public sewer system and is actively seeking grants to assist in the cost to connect to the public sewer system. More information about Connect to Protect program can be found in the **Infrastructure and Water Resources Element**.

POTABLE WATER FACILITIES

The Town does not own or operate any potable water facilities. The residents of the Town are primarily served by Martin County Utilities, and a few private wells exist. For more information on this see the **Infrastructure and Water Resources Element.**

NATURAL RESOURCES IN THE COASTAL AREA

Immediately interior to the coastal barrier island, located between the barrier island and the Atlantic Coastal Ridge, is the Indian River Lagoon (IRL). The IRL is a linear estuarine system that extends along more than a third of Florida's east coast, over 155 miles, from Ponce de Leon Inlet in Volusia County south to Jupiter Inlet in Palm Beach County. Numerous freshwater wetlands and sloughs undergo a transition into riverine systems that connect directly to the IRL. The lagoon interacts with the saline waters of the Atlantic Ocean through the inlets, providing tidal exchange with fresh water discharged into the lagoon from the inland rivers. Along the IRL, the associated mangrove and salt marsh communities provide valuable filtration, stabilization and habitat and the seagrass beds provide foraging for manatees. Portions of the eastern limits of the Town, as described above, lie adjacent to the IRL.

Source: FWC

HISTORIC RESOURCES IN THE COASTAL AREA

The Bureau of Archaeological Research within the Florida Office of Cultural and Historic Preservation maintains the Florida Master Site File (MSF); a database that contains information on archaeological and historic resources in Florida. Three homes are eligible to be listed on the National Register of Historic Places. A listing of these resources is contained in the **Housing Element.**

WETLANDS

Wetlands are generally classified as areas where the water table is near or above the surface, except during extended dry periods. Wetlands are typically adjacent to natural water bodies and man-made lakes, and in low-lying depressions, and have poorly drained, level, organic, or marl soils. Wetlands provide needed habitat for aquatic and land species, including migrating birds.

Wetlands serve many important hydrological and ecological values and functions:

- Recharge and filter groundwater in the shallow aquifer
- Reduce the impact of flooding by acting as storage basins and temper the effect of climate extremes
- Act as uniquely productive biological systems, providing home and food for the majority of Florida's threatened and endangered species

The Town of Sewall's Point will include policies in the Comprehensive Plan to ensure stormwater plans that maintain or enhance water quality by controlling the rate, timing and volume of discharges from surface water management systems from both point sources (coming from a specific, identifiable source) and nonpoint sources (coming from a general source that cannot be identified).

ACTIVITIES THAT NEGATIVELY AFFECT WETLANDS

The Town of Sewall's Point will discourage activities that adversely affect wetlands such as:

- Direct removal of natural vegetation from the wetlands or the buffer zones surrounding these wetlands
- Habitat destruction by dredging and/or filling
- Introduction or natural invasion of exotic vegetation within wetlands
- Improper or inadequate chemical and waste disposal, including agricultural wastes and improper installation and/or maintenance of septic tanks
- Improper or inadequate stormwater and surface water management
- Habitat destruction by motorized vehicles
- Alteration of wetland hydroperiods by mining, excavation and dewatering activities, and adjustments to stormwater weir levels to lower water tables

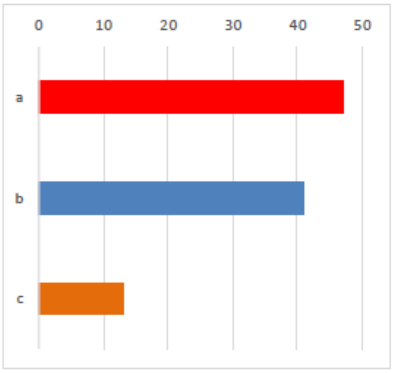
GRAPH CM 7-2 PUBLIC WORKSHOP WETLANDS POLL

The residents polled valued wetlands and expressed their desire to protect them regardless of their size and/or health.

12/29/21

According to the Environmental Protection Agency, wetlands are areas where water covers the soil, or is present either at or near the surface of the soil all year or for varying periods of time during the year, including during the growing season.Which of these statements best describes your philosophy regarding wetlands?

a	I believe wetlands, regardless of their size and/or health, must not be impacted.	47
b	I believe wetlands which are part of a connected system should be protected but small wetlands could be impacted if the developer improves or expands an existing wetland system.	41
c	I have no opinion about wetlands.	13
		101



COASTAL MANAGEMENT ANALYSIS

This element provides an analysis for how the Town of Sewall's Point is positioned to protect its coastal resources and is based upon data provided by a variety of local, state, and federal agencies. The preceding pages outline the existing conditions in the Town related to its coastline. In summary:

- The Town is surrounded by the unique waterbodies of the IRL and St. Lucie River.
- Due to its unique location, the Town is at particular risk for impacts from sea level rise and flooding.
- The Town should develop policies in its plan to make it resilient against the threats of flooding from storm events and sea level rise.
- The Town is comprised of established neighborhoods making relocation not a viable strategy to combat the threats of flooding and sea level rise.
- The Town has strong building codes that protect the structures from the threats of flooding and sea level rise.
- Water pollution is a threat to the health of the IRL, but local, state and federal initiative are in place to improve its health.
- Encouraging homes to connect to the County Sewer will remove the risk of pollution to waterways by failing or undermaintained septic tanks.
- The Town relies on Martin County for much of the public access to the waterways.

DEFINITIONS AND ACRONYMS

Hydroperiods - The period of time when a wetland is covered by water.

Load Allocations – Pollutant loads attributable to existing and future nonpoint sources and natural background.

Man-Made Structures - Structures created by people, which may or may not be intended for use by wildlife. Structures include (but are not limited to) buildings, bridges, utility poles, signs, equipment, heavy machinery, pipes, loading docks, and bat and bird houses.

Nonpoint Source Pollution - Pollution caused by precipitation that falls to and moves over and through the ground. As the precipitation moves, it accumulates pollutants and ultimately deposits them into surrounding streams, canals, lakes, wetlands and ground waters.

Point Source Pollution - Pollution that originates from a single source. An example would be a factory smokestack.

Siltation - A process when water becomes dirty because of agitation of minerals and sediment in the water.

Total Maximum Daily Load (TMDL) - The amount of each pollutant a water body can receive without violating standards. Pollution sources include runoff from farms, forests, urban areas, and natural sources, such as decaying organic matter and nutrients in soil.

APPENDICES

1. **Climate:**

   Weather Spark – Provide in-depth weather reports by location.

   Florida Climate Institute (FCI) - A multi-disciplinary network of national and international research and public organizations, scientists, and individuals concerned with achieving a better understanding of climate variability and change. The FCI has ten member universities – Florida A&M University (FAMU); Florida Atlantic University (FAU); the Florida Institute of Technology (FIT); Florida International University (FIU); Florida State University (FSU); Nova Southeastern University (NSU); the University of Central Florida (UCF); the University of Florida (UF); the University of Miami (UM); and the University of South Florida (USF) – and is supported by relevant colleges, centers, and programs at these universities.