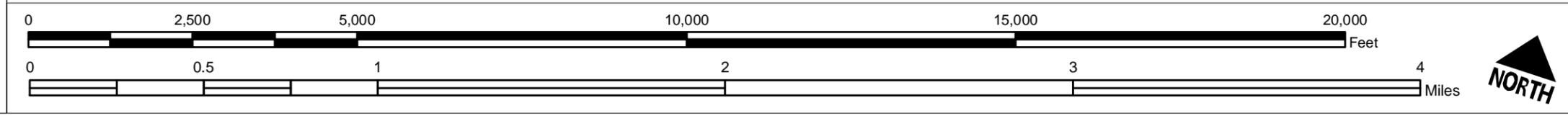
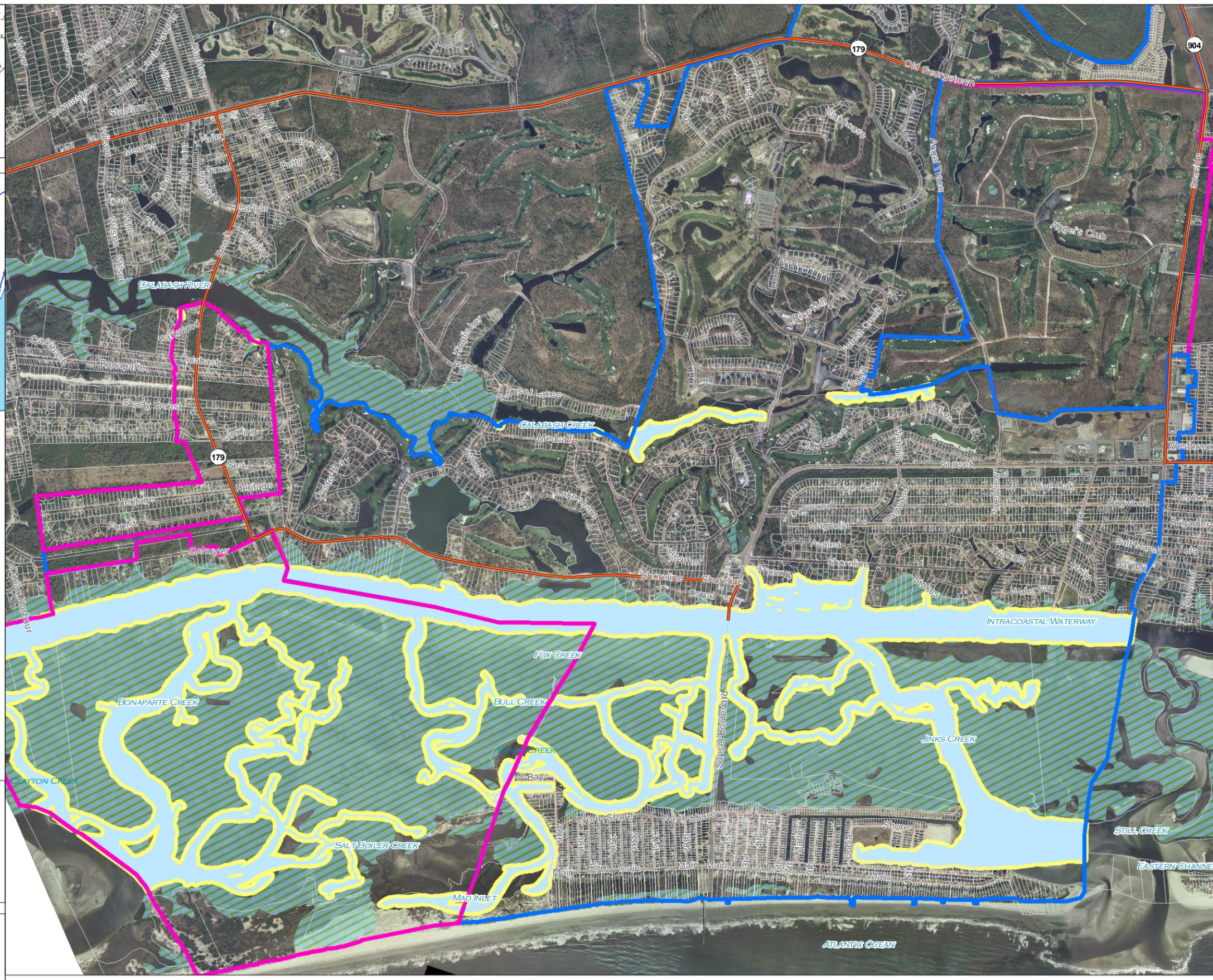


1 inch equals 2,000 feet  
1 inch equals 0.38 miles

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Map prepared by:  
Scott Logel  
Cape Fear Council of Governments  
1480 Harbour Drive  
Wilmington, NC 28401



# Town of Sunset Beach

## 2006/2007 CAMA Land Use Plan

### Areas of Environmental Concern (AEC) Map

- Legend**
-  Primary Road
  -  Roads
  -  Parcels
  - Planning Jurisdiction**
  -  Town Limits
  -  ETJ
  -  SA Class Estuarine Waters
  -  75' Estuarine Shoreline AEC
  -  Coastal Wetlands

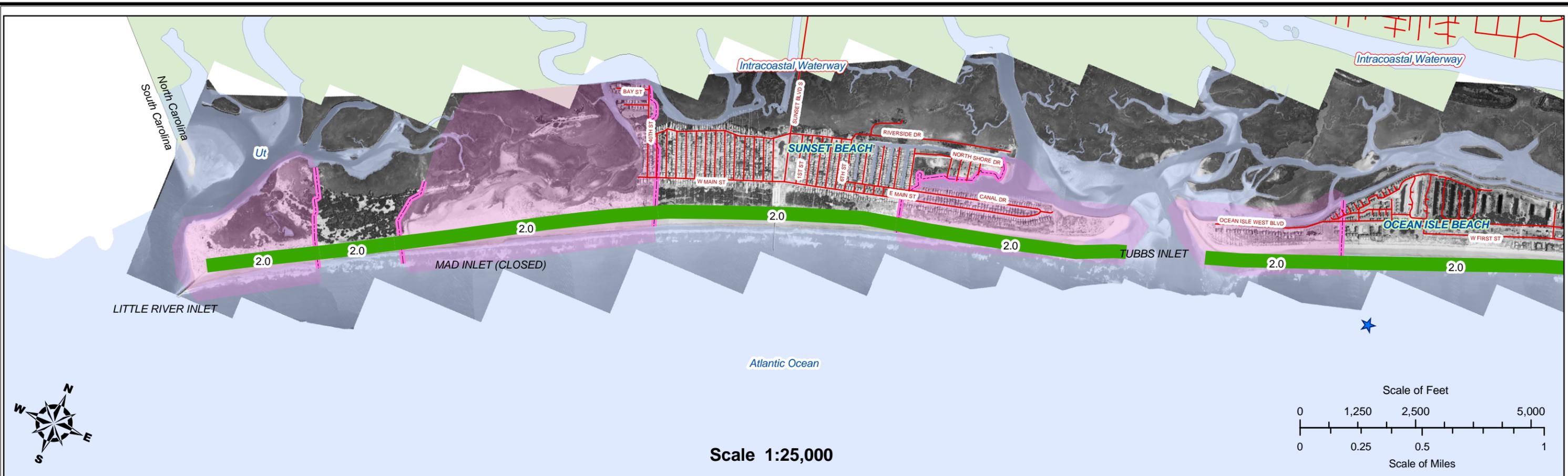
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**DRAFT**

Map Created  
7/20/06

MAP  
1



# Sunset Beach

## Long-Term Average Annual Shoreline Change Study & Setback Factors

Updated Through 1998

1998



This map is for general information only. The map illustrates average rates of shoreline change over approximately 50 years. The information presented here is not predictive nor does it reflect the short-term erosion that occurs during storms. This map may not be suitable for property-specific determination of erosion rate factors due to its small scale. For a site-specific determination contact your CAMA Local Permit Officer or the regional field office of the North Carolina Division of Coastal Management.

**Funding for this project was provided by:**  
National Oceanic and Atmospheric Administration, Federal Emergency Management Agency, and North Carolina Division of Emergency Management

**1998 Long-term average annual shoreline change rate developed by:**  
NC State University's Kenan Natural Hazards Mapping Program and North Carolina Division of Coastal Management

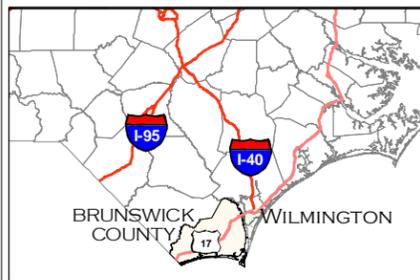
**For more information contact:**  
NC Division of Coastal Management:  
1638 Mail Service Center  
Raleigh, NC 27699-1638  
(919) 733 - 2293  
Or visit:  
[www.nccoastalmanagement.net](http://www.nccoastalmanagement.net)

### How to read Setback Factors

**2.0** → "2.0" Indicates a 1998 Setback (Erosion) Factor of 2.0 Feet / Year

- 1998 Setback Factor**
- 2.0 Ft. / Yr.
  - 2.5 - 3.0 Ft. / Yr.
  - 3.5 - 4.0 Ft. / Yr.
  - 4.5 - 5.0 Ft. / Yr.
  - 5.5 - 6.0 Ft. / Yr.
  - 6.5 - 7.0 Ft. / Yr.
  - 7.5 - 8.0 Ft. / Yr.
  - > 8.0 Ft. / Yr.

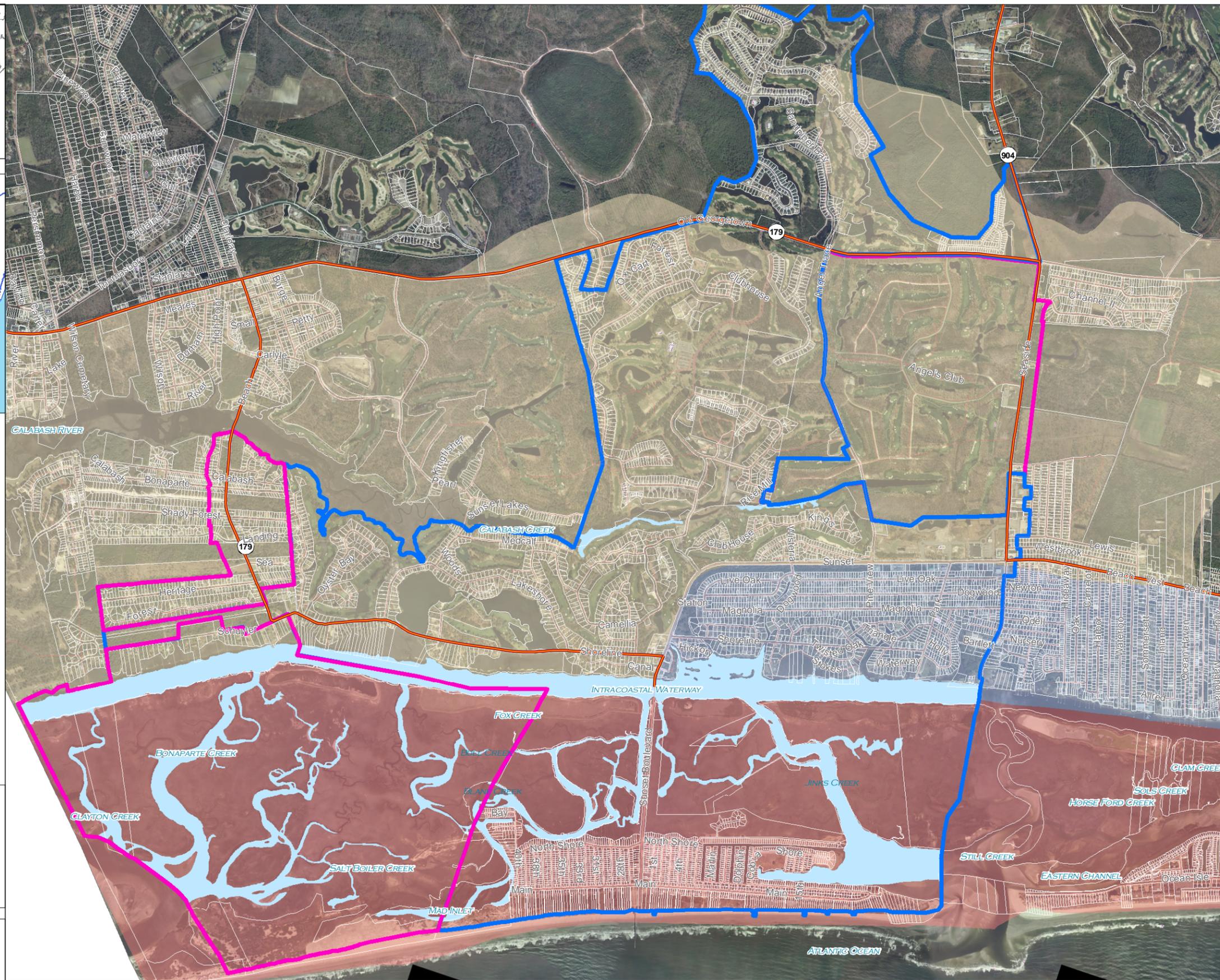
- Legend**
- Inlet Hazard Area (Slight color transparency)
  - Inlet Hazard Area Boundary
  - Setback Factor Boundary
  - Roads
- This general area has been influenced by beach nourishment either for beach protection or dredge disposal. This action artificially lowers the erosion rate in this area.*



1 inch equals 2,500 feet  
1 inch equals 0.47 miles

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Map prepared by:  
Scott Logel  
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Wilmington, NC 28401



# Town of Sunset Beach

## 2006/2007 CAMA Land Use Plan

### Water Quality Map

- Legend**
-  Primary Road
  -  Roads
  - Planning Jurisdiction**
  -  Town Limits
  -  ETJ
  -  Parcels
  -  Closed Shellfish Areas
  -  SA Class Estuarine Waters
  - 14 Digit Hydrologic Units Watershed**
  -  Kilbart Slough, ICWW
  -  Calabash Creek
  -  ICWW, Atlantic Ocean

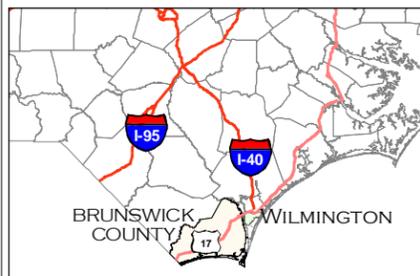
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Map Created 8/20/07

MAP 3



**What is a Special Flood Hazard Area (SFHA)?**

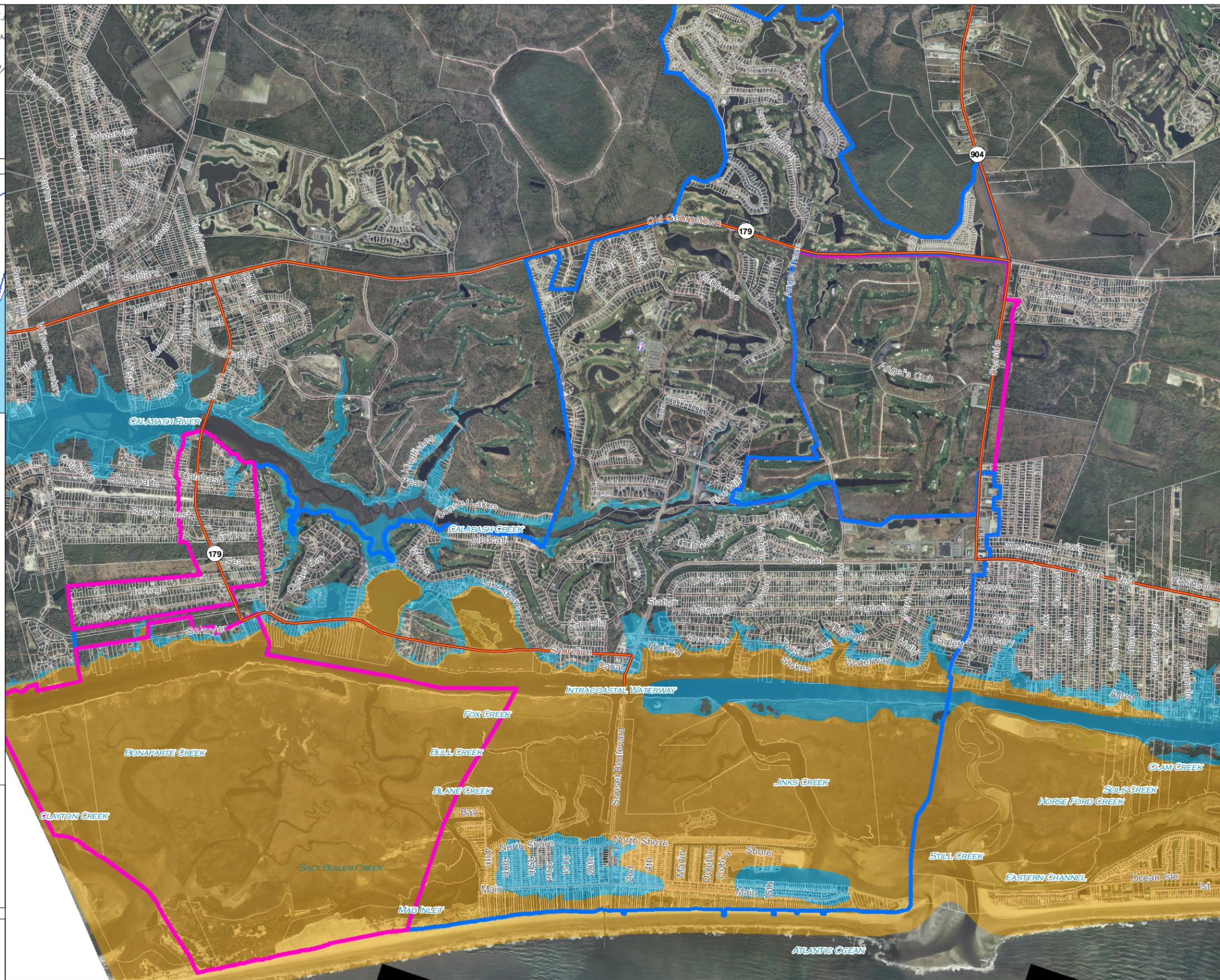
In accordance with the National Flood Insurance Program (NFIP), FEMA has undertaken flood hazard identification and mapping to produce Flood Hazard Boundary Maps, Flood Insurance Rate Maps, and Flood Boundary and Floodway Maps. Several areas of flood hazards are commonly identified on these maps. One of these areas is the Special Flood Hazard Area (SFHA), which is defined as an area of land that would be inundated by a flood having a 1% chance of occurring in any given year (previously referred to as the base flood or 100-year flood). The standard constitutes a reasonable compromise between the need for building restrictions to minimize potential loss of life and property and the economic benefits to be derived from floodplain development. Development may take place within the SFHA, provided that development complies with local floodplain management ordinances, which must meet the minimum Federal requirements. Flood insurance is required for insurable structures within the SFHA to protect federally funded or federally backed investments and assistance used for acquisition and/or construction purposes within communities participating in the NFIP.

Source: www.fema.gov/fhm/fq\_term.shtml

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# Town of Sunset Beach

## 2006/2007 CAMA Land Use Plan

### Special Flood Hazard Area Map

- Legend**
- Primary Road
  - Roads
  - Planning Jurisdiction**
  - Town Limits
  - ETJ
  - Parcels
  - AE
  - VE

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 1 inch equals 0.47 miles

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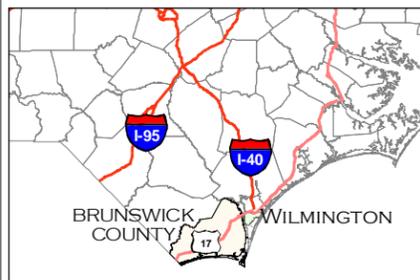


**DRAFT**



Map Created  
8/20/07

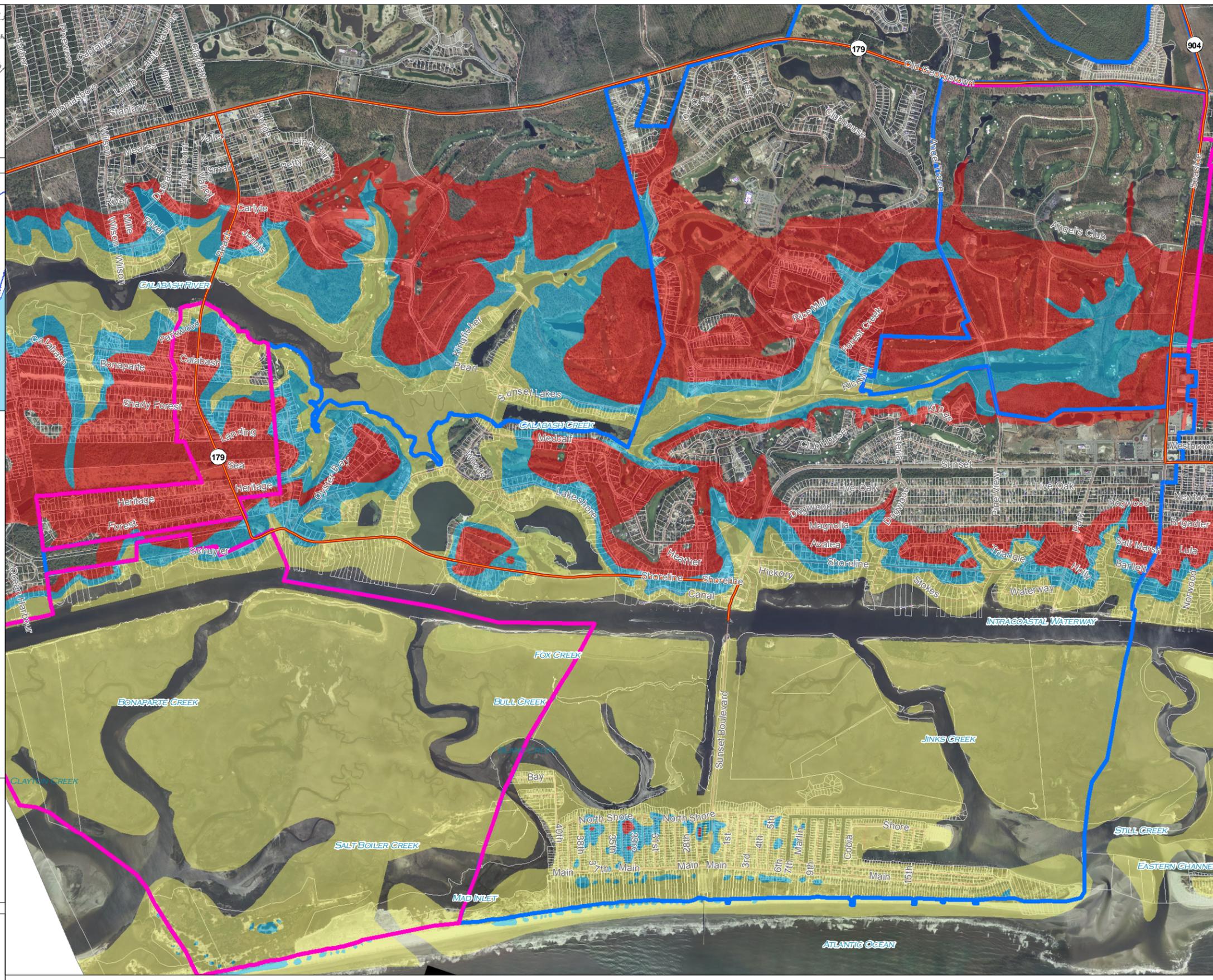
MAP  
4



Hurricane Storm Surge Inundation Area (Fast Moving Storm) The National Hurricane Center, in cooperation with the North Carolina Center for Geographic Information and Analysis, developed the GIS data set, Hurricane Storm Surge Inundation Areas (1993), to reevaluate the extent of the areas affected by hurricane inundation along the North Carolina coast. The data depicts the extent of hurricane storm surge inundation areas based on SLOSH (Sea, Lake, and Overland Surges from Hurricanes) models, for the North Carolina coast. The FAST model depicts hurricanes with forward velocities greater than 15mph. Storm surge is water that is pushed toward the shore by the force of the winds swirling around the storm. This advancing surge combines with the normal tides to create the hurricane storm tide, which can increase the mean water level 15 feet or more. In addition, wind driven waves are superimposed on the storm tide. This rise in water level can cause severe flooding in coastal areas, particularly when the storm tide coincides with the normal high tides. The storm surge inundation area data used for the planning jurisdiction is based on the SLOSH Model developed by NOAA's National Weather Service.

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Map prepared by:  
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# Town of Sunset Beach

## 2006/2007 CAMA Land Use Plan

### Storm Surge Inundation Map

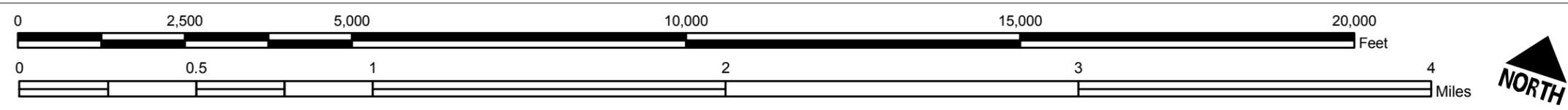
- Legend
- Primary Road
  - Roads
  - Planning Jurisdiction**
  - Town Limits
  - ETJ
  - Parcels
  - Storm Surge Hurricane**
  - Category 1 & 2
  - Category 3
  - Category 4 & 5

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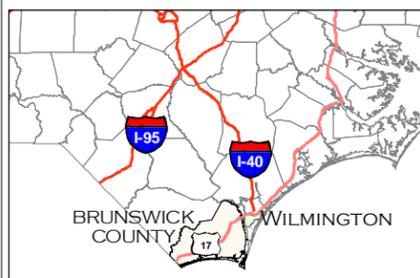


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Map Created  
 8/20/07

MAP  
 5

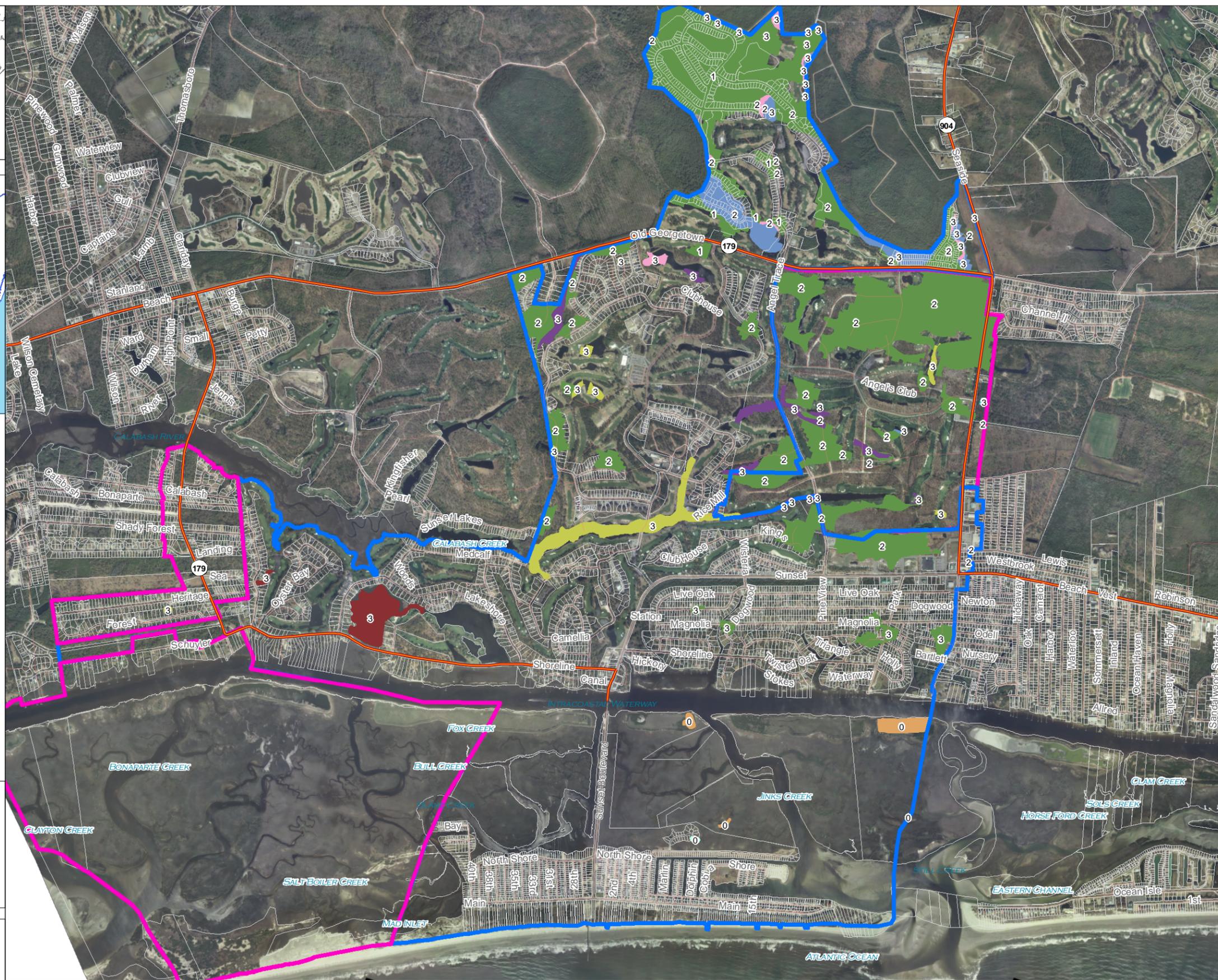


Non-coastal wetlands/propable 404 wetlands (NC-CREWS) - Section 404 of the Federal Water Pollution Control Act (the Clean Water Act) defines wetlands as areas that are inundated or saturated by surface water or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation adapted to life in saturated soil conditions. The North Carolina Coastal Region Evaluation of Wetland Significance, or NC-CREWS, is a watershed-based wetlands functional assessment model that uses geographic information systems (GIS) software and data to assess the level of water quality, wildlife habitat, and hydrologic functions of individual wetlands. The primary objective of the NC-CREWS wetland functional assessment is to provide users with information about the relative ecological importance of wetlands for use in planning and the overall management of wetlands. NC-CREWS produces 3 possible overall wetland rating scores: Exceptional Significance, Substantial Significance, or Beneficial Significance. NC-CREWS also evaluates the potential risk to watershed integrity if identified wetlands were "lost".

Source: <http://dcm2.enr.state.nc.us/Wetlands/nccrews.htm>

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# Town of Sunset Beach

## 2006/2007 CAMA Land Use Plan

### North Carolina Coastal Resource Evaluation of Wetland Systems NC-CREWS Map

**Legend**

- Primary Road
- Roads

**Planning Jurisdiction**

- Town Limits
- ETJ

**NC CREWS Wetlands Type**

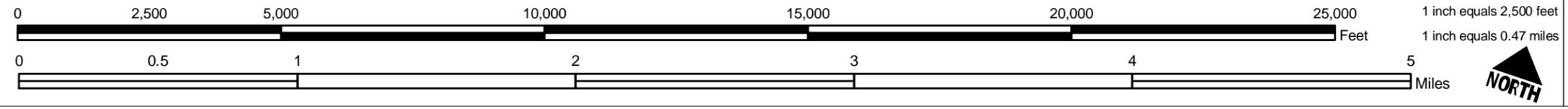
- Bottomland Hardwood
- Estuarine Forest
- Estuarine Shrub-Scrub
- Hardwood Flat
- Human Impacted
- Managed Pineland
- Pine Flat
- Pocosin
- Swamp Forest
- Parcels

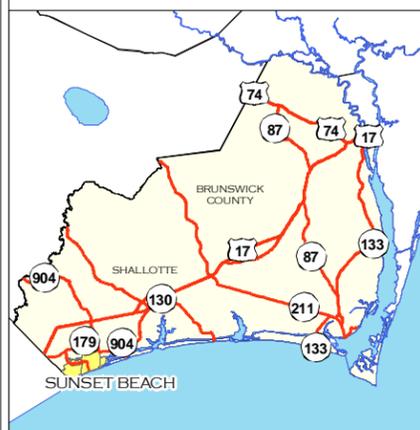
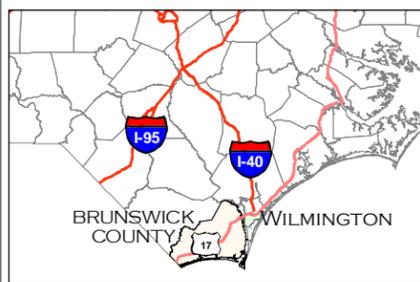
**Label Key:**  
 The number label on the wetlands refers to potential risk factor to watershed integrity if wetland is destroyed.  
 3 = High Risk; 2 = Not High Risk; 0 = Not Rated

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Significant Natural Heritage Areas (SNHA) are areas identifying sites (terrestrial or aquatic) that have particular biodiversity significance. A site's significance may be due to the presence of rare species, rare or high quality natural communities, or other important ecological features.

Bird Island is one of the few remaining undeveloped barrier islands in North Carolina. The Federal and State Threatened loggerhead sea turtle nests on the island. The Federal and State Threatened seabach amaranth grows on the upper beach. Natural communities found here include Salt Marsh, Upper Beach, Dune Grass, and Maritime Shrub. Bird Island is owned by the Division of Coastal Management, and is a Dedicated State Nature Preserve.

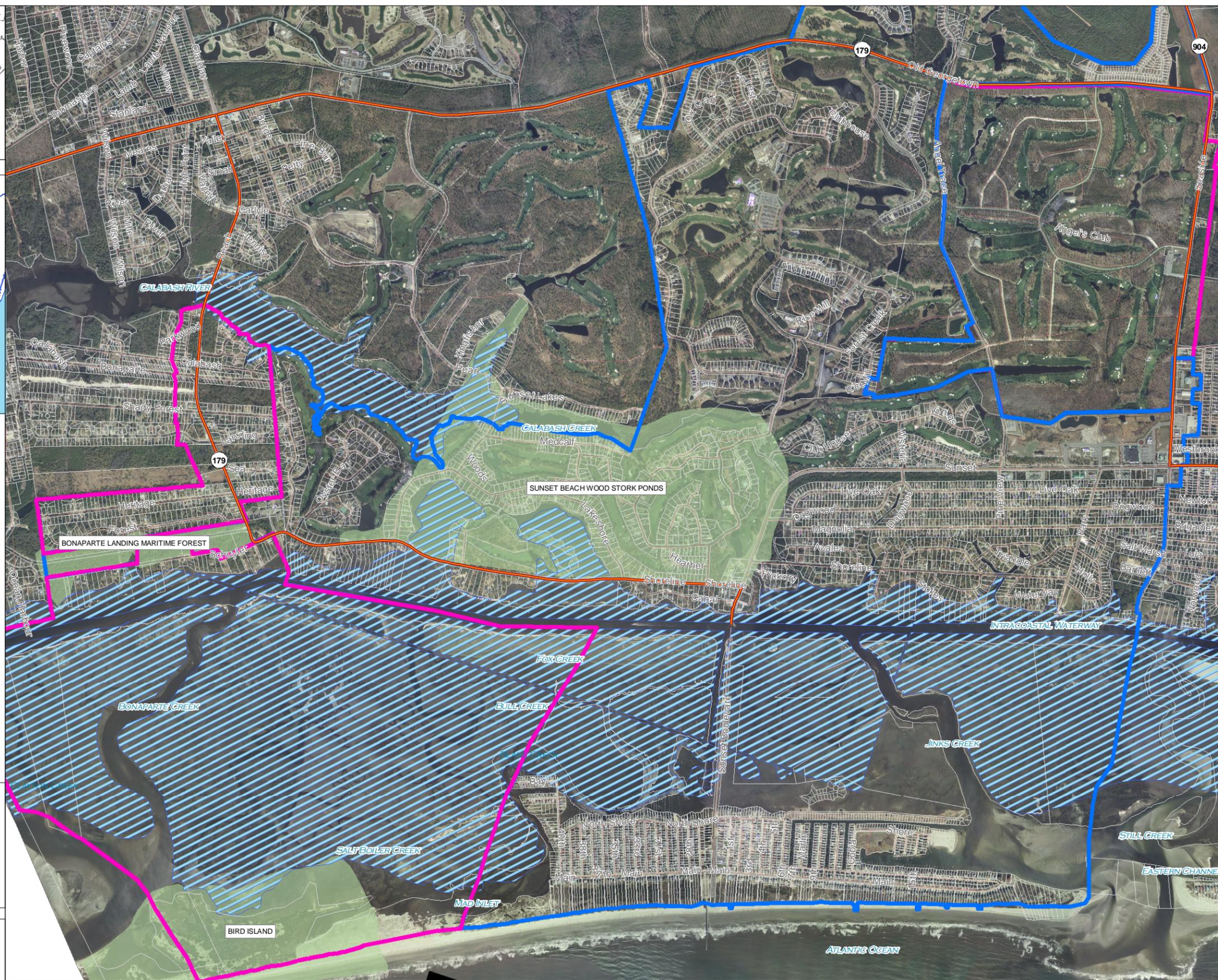
Sunset Beach Wood Stork Ponds has many ponds and impoundments which support the northern-most post-breeding site for the Federal and State Endangered wood stork. Before the area was developed into residential and recreational uses, it supported Coastal Fringe Evergreen Forest. This site is privately owned.

Source: "An Inventory of the Significant Natural Areas of Brunswick County, North Carolina". North Carolina Natural Heritage Program

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Map prepared by:  
Scott Logel  
Cape Fear Council of Governments  
1480 Harbour Drive  
Wilmington, NC 28401



# Town of Sunset Beach

## 2006/2007 CAMA Land Use Plan

### Primary Fish Nursery and Significant Natural Heritage Areas Map

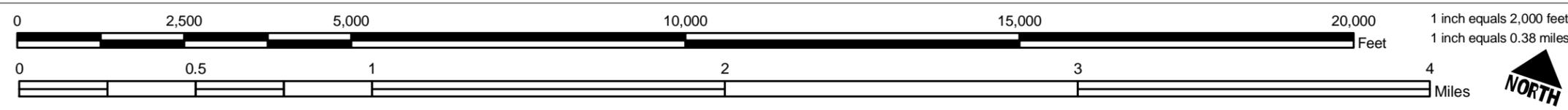
- Legend**
- Primary Road
  - Roads
  - Town Limits
  - ETJ
  - Parcels
  - Fish Nursery Area
  - Significant Natural Heritage Area

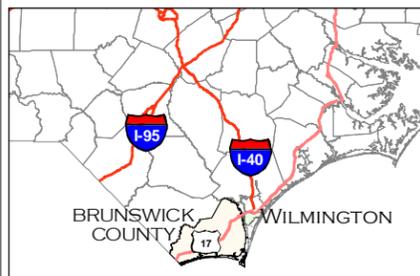
Primary Nursery Areas are located in the upper portions of creeks and bays. These areas are usually shallow with soft muddy bottoms and surrounded by marshes and wetlands. Low salinity and the abundance of food in these areas are ideal for young fish and shellfish. To protect juveniles, many commercial fishing activities are prohibited in these waters; including the use of trawl nets, seine nets, dredges or any mechanical methods used for taking clams or oysters.

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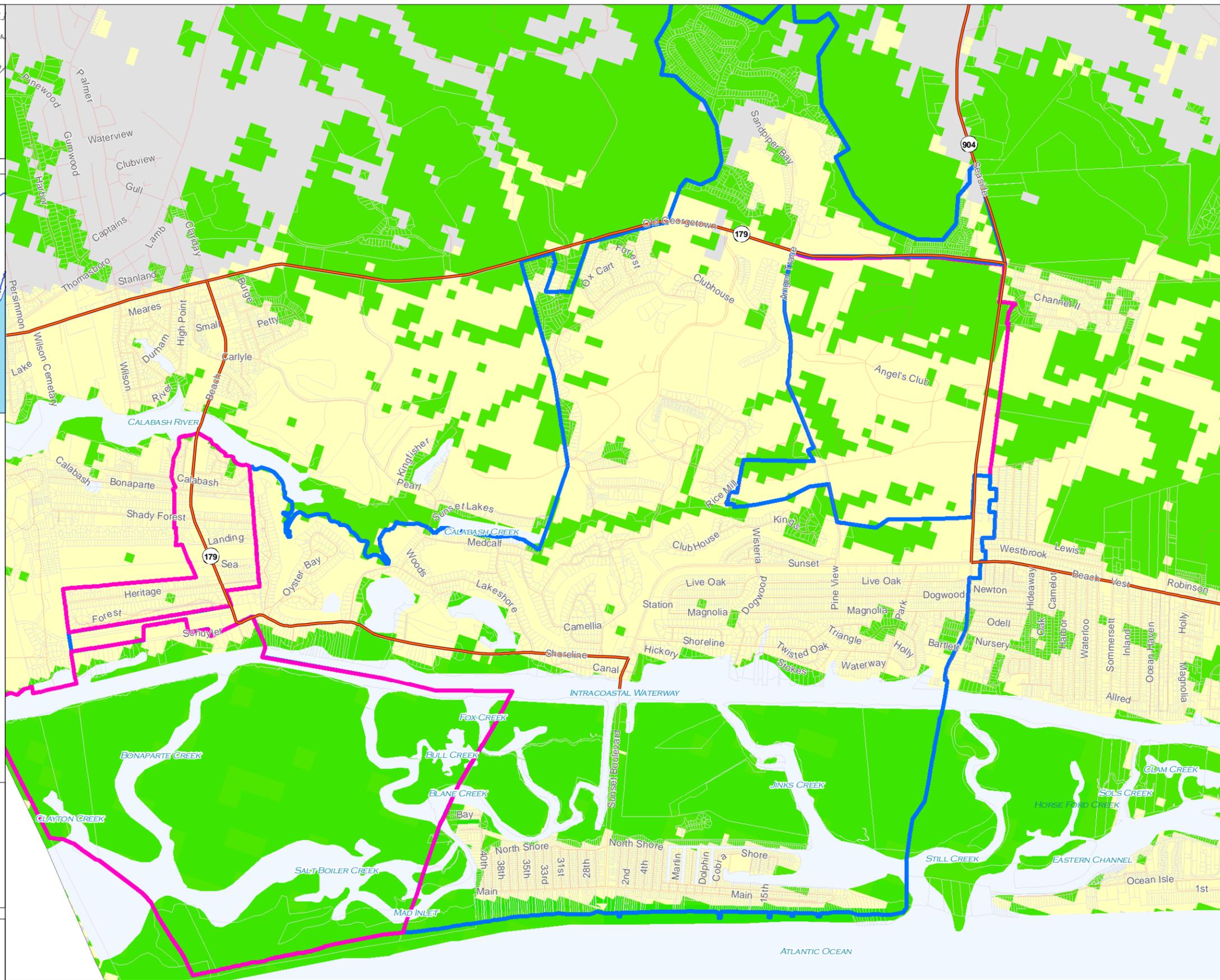
**DRAFT**





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# Town of Sunset Beach

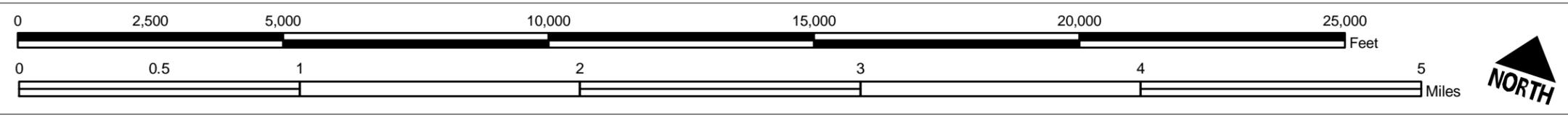
## 2006/2007 CAMA Land Use Plan

### Environmental Composite Map

- Legend**
-  Primary Road
  -  Roads
  - Planning Jurisdiction**
  -  Town Limits
  -  ETJ
  -  Parcels
  - Environmental Composite VALUE**
  -  Class I Higher Suitability
  -  Class II Moderate Suitability
  -  Class III Least Suitability

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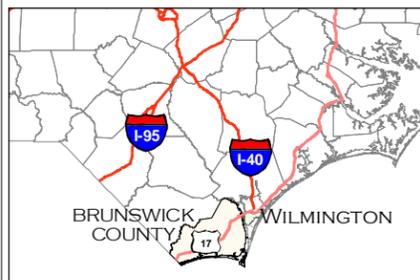
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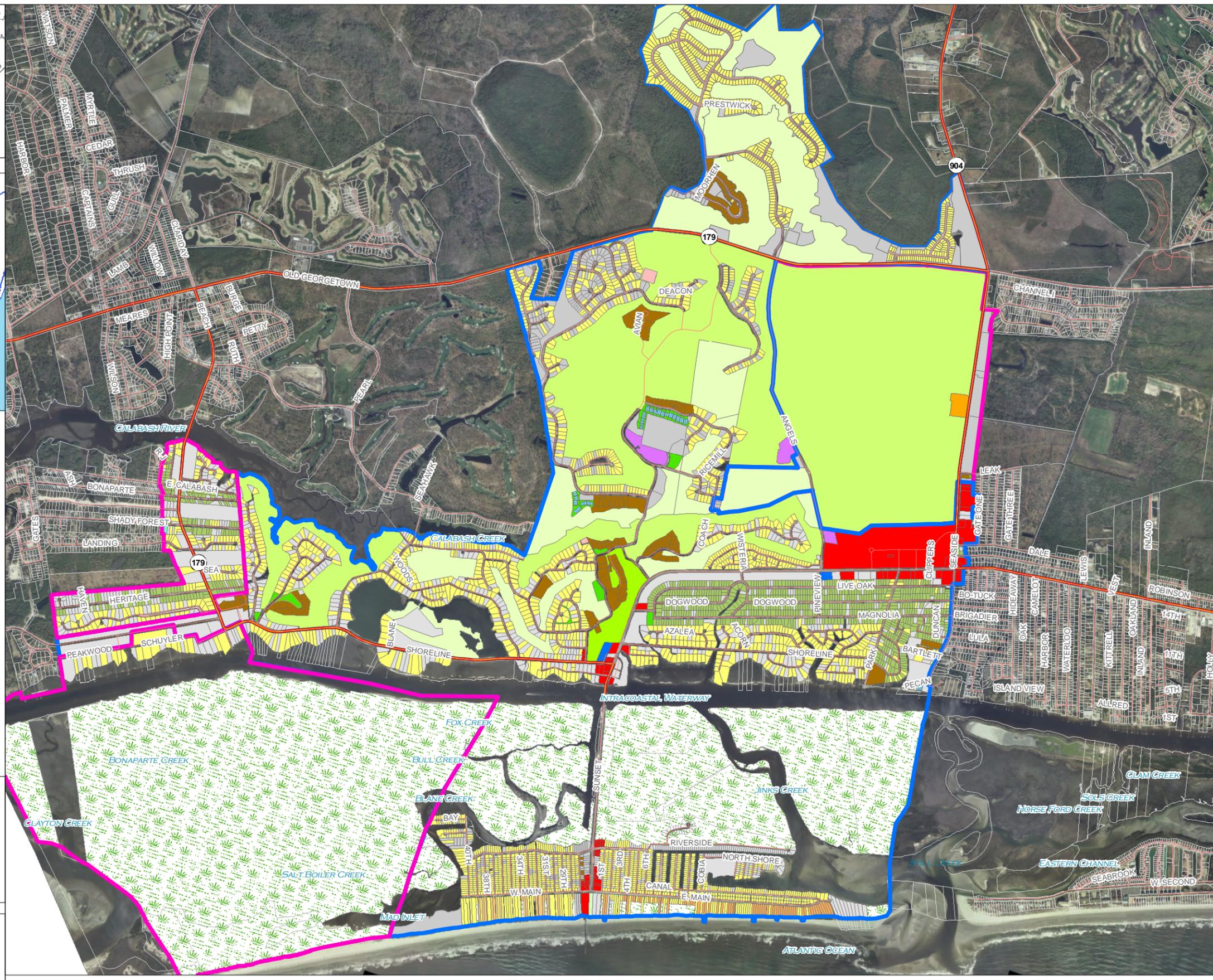
Map Created  
7/20/07

MAP  
8



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 Cape Fear Council of Governments  
 1480 Harbour Drive  
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# Town of Sunset Beach

## 2006/2007 CAMA Land Use Plan

### Existing Land Use Map

- Legend
- Land Use
  - Single-Family
  - Single-Family Attached
  - Duplex
  - Multi-Family
  - Manufactured Housing
  - Common Area
  - Golf Course
  - Golf Course with Clubhouse
  - Commercial
  - Utilities
  - Institutional
  - Cemetery
  - Institutional
  - Vacant
  - Marsh/Beach/Natural State

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# Brunswick County Comprehensive Wastewater Master Plan

## 20-Year Regional Sewer Collection System Infrastructure

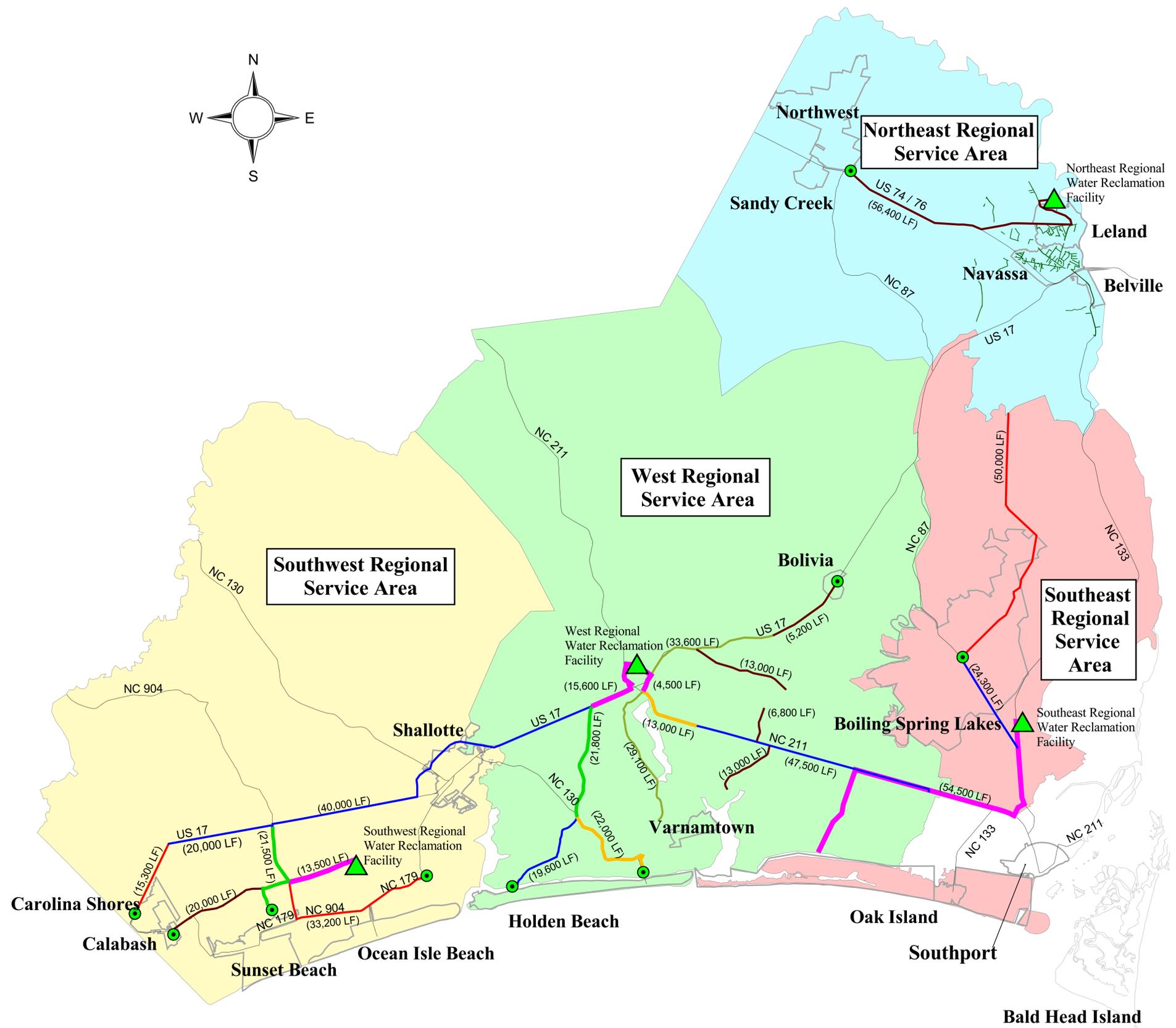
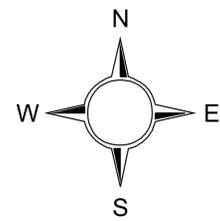


### Legend

- Sewer Nodes**
- ▲ Regional Water Reclamation Facilities
  - Regional Pumping Station

- Collectors**
- 8" (Red line)
  - 10" (Green line)
  - 12" (Blue line)
  - 16" (Yellow line)
  - 18" (Orange line)
  - 20" (Light Green line)
  - 24" (Magenta line)

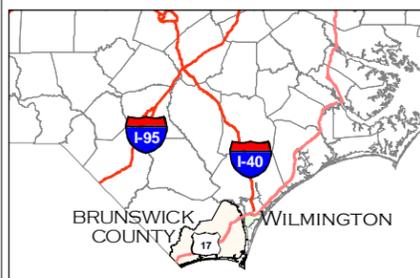
- Local Collection System (Thin grey line)
- Southwest Region (Yellow background)
- Northeast Region (Light Blue background)
- Southeast Region (Pink background)
- West Region (Light Green background)
- Highways (Thin black line)
- Municipal Boundaries (Thin grey line)



GIS\Projects\08176\_BrunswickCo\21237\_WWTR\_Master\_Plan\map\_docs\april2005\_WWMP\_Infrastructure.apr



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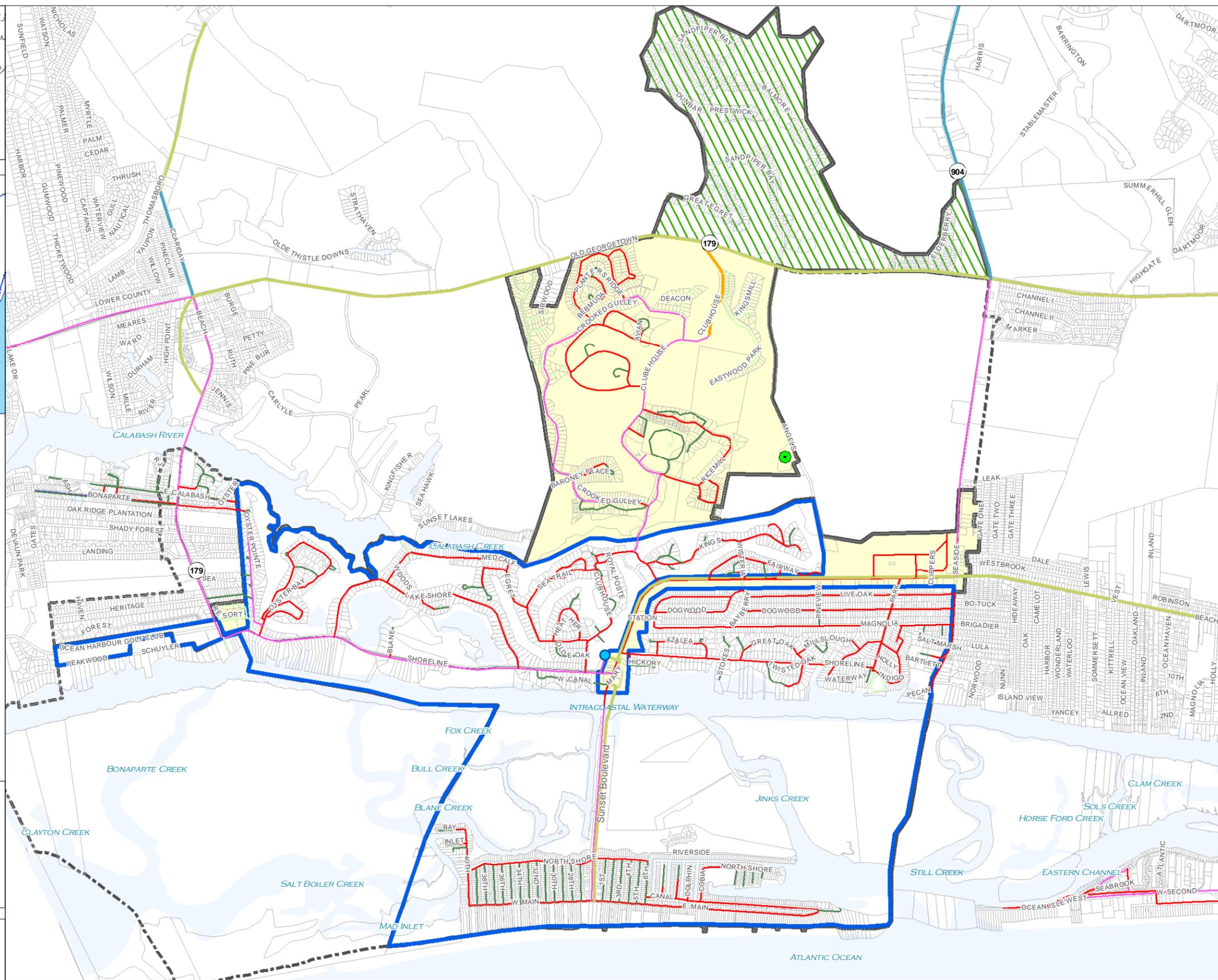


**Sandpiper Bay and Wyndfall (Annexed June 2007)**

This area is serviced by County Water for potable water and is serviced by a private wastewater treatment system for sewer service. The area is not included in the planning for the construction of the central sewer system in Town as mentioned in Section 6 of this Land Use Plan.

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Map prepared by:  
 Scott Logel  
 Cape Fear Council of Governments  
 1480 Harbour Drive  
 Wilmington, NC 28401



# Town of Sunset Beach

## 2006/2007 CAMA Land Use Plan

### Water and Wastewater Systems Facilities Map

**Legend**

- Wastewater Treatment Plant
- Water Tank
- Primary Road

**Water Lines**

**Line Size**

- 1"
- 2"
- 4"
- 6"
- 8"
- 10"
- 12"
- 16"
- Unspecified

- Existing Sewer Service
- Planned Sewer Service Area (Generalized)
- Town Limits
- ETJ

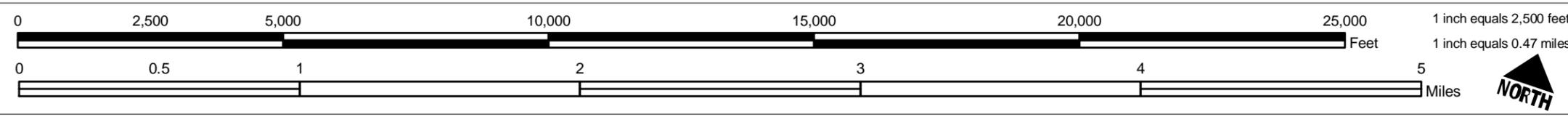
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**DRAFT**

Map Created 8/30/07

MAP 11



# Town of Sunset Beach

## 2006/2007 CAMA Land Use Plan

### Transportation and Public Access Facilities Map

- Legend**
-  Primary Road
  -  Roads
  -  Unpaved Roads
  -  Town Limits
  -  ETJ
  -  Potential Public Access Sites
  -  Public Beach Access Sites
  -  DOT Properties and Easements for Bridge
  -  Parcels

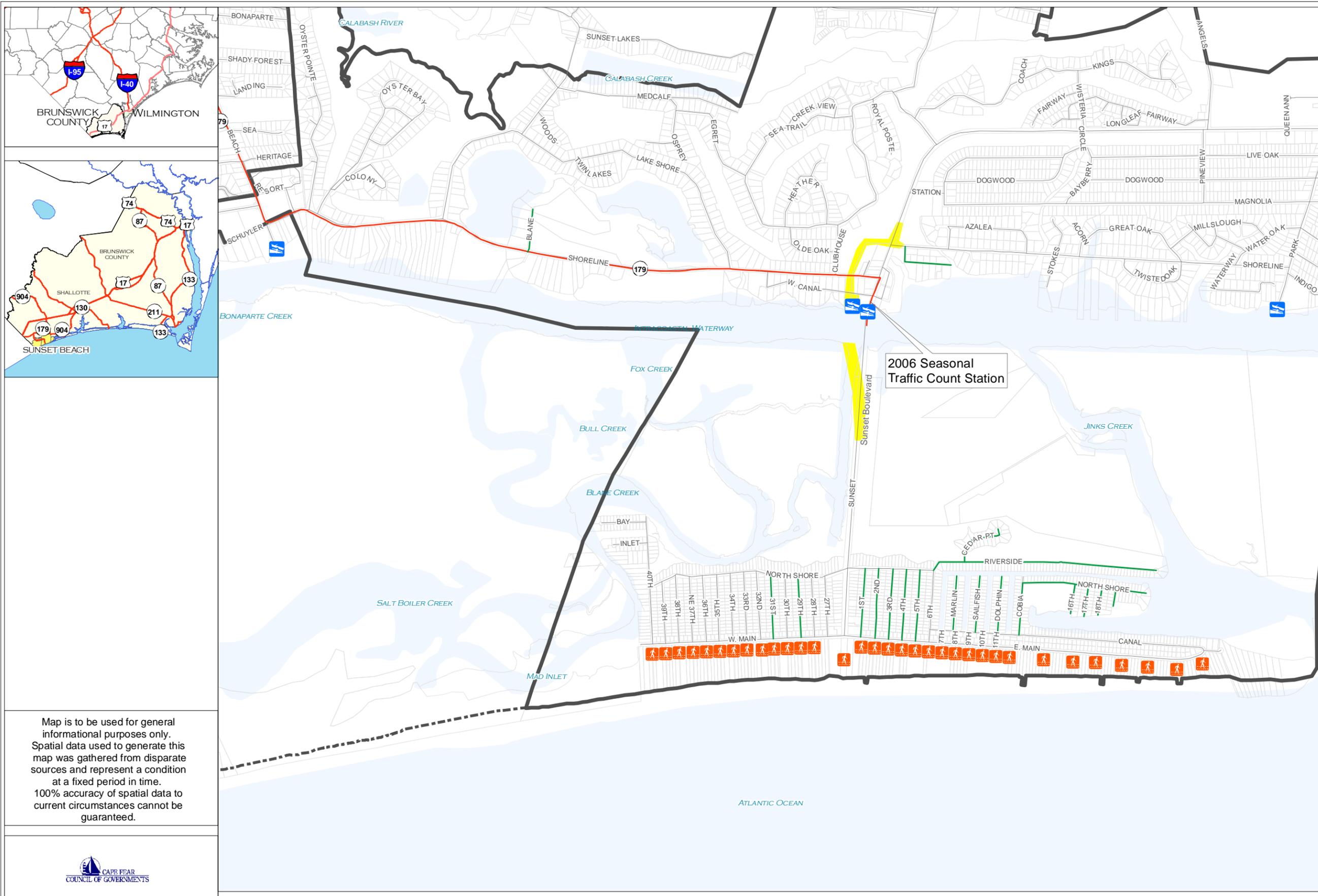
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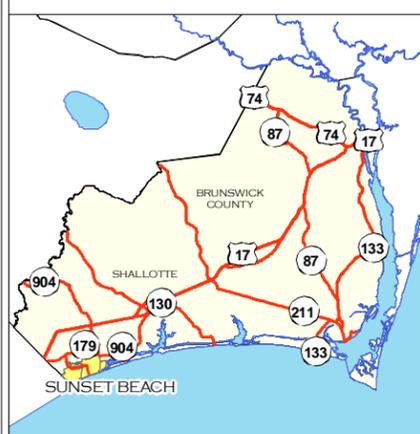
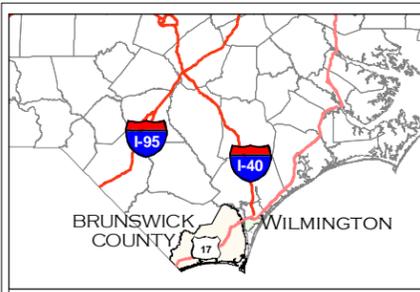
**DRAFT**

Map Created  
8/22/07

MAP  
12



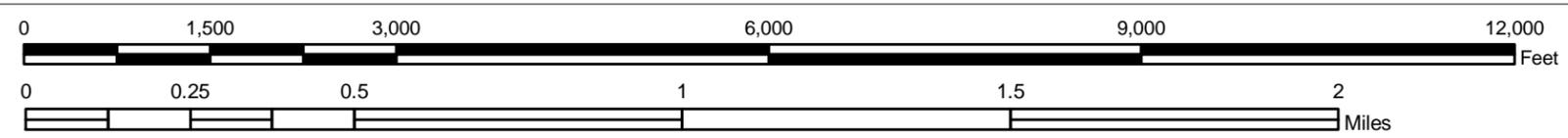
2006 Seasonal  
Traffic Count Station



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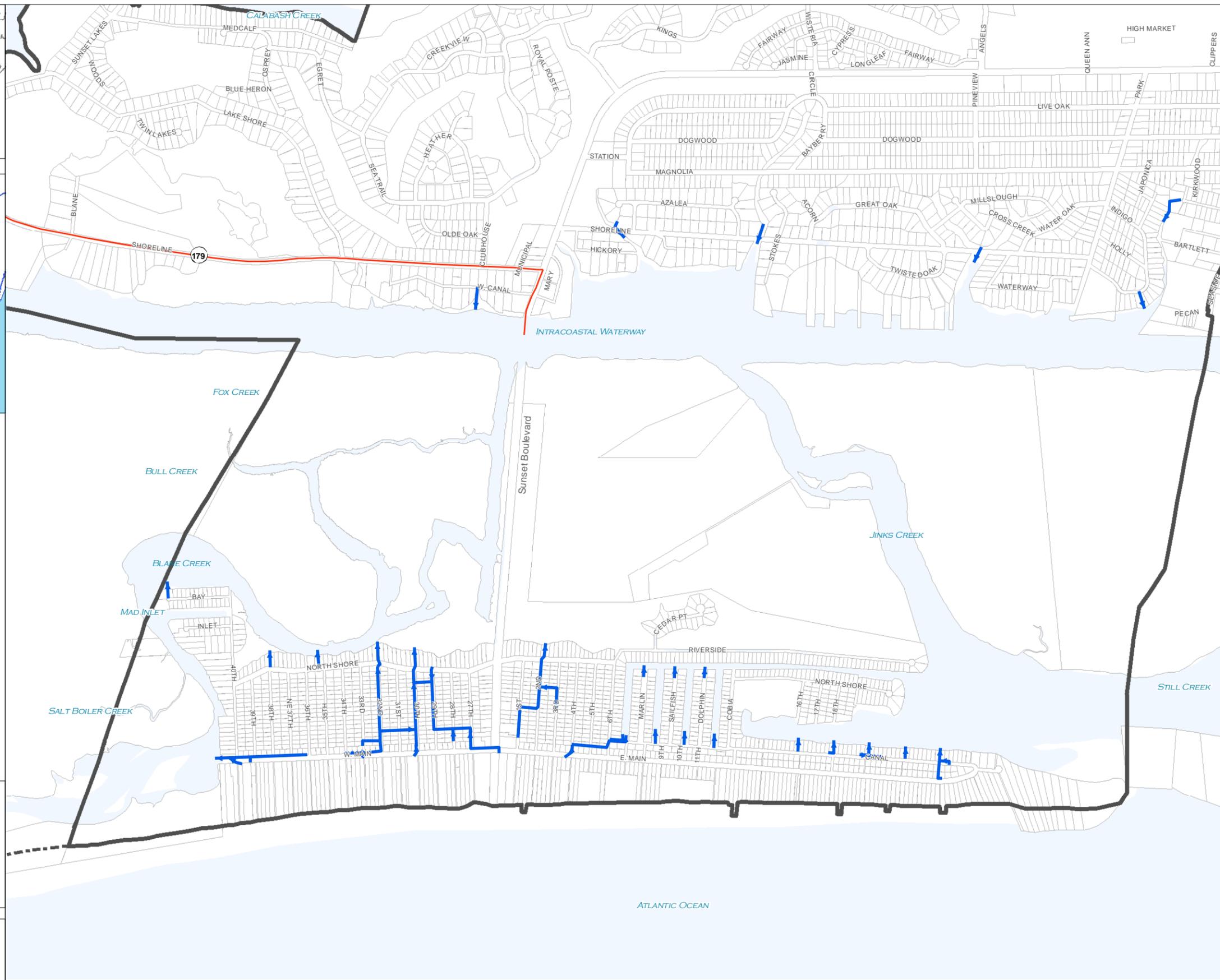
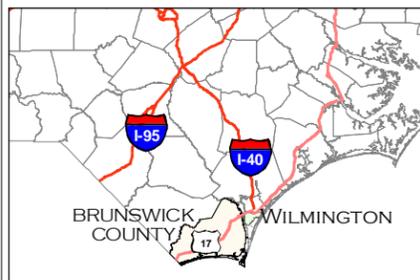


Map prepared by:  
Scott Logel  
Cape Fear Council of Governments  
1480 Harbour Drive  
Wilmington, NC 28401



1 inch equals 1,442 feet  
1 inch equals 0.27 miles





# Town of Sunset Beach

## 2006/2007 CAMA Land Use Plan

### Town Maintained Stormwater System Outfall Map

- Legend**
- Primary Road
  - Stormwater Conveyance and Outfall Locations
  - Town Limits
  - ETJ

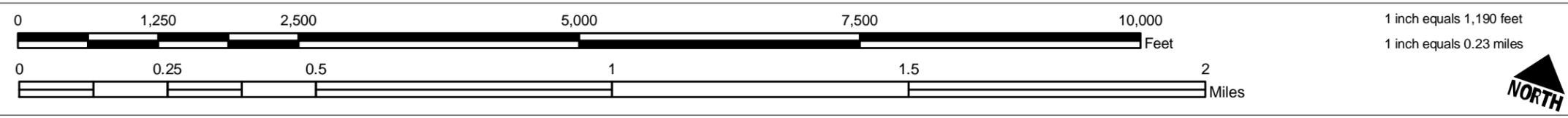
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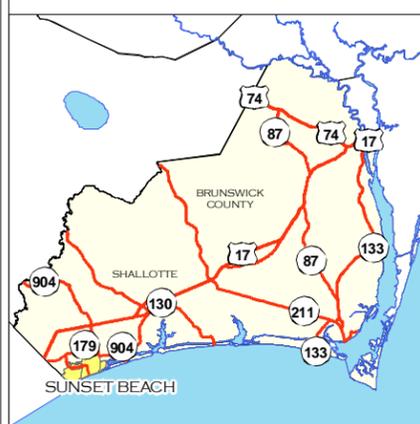
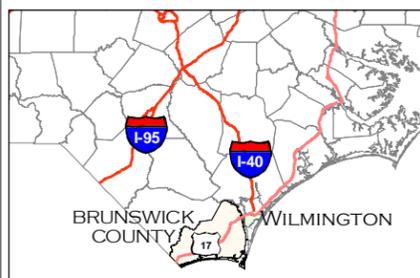


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Map is to be used for general informational purposes only. Spatial data used to generate this map was gathered from disparate sources and represent a condition at a fixed period in time. 100% accuracy of spatial data to current circumstances cannot be guaranteed.

  
 Map prepared by:  
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 Wilmington, NC 28401





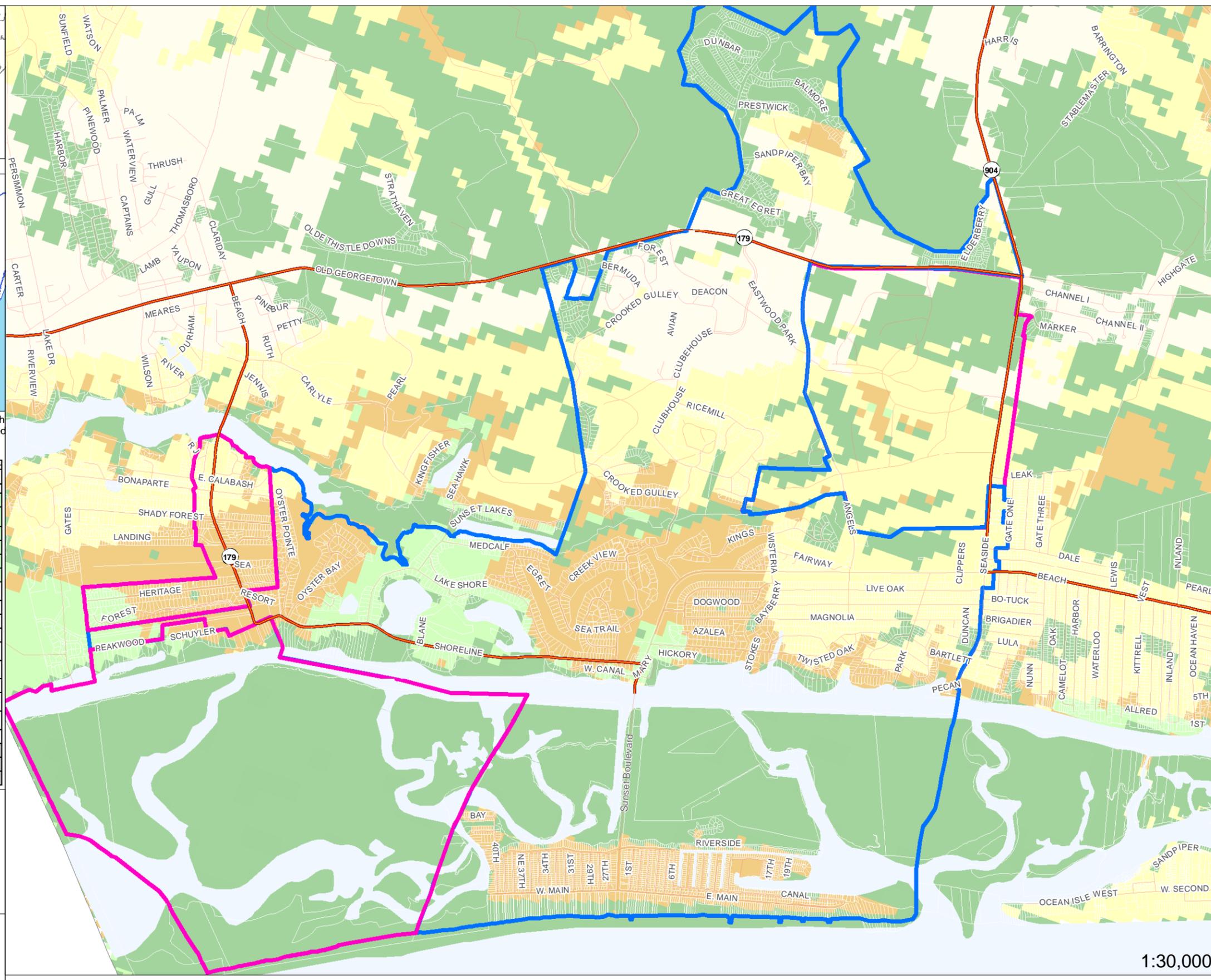
The Data below was used in creating the LSA. Each dataset was placed into a "suitability" category based on its characteristic as either supporting or limiting development activity.

Layer Name	Criteria and Rating			
	Least Suitable	Low Suitability	Medium Suitability	High Suitability
Coastal Wetlands	Inside		Outside	
Substantial Noncoastal Wetlands	Inside		Outside	
Estuarine Waters	Inside		Outside	
Protected Lands	Inside		Outside	
Federal Lands	Inside		Outside	
State Lands	Inside		Outside	
Beneficial Noncoastal Wetlands		Inside		Outside
High Quality Waters		Inside		Outside
Storm Surge Areas		Inside		Outside
Flood Zones		Inside		Outside
Significant Natural Heritage Areas		< 500'		> 500'
Hazardous Substance Disposal Sites		< 500'		> 500'
NPDES Sites		< 500'		> 500'
Wastewater Treatment Plants		< 500'		> 500'
Municipal Sewer Discharge Points		< 500'		> 500'
Airports		< 500'		> 500'
Developed Land	> 1 mi	.5 - 1 mi		< .5 mi
Primary Roads	> 1 mi	.5 - 1 mi		< .5 mi
Water Pipes	> .5 mi	.25 - .5 mi		< .25 mi

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# Town of Sunset Beach

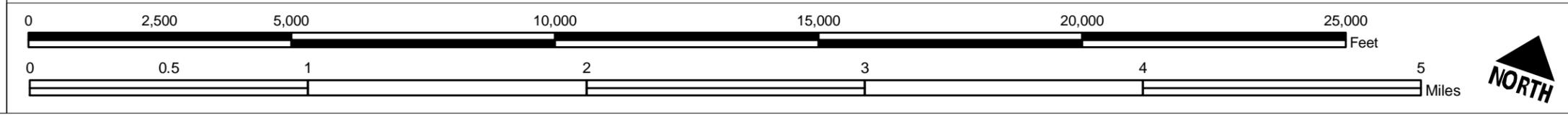
## 2006/2007 CAMA Land Use Plan

### Land Suitability Analysis (LSA) Map

- Legend**
- Primary Road
  - Roads
  - Planning Jurisdiction**
    - Town Limits
    - ETJ
  - Land Suitability**
    - Least Suitable
    - Low Suitability
    - Medium Suitability
    - Medium-Highest Suitability
    - Highest Suitability

1 inch equals 2,500 feet  
 1 inch equals 0.47 miles

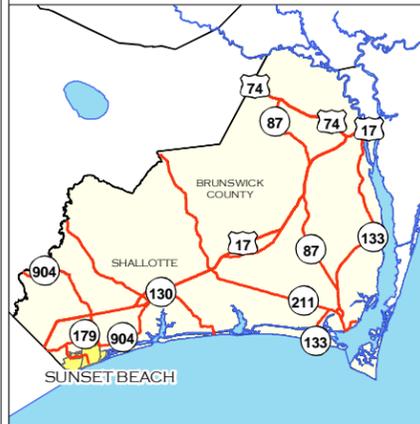
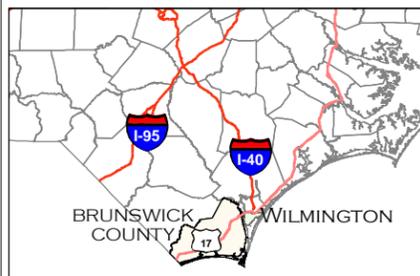
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Map Updated 8/1/07

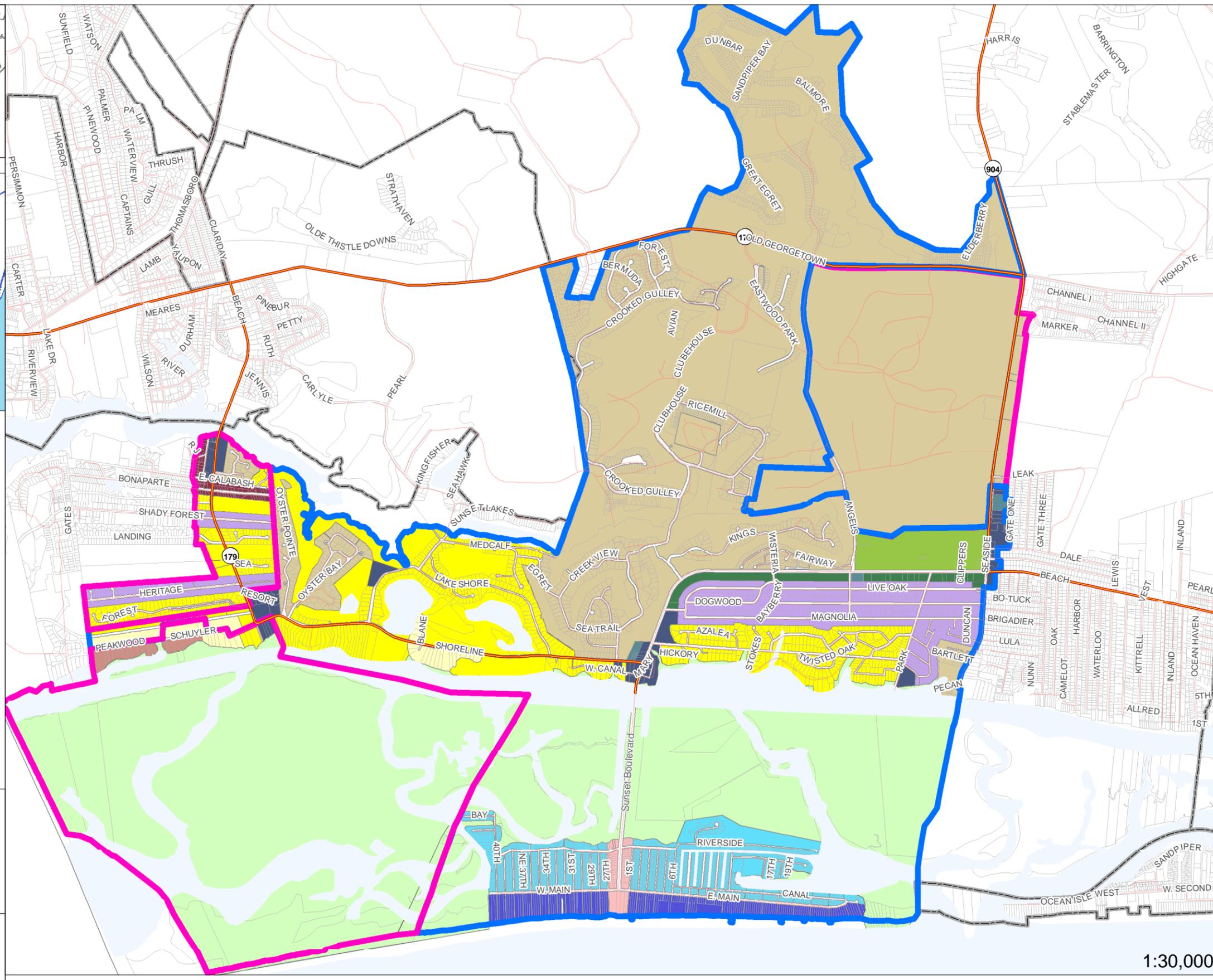
MAP 14



**NOTE:**  
 This map is to be used in conjunction with the "Future Land Use Classification Area Development Standards Table" (Table 40) in Section 9 of the Land Use Plan.

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# Town of Sunset Beach

## 2006/2007 CAMA Land Use Plan

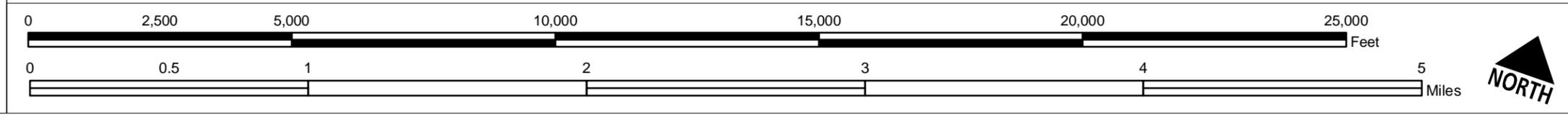
### Future Land Use Classification Map

**Legend**

- Primary Road
- Roads
- Town Limits
- ETJ
- Adjacent Planning Jurisdiction
- Future Land Use Classification**
- "Residential Very Low Density"
- "Residential Low Density"
- "Residential Medium Density 1"
- "Residential Medium Density 2"
- "Residential Medium-High Density 1"
- "Residential Medium-High Density 2"
- "Residential Medium-High Density 3"
- "Residential High Density"
- "Mixed Use Area"
- "Mixed Use District"
- "Tourist Commercial Area"
- "Regional/Local Commercial Area"
- "Institutional and Recreational Area"
- "Conservation Reserve"
- Parcels

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1:30,000

**DRAFT**

Map Updated  
 8/16/07

MAP  
 15