Agenda Item #6

-Work Order 4B- Compilation of Preliminary Project List

Summary of Initial County Project Proposals

ESA

Gulf Consortium Meeting
December 2, 2016
Orlando

County Meetings

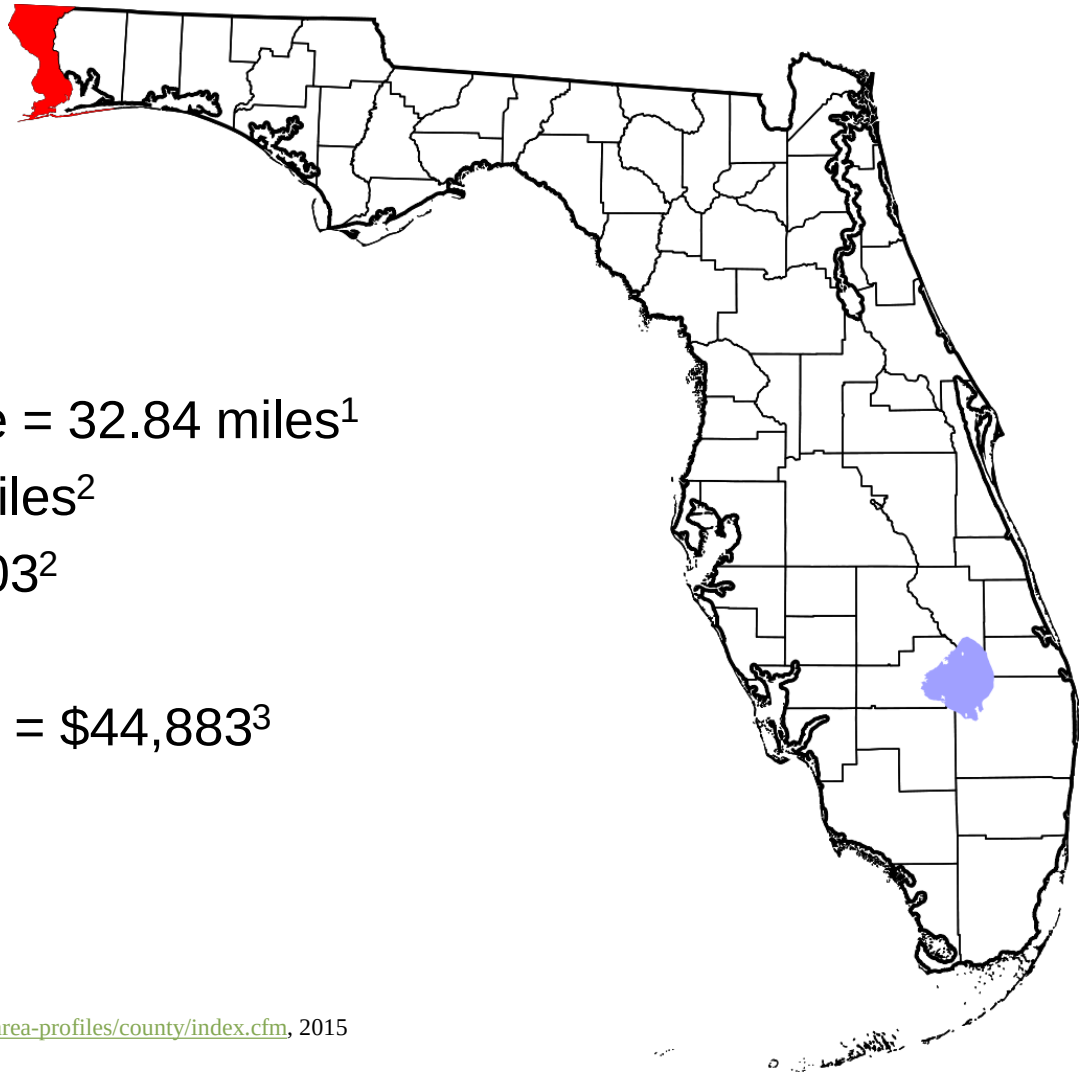
- Meetings conducted October 3 - November 17
- Florida Gulf coast is very large and diverse!
- Wide range of attendees
  - Gulf Consortium Directors
  - County staff & consultants
  - Other agency representatives
    - SRWMD
    - SWFWMD
  - Citizen & NGO stakeholders

Initial Project Proposals

- Compilation of the Preliminary Project List is still evolving
  - Many counties are continuing to make changes
  - Most county BOCC's have not formally their adopted project proposals
- Summary of initial County project proposals
  - Reflects only what we heard from the counties
  - Includes no ranking or prioritization
  - Is completely non-binding at this time
  - Includes very preliminary budget & leveraged funding information

County Summaries

Escambia County

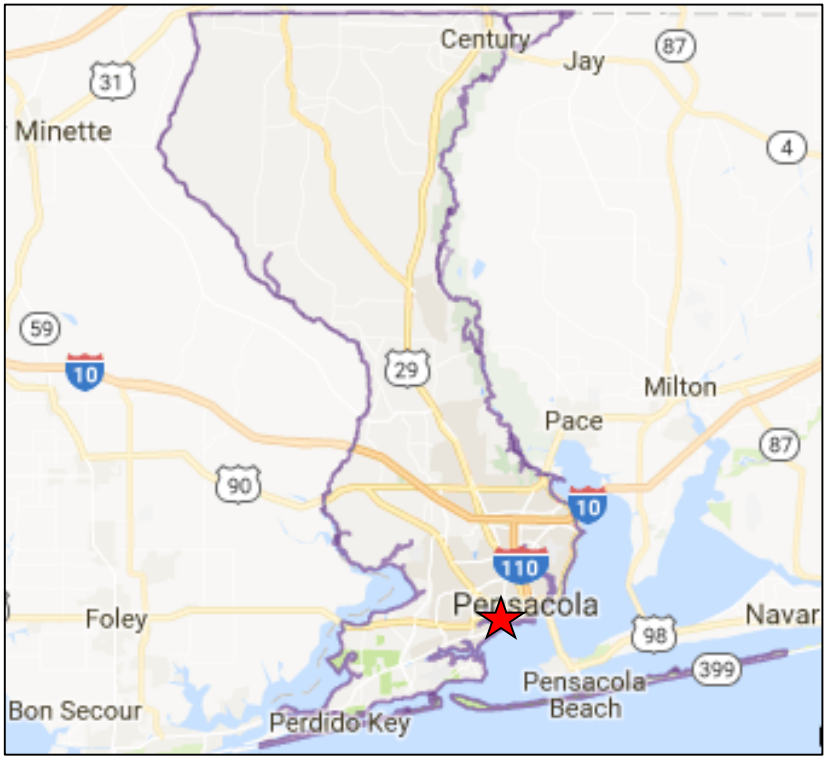


- Approximate Gulf shoreline = 32.84 miles[1]
- Land Area = 656 square miles[2]
- Population (2015) = 311,003[2]
- Density = 453/sq. mi.[2]
- Median Household Income = $44,883[3]
- Median Age = 37.9 years[3]

1.ESA, 2016; 2. Wikipedia, 2015; 3. http://edr.state.fl.us/Content/area-profiles/county/index.cfm, 2015

Escambia County – Issues & Goals

- Issue
  - Legacy pollution problems in Bayou Chico from a history of industrial and military sources
  - Bayou Chico is a 303(d) listed impaired water body
- Goals
  - Revitalize Bayou Chico as a Working Waterfront
  - Improve water quality & living resources throughout Bayou Chico
  - Restore ecological function to the Bayou



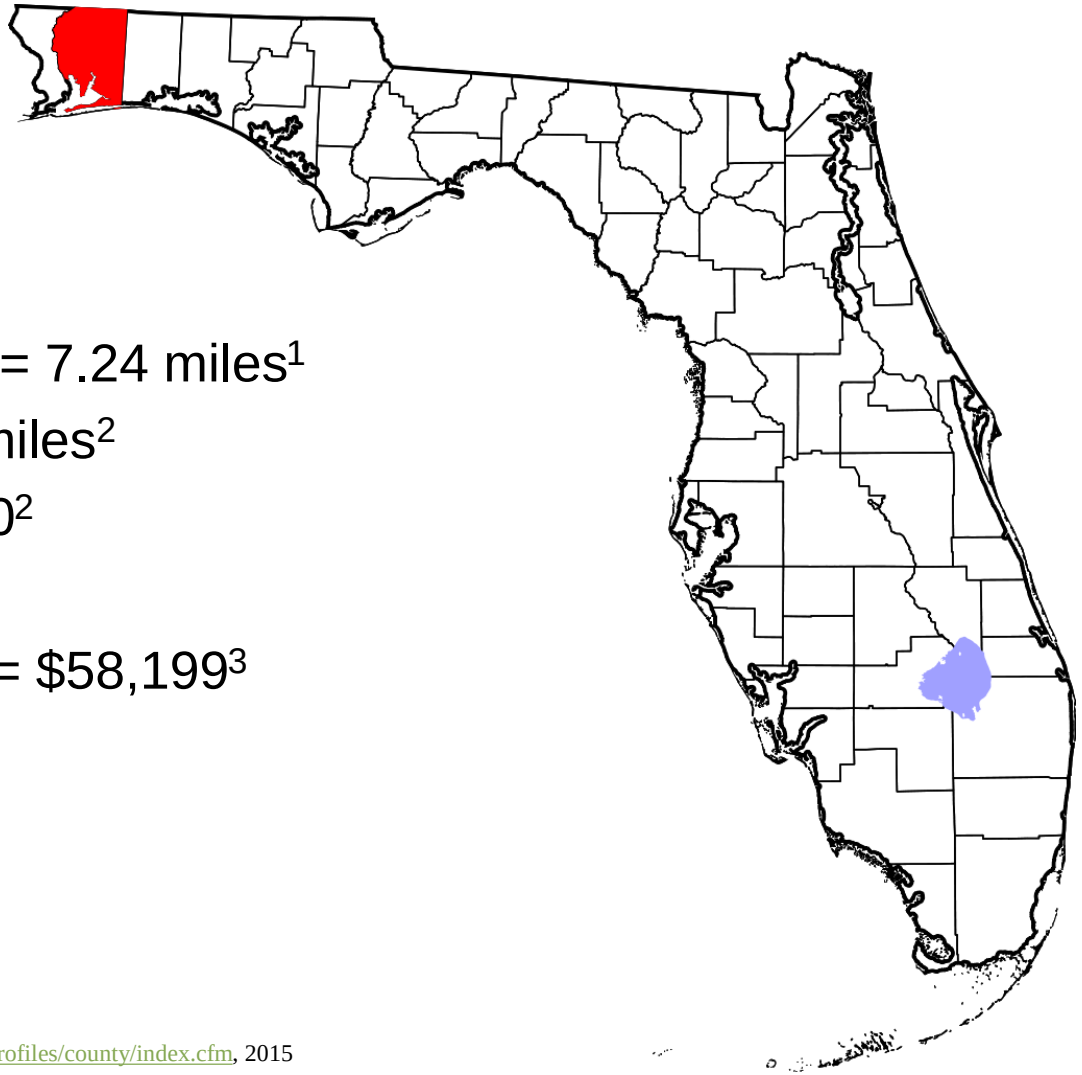
Escambia County – Project Proposals

- Bayou Chico Restoration
  - Map & dredge contaminated sediments
  - Shoreline habitat enhancement along Bayou Chico

Escambia County – Project Budgets

Project	Estimated Total Cost	Estimated Pot 3 Request	Other Potential Funding Sources
Bayou Chico Restoration	$22.8M	$12.8M	Pot 1, Pot 2, NFWF, NRDA

Santa Rosa County



- Approximate Gulf shoreline = 7.24 miles[1]
- Land Area = 1,012 square miles[2]
- Population (2015) = 167,040[2]
- Density = 150/sq. mi.[2]
- Median Household Income = $58,199[3]
- Median Age = 39.3 years[3]

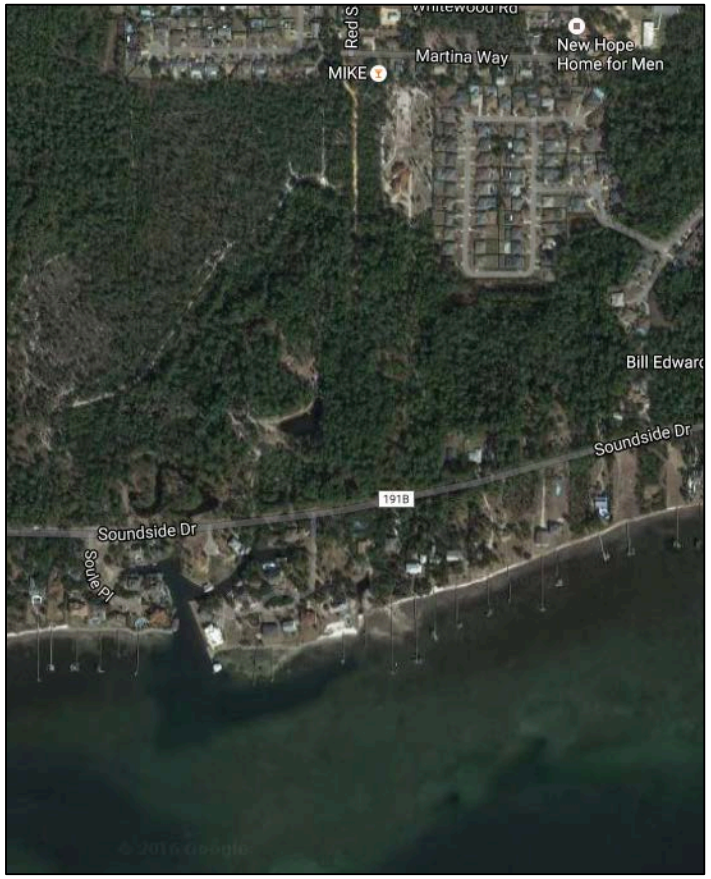
1.ESA, 2016; 2. Wikipedia, 2015; 3. http://edr.state.fl.us/Content/area-profiles/county/index.cfm, 2015

Santa Rosa County – Issues & Goals

- Issues
  - Degraded water quality in Santa Rosa Sound due to inadequate wastewater and stormwater systems
- Goal
  - Improve Santa Rosa Sound water quality
  - Monitor water quality & overall health of Santa Rosa Sound

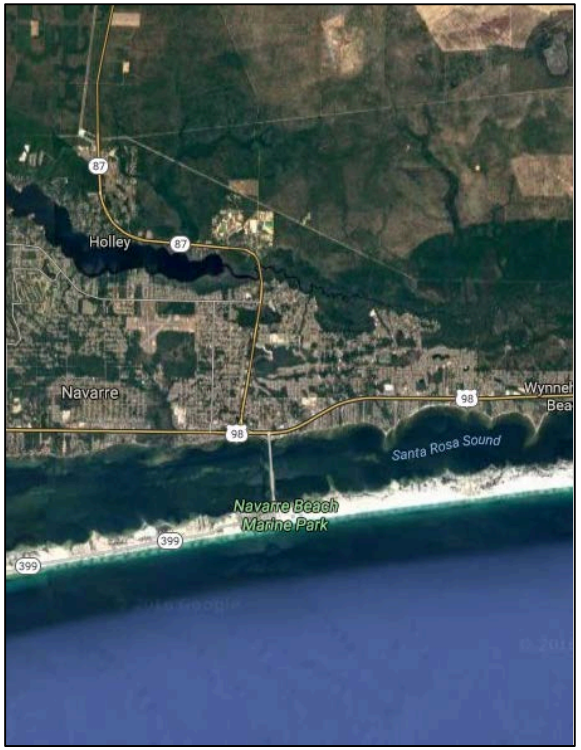
Santa Rosa County – Project Proposals

- Santa Rosa Sound Water Quality Improvement Program
  - Navarre Beach WWTF
    - Upgrades and discharge relocation
  - Septic to Sewer Conversion
    - 29 bacterial health warnings
    - 8 areas identified along the Sound
  - Stormwater Outfall Retrofits
    - Stormwater routing, structure upgrades
    - Reduce flooding
    - Reduce nutrient & sediment loading



Santa Rosa County – Project Proposals

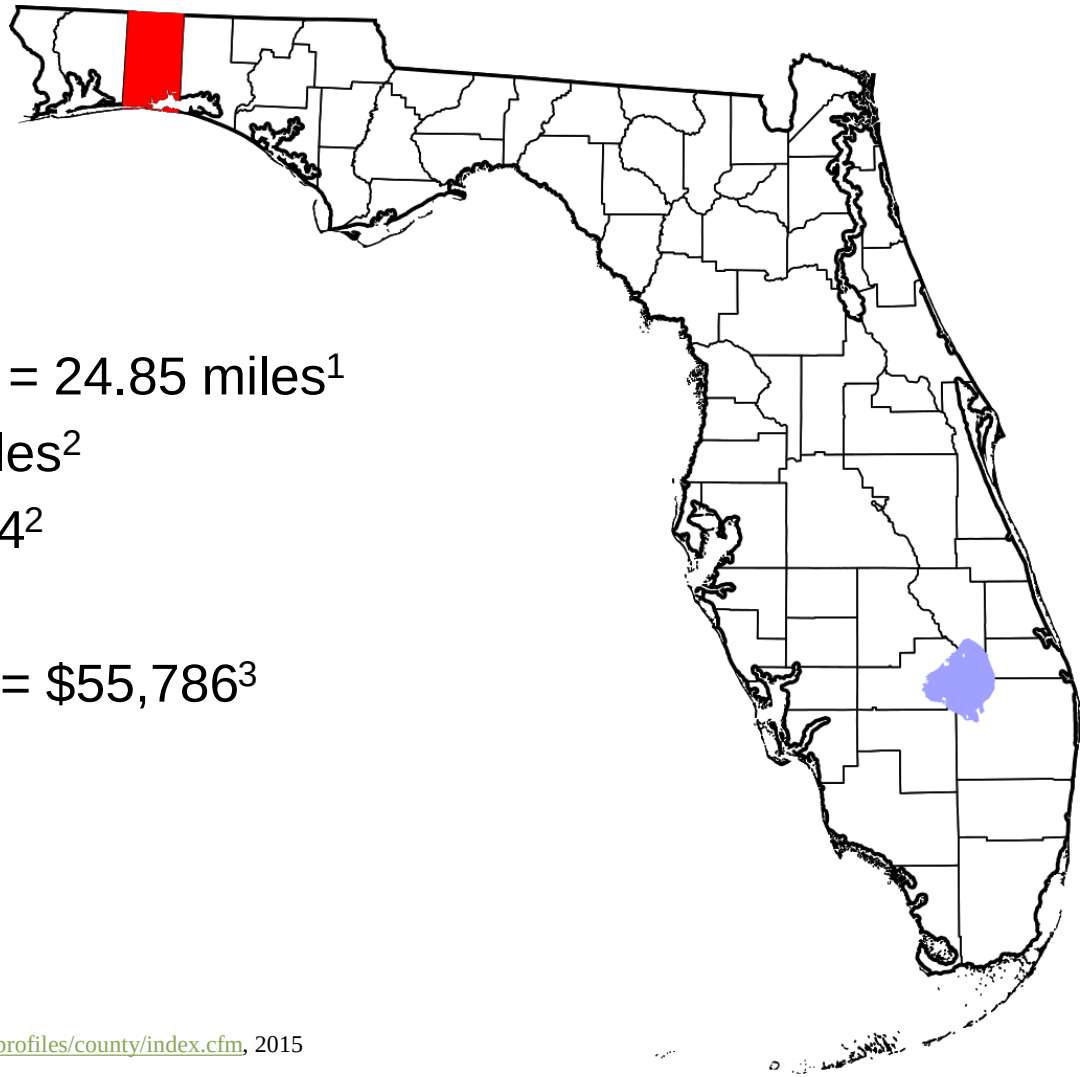
- Santa Rosa Sound Water Quality Improvement Program
  - Study of Santa Rosa Sound
    - Comprehensive study of the Sound
  - Water Quality Monitoring
    - Establish baseline data and monitor improvements from program implementation



Santa Rosa County – Project Budgets

Project	Estimated Total Cost	Estimated Pot 3 Request	Other Potential Funding Sources
Navarre Beach WWTP	$25M	$7M	Pot 1, LOST/General Funds
Study of Santa Rosa Sound	$200,000	$200,000	Pot 1, NRDA, NFWF
Water Quality Monitoring	$600,000	$600,000	NRDA, NFWF
Septic to Sewer Conversion	$14.7M	$3M	Cost-Share with Utilities
Stormwater Outfall Retrofit	$4M	$2M	Pot 1, General Funds

Okaloosa County

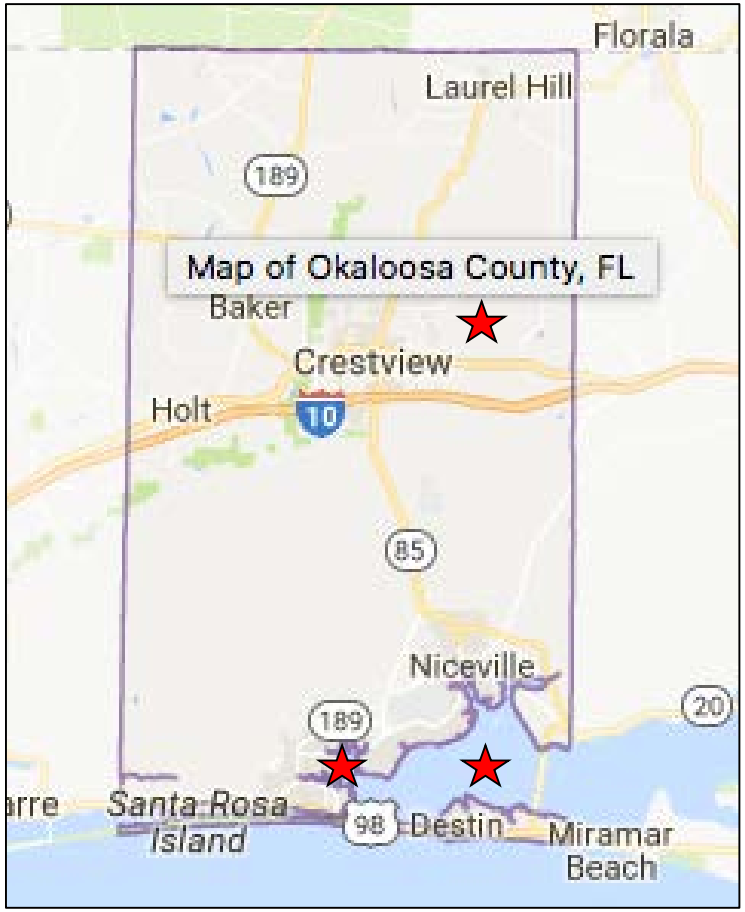


- Approximate Gulf shoreline = 24.85 miles[1]
- Land Area = 930 square miles[2]
- Population (2015) = 198,664[2]
- Density = 502/sq. mi.[2]
- Median Household Income = $55,786[3]
- Median Age = 38.5 years[3]

1.ESA, 2016; 2. Wikipedia, 2015; 3. http://edr.state.fl.us/Content/area-profiles/county/index.cfm, 2015

Okaloosa County – Issues & Goals

- Issues
  - Water quality degradation
    - 200 miles of unpaved roads
    - Numerous impaired water bodies
  - Rapid north county growth
    - Potential impacts to Santa Rosa & Escambia counties
- Goals
  - Protect headwaters of impaired water bodies
  - Foster a regional approach to Choctawhatchee Bay and watershed for water quality enhancement and restoration
  - Expand coastal tourism
  - Improve wastewater and stormwater infrastructure

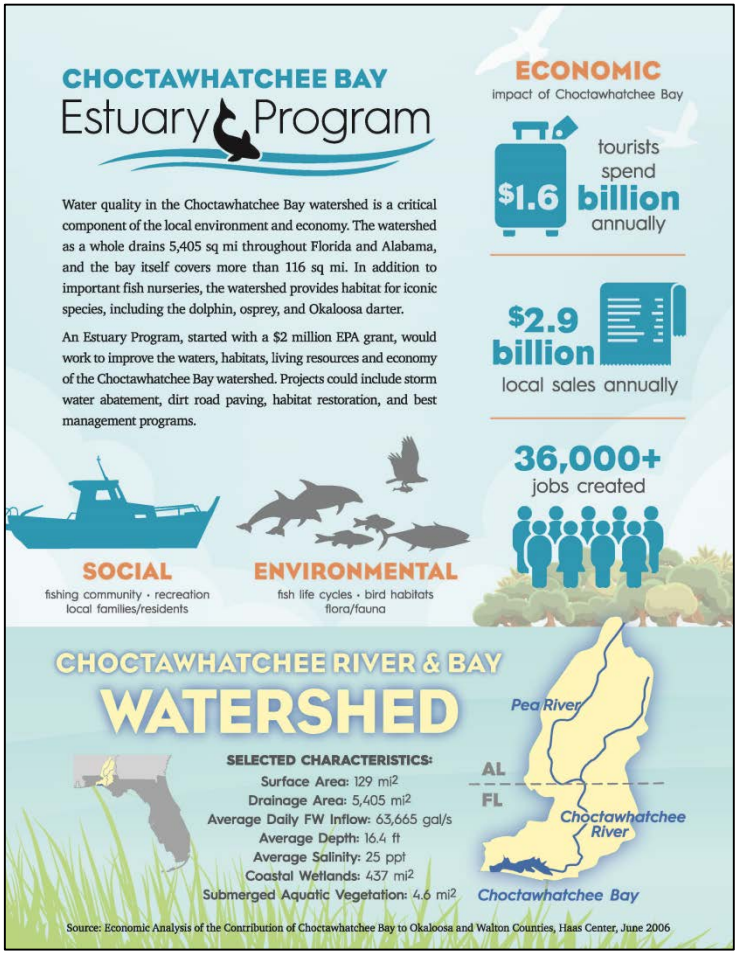


Okaloosa County – Project Proposals

- Stormwater Retrofit Program
  - Gap Creek, Cinco Bayou, Lake Lorraine, Choctawhatchee Bay
  - Installation of BMPs, centrifugal separators and pipeline replacement
- Shoal River Headwaters Protection Program
  - WWTF upgrades
  - Septic to sewer
  - Road paving

Okaloosa County – Project Proposals

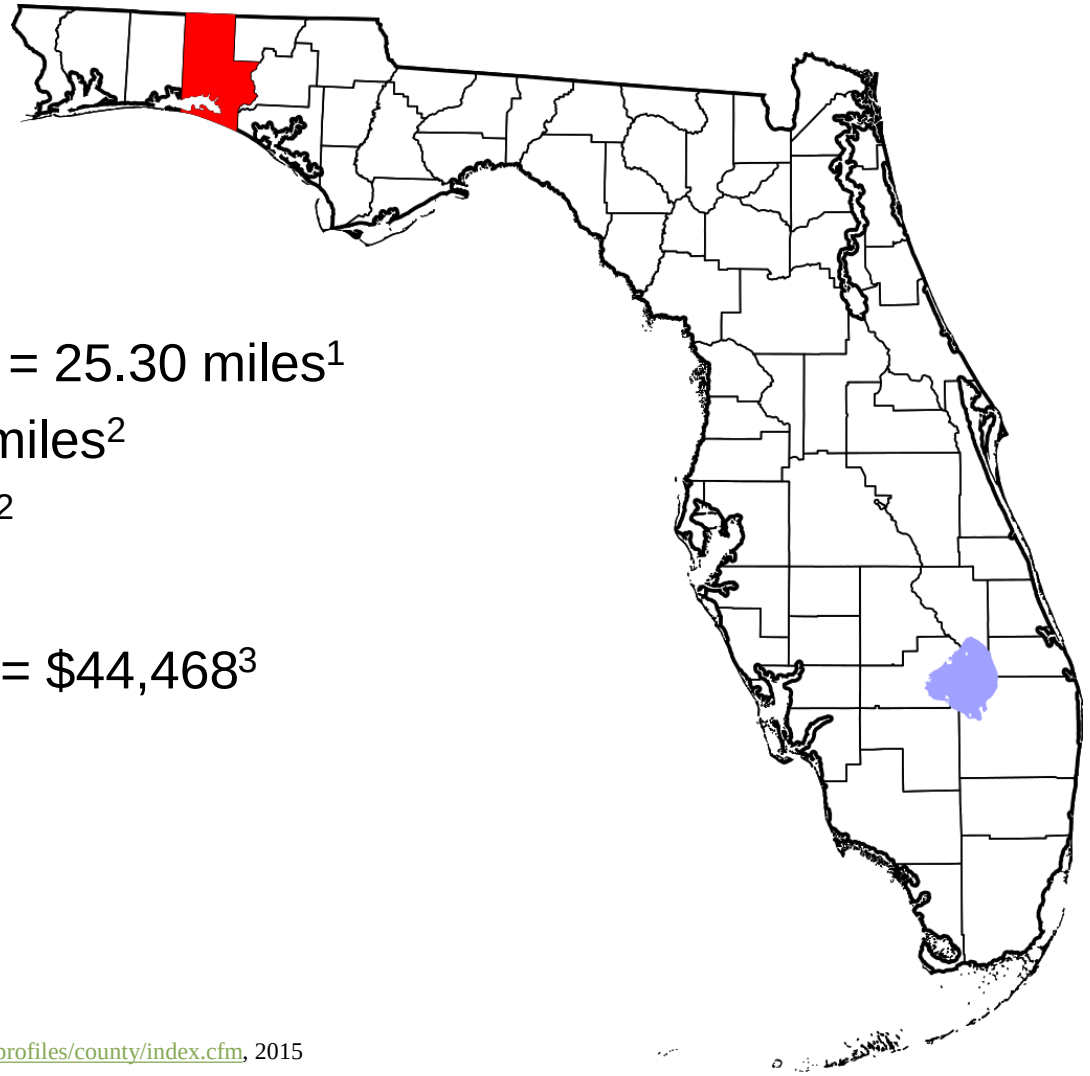
- Fish Aggregating Devices (FADs)
  - Buoys offshore to attract pelagic species, incorporate weather data
- Veterans Park Living Shorelines Project
  - Shoreline protection & habitat creation, enhancement of existing park with boardwalk and visitor amenities
- Choctawhatchee Bay Estuary Program
  - Cooperative project with neighboring Counties to improve water quality & facilitate habitat restoration in the Choctawhatchee Bay by establishing an Estuary Program



Okaloosa County – Project Budgets

Project	Estimated Total Cost	Estimated Pot 3 Request	Other Potential Funding Sources
Stormwater Retrofit Program	$5.7M	$4.4M	NRDA, 319
Shoal River Headwaters Protection Program	$6.3M	$4.4M	$450,000 from County
Fish Aggregating Devices (FADs)	$500,000	$500,000	NFWF, NRDA, Tourism Development Tax
Veterans Park Living Shorelines Project	$1.5M	$1.5M	Pot 1, NRDA, NFWF
Choctawhatchee Bay Estuary Program	$2M	$2M	Pot 1, NFWF, NRDA

Walton County

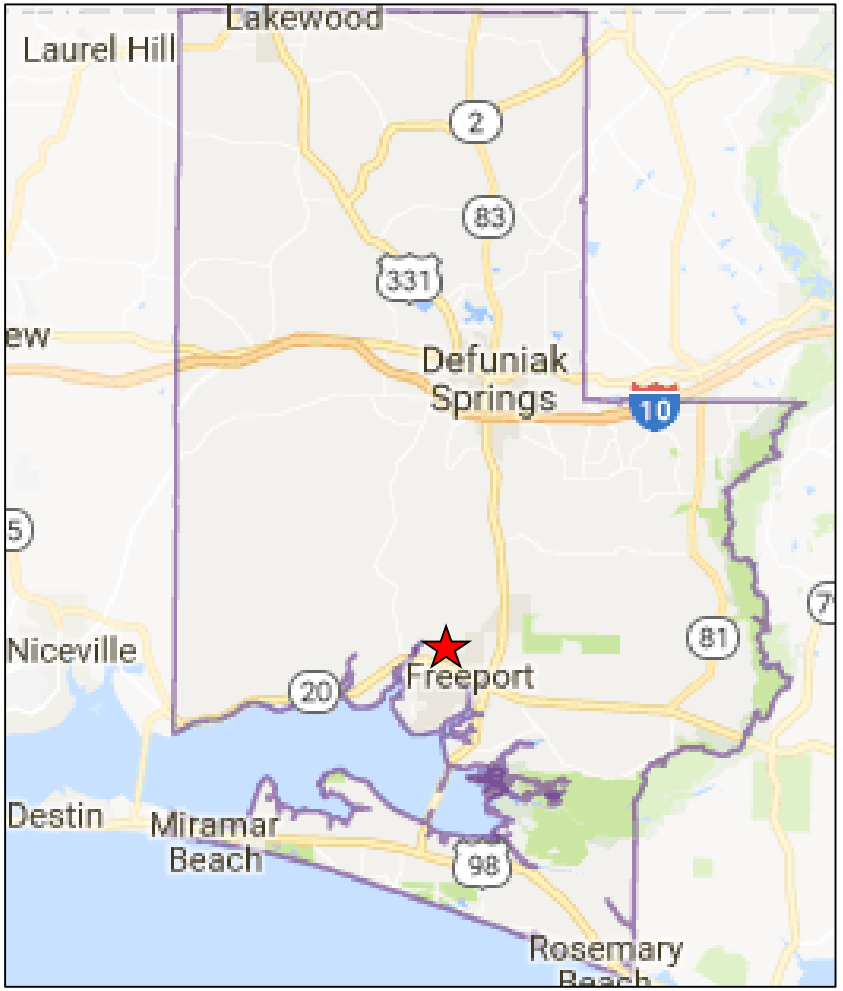


- Approximate Gulf shoreline = 25.30 miles[1]
- Land Area = 1,038 square miles[2]
- Population (2015) = 63,508[2]
- Density = 53/sq. mi.[2]
- Median Household Income = $44,468[3]
- Median Age = 42.7 years[3]

1.ESA, 2016; 2. Wikipedia, 2015; 3. http://edr.state.fl.us/Content/area-profiles/county/index.cfm, 2015

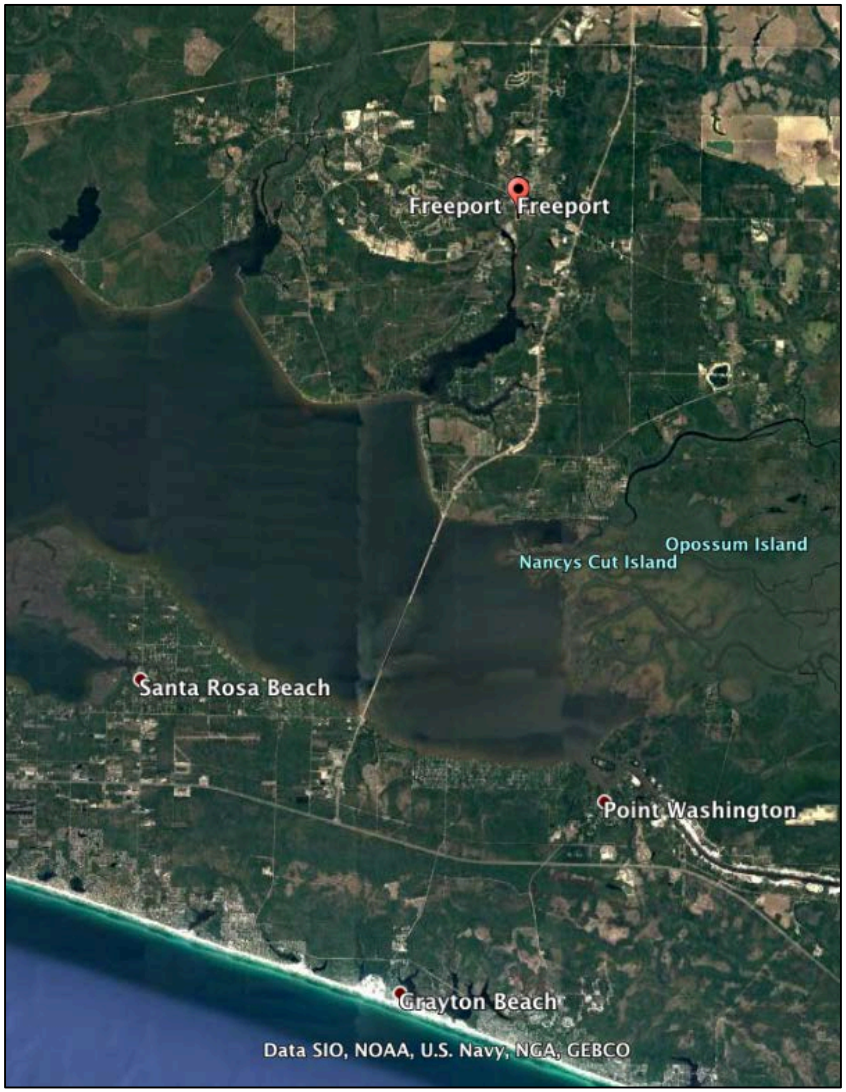
Walton County – Issues & Goals

- Issues
  - Water quality degradation
    - 600 miles of unpaved dirt roads
    - Numerous impaired water bodies
  - Limited economic diversity
- Goals
  - Facilitate smart economic growth throughout the County
  - Foster a regional approach to Choctawhatchee Bay preservation



Walton County – Project Proposals

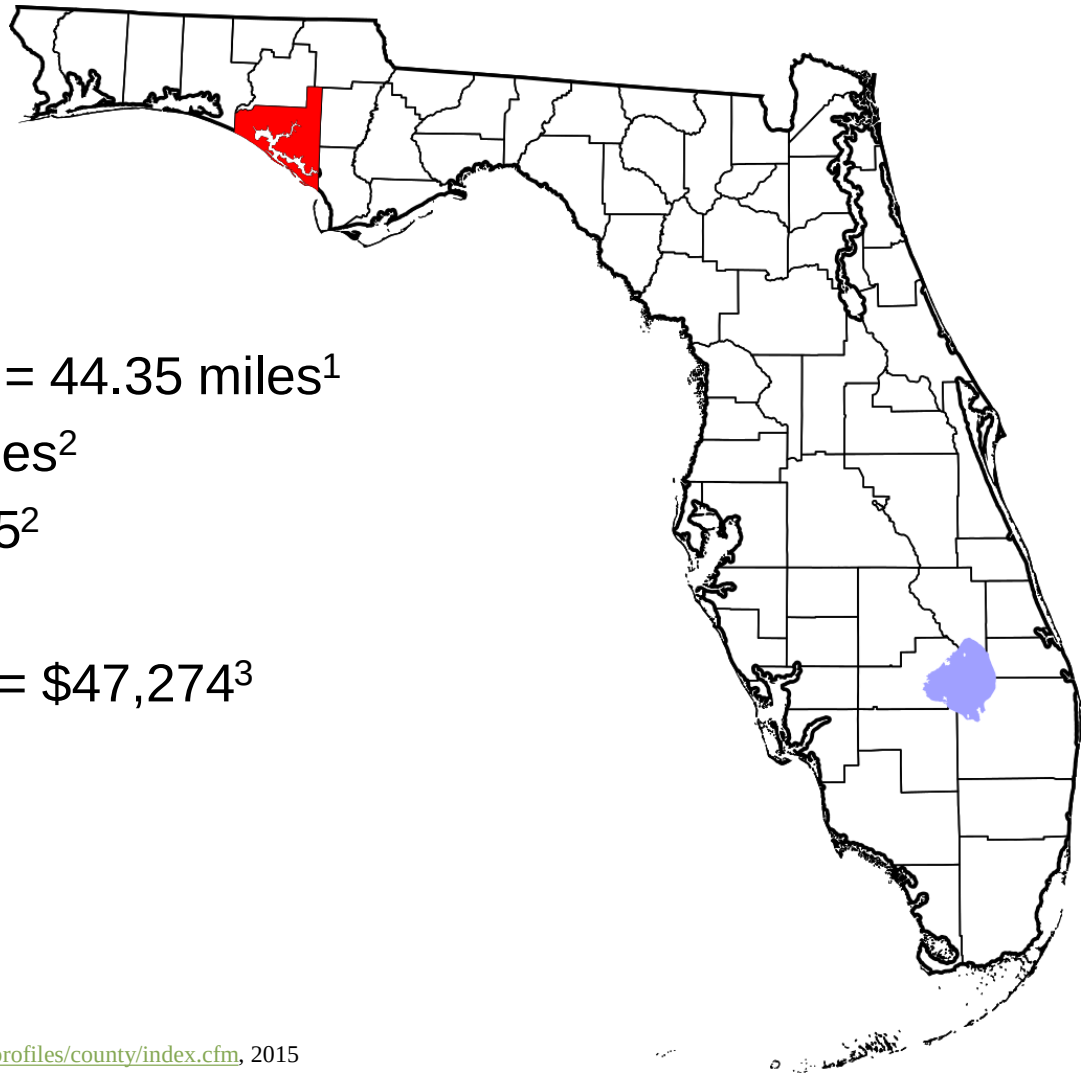
- US 331 Corridor Septic to Sewer Conversion & Bay Area Sewer Expansion
  - Wastewater improvements (lift stations, pipelines, and connection of 4 areas)
  - Convert 655 septic tanks to sewer
  - Reduce nutrients and bacteria to Choctawhatchee Bay



Walton County – Project Budgets

Project	Estimated Total Cost	Estimated Pot 3 Request	Other Potential Funding Sources
US 331 Corridor Septic to Sewer Conversion & Bay Area Sewer Expansion	$16.1M	$12.8M	NRDA

Bay County

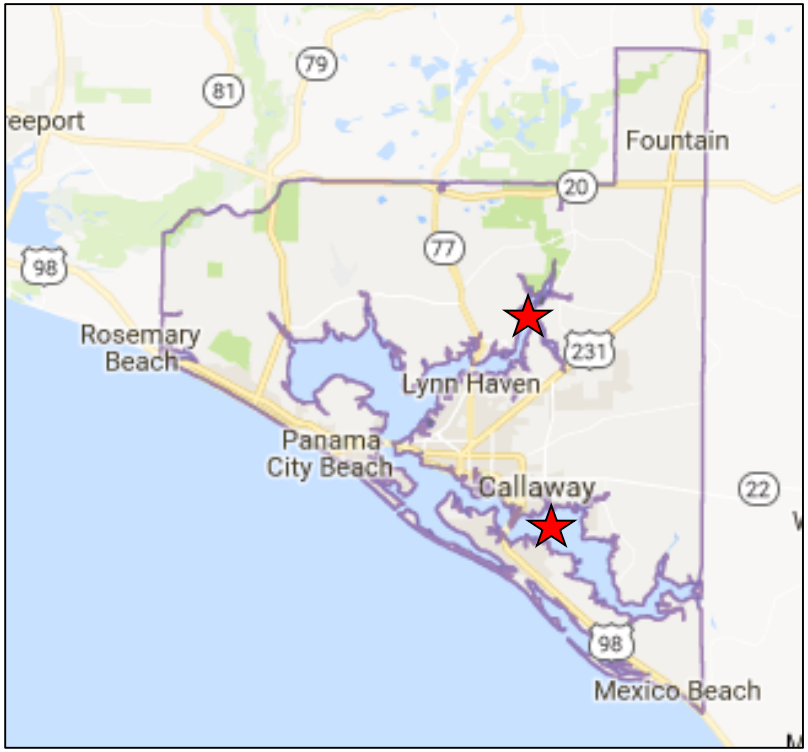


- Approximate Gulf shoreline = 44.35 miles[1]
- Land Area = 758 square miles[2]
- Population (2015) = 181,635[2]
- Density = 223/sq. mi.[2]
- Median Household Income = $47,274[3]
- Median Age = 39.8 years[3]

1.ESA, 2016; 2. Wikipedia, 2015; 3. http://edr.state.fl.us/Content/area-profiles/county/index.cfm, 2015

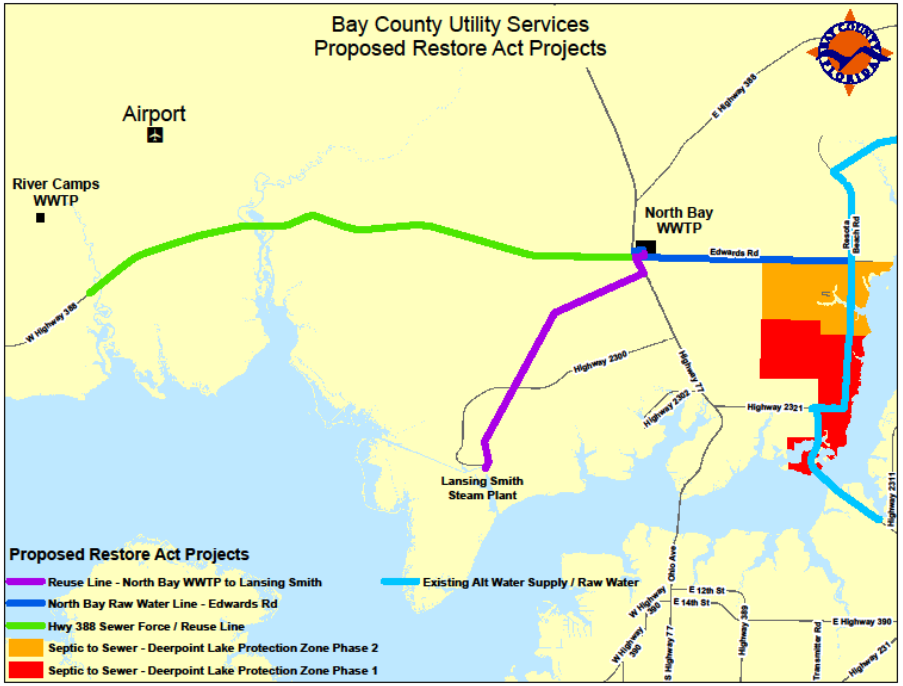
Bay County – Issues & Goals

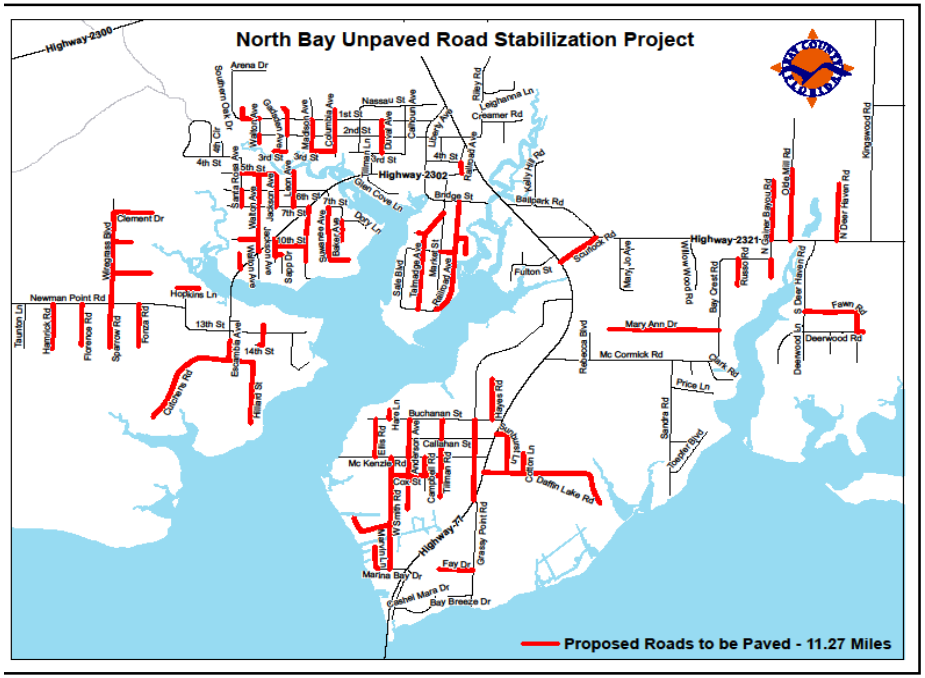
- Issues
  - Numerous impaired water bodies
  - Inadequate wastewater and stormwater systems in targeted areas
- Goals
  - Enhance water quality in North Bay and Deer Point Lake
  - Improve and monitor the water quality in St. Andrew Bay
  - Create opportunities for community engagement in bay restoration



Bay County – Project Proposals

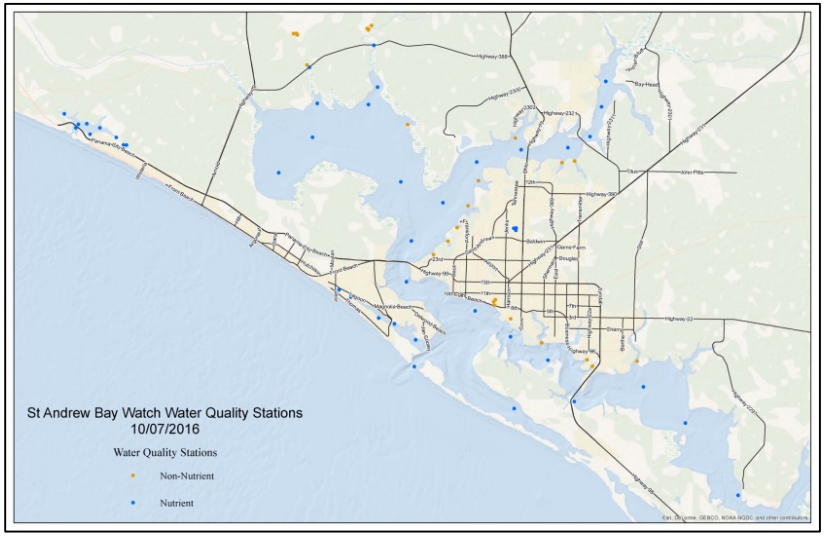
- North Bay Water Quality Program
  - Septic to sewer around Deer Point Lake
  - Reuse line for power plant cooling
  - WWTF upgrades
  - Roadway stabilization for sediment abatement

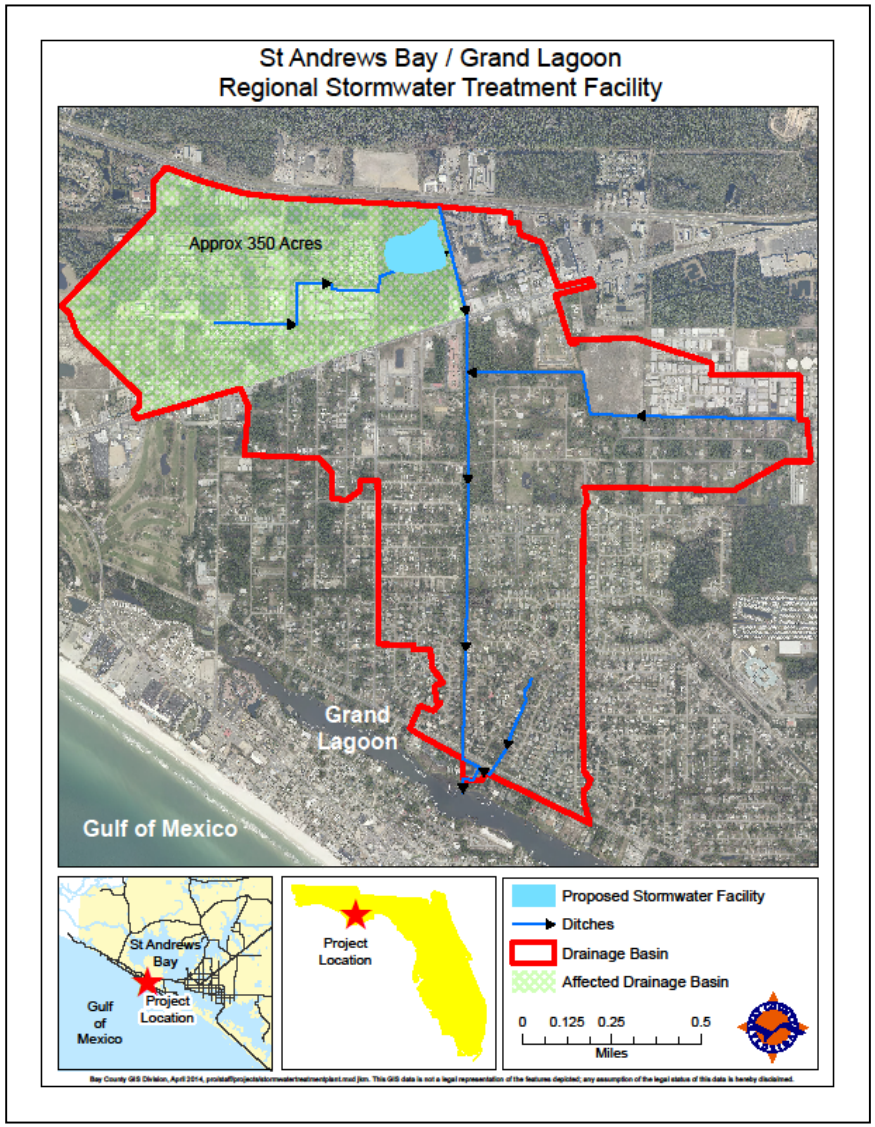




Bay County – Project Proposals

- St. Andrew Bay Water Quality Program
  - Stormwater treatment facility on Grand Lagoon
  - Retrofit stormwater outfalls to bay
  - Water quality monitoring & analysis program
  - Small habitat restoration projects

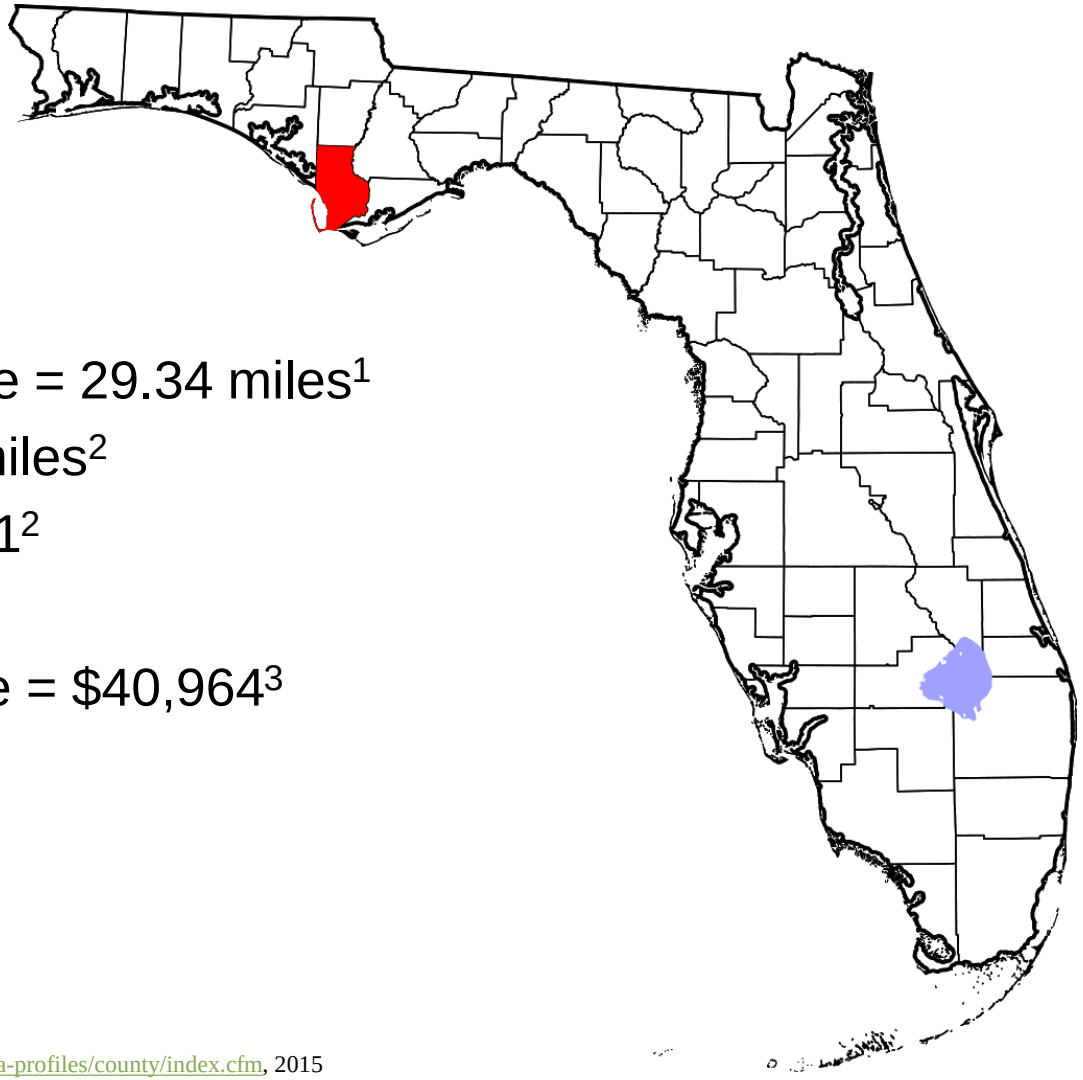




Bay County – Project Budgets

Project	Estimated Total Cost	Estimated Pot 3 Request	Other Potential Funding Sources
North Bay/Deer Point Lake Water Quality Program	$18.2M	$9M	Pot 1, NRDA, GBEF, NWFWMD, FDEP
St Andrews Bay Water Quality Program	$7M	$3.8M	NRDA, GBEF, NWFWMD, FDEP

Gulf County



- Approximate Gulf shoreline = 29.34 miles[1]
- Land Area = 564 square miles[2]
- Population (2015) = 15,871[2]
- Density = 28/sq. mi.[2]
- Median Household Income = $40,964[3]
- Median Age = 43.9 years[3]

1.ESA, 2016; 2. Wikipedia,2015; 3. http://edr.state.fl.us/Content/area-profiles/county/index.cfm, 2015

Gulf County – Issues & Goals

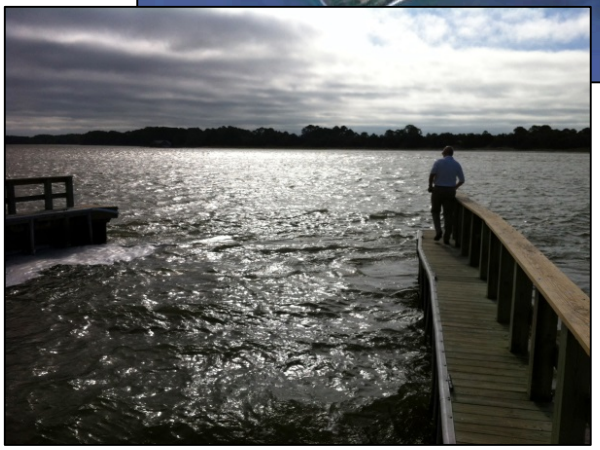
- Issues
  - Inadequate wastewater systems
  - Need for public access to water bodies
  - Limited economic diversity
- Goals
  - Maintain & protect water quality
  - Diversify local economy and create jobs
  - Increase eco-tourism i.e. boating and fishing

Gulf County – Project Proposals

- Port of Port St. Joe Enhancement
  - Deepen natural channel to 35 ft
  - Improve bulkhead to support
  - shipbuilding and other port tenants
  - Improve rail connection to Port

Gulf County – Project Proposals

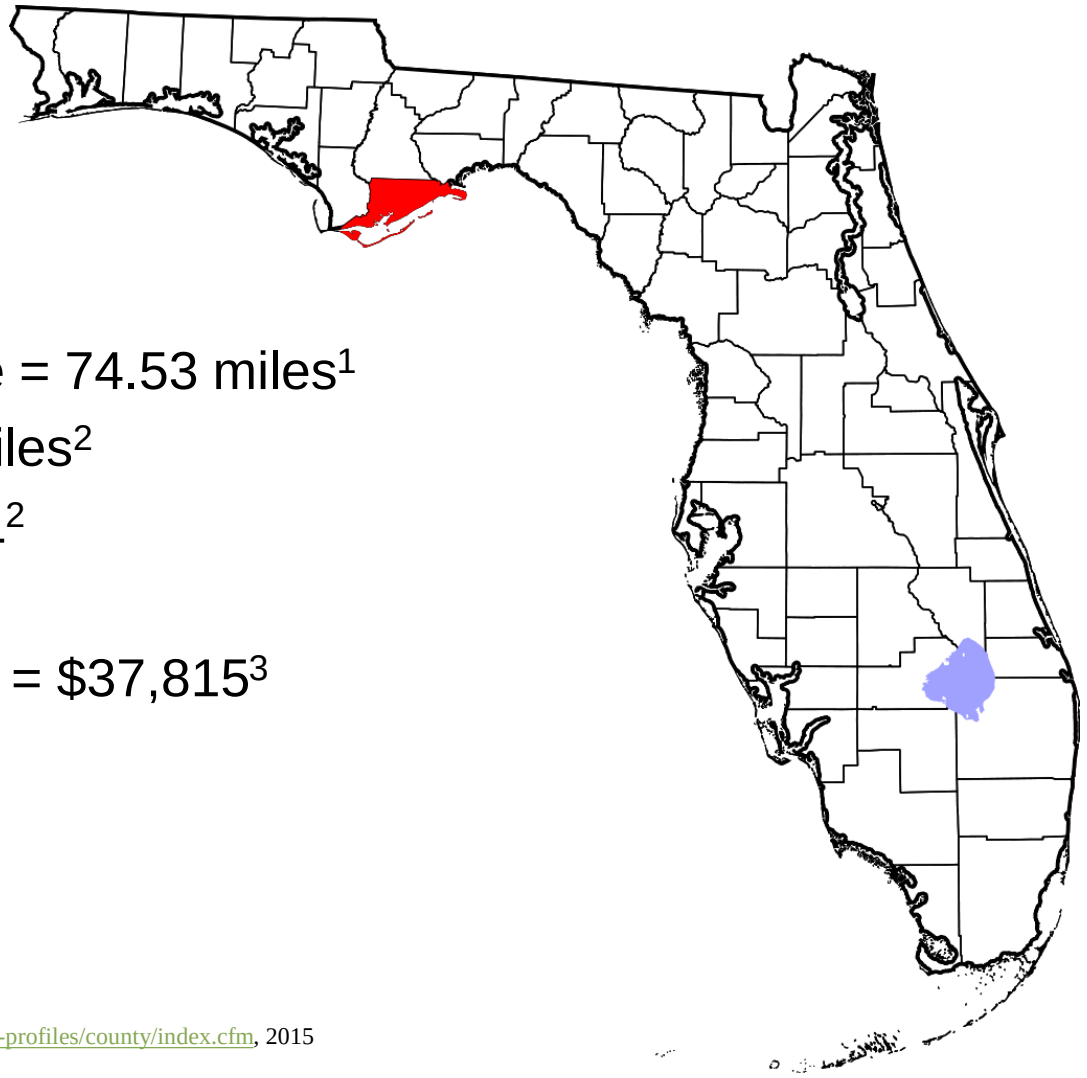
- Septic to Sewer at Beachside and Port St. Joe
  - Extend sewer to St. Joe Peninsula, areas along St. Joe Bay and in Wewahitchka
  - Preserve water quality and protect shellfish harvesting
- Public Access - Boat Ramps in St. Joe Bay, Chipola River and Dead Lakes
  - Land acquisition for public access
  - Increase tourism to the region, fishing and scalloping



Gulf County – Project Budgets

Project	Estimated Total Cost	Estimated Pot 3 Request	Other Potential Funding Sources
Port of Port St. Joe Enhancement	$50M	$6.8M	Pot 1, Triumph Gulf, WRRDA
Public Access - Boat Ramps in St. Joe Bay, Chipola River and Dead Lakes	$2M	$1M	Pot 1, NRDA
Septic to Sewer Beachside & Port St. Joe	$8M	$5M	NRDA

Franklin County

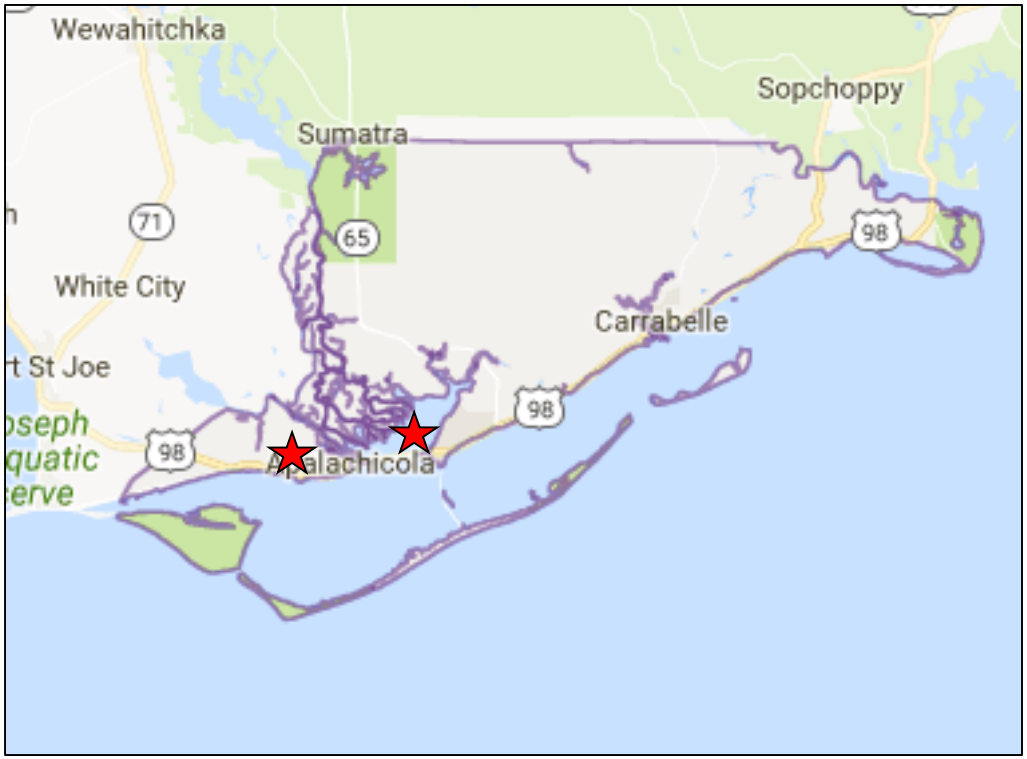


- Approximate Gulf shoreline = 74.53 miles[1]
- Land Area = 535 square miles[2]
- Population (2015) = 11,761[2]
- Density = 22/sq. mi.[2]
- Median Household Income = $37,815[3]
- Median Age = 43.1 years[3]

1.ESA, 2016; 2. Wikipedia, 2015; 3. http://edr.state.fl.us/Content/area-profiles/county/index.cfm, 2015

Franklin County – Issues & Goals

- Issues
  - Demise of the oyster industry
    - Water quantity
    - Overharvesting
  - Limited economic diversity
  - Inadequate emergency management
- Goals
  - Revitalize oyster industry
  - Diversify the economy to complement seafood industries
  - Improve coastal resiliency



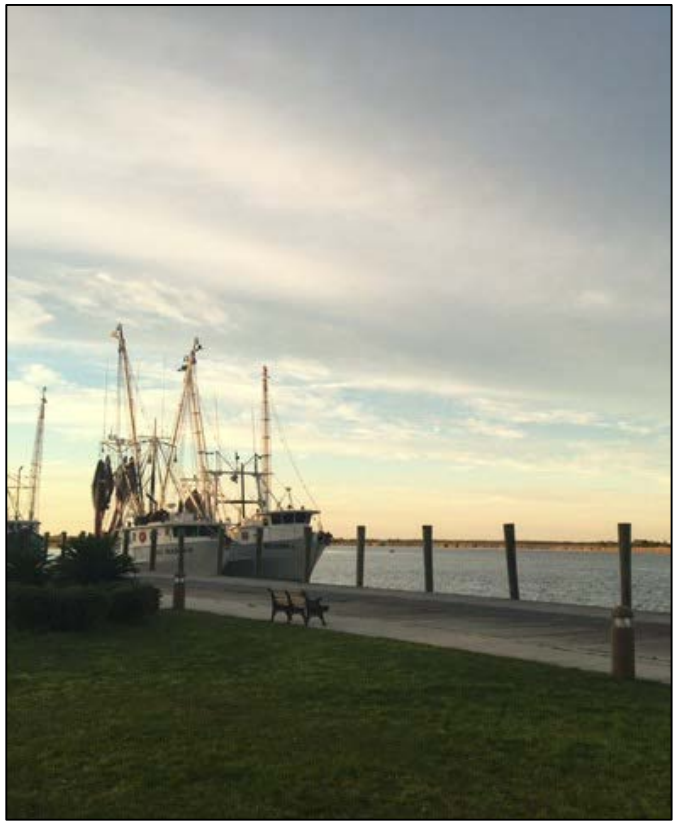
Franklin County – Project Proposals

- Enhance Fisheries Access
  - Dredge channels East/West of the Apalachicola River Mouth
  - Refuge for fishermen
  - Permits obtained

- Apalachicola Oyster Resiliency Program
  - Dependent on the U.S. Supreme Court ruling
  - Workforce development
  - Oyster research
  - Re-shelling areas for wild bars
  - Checkpoint program with FWC

Franklin County – Project Proposals

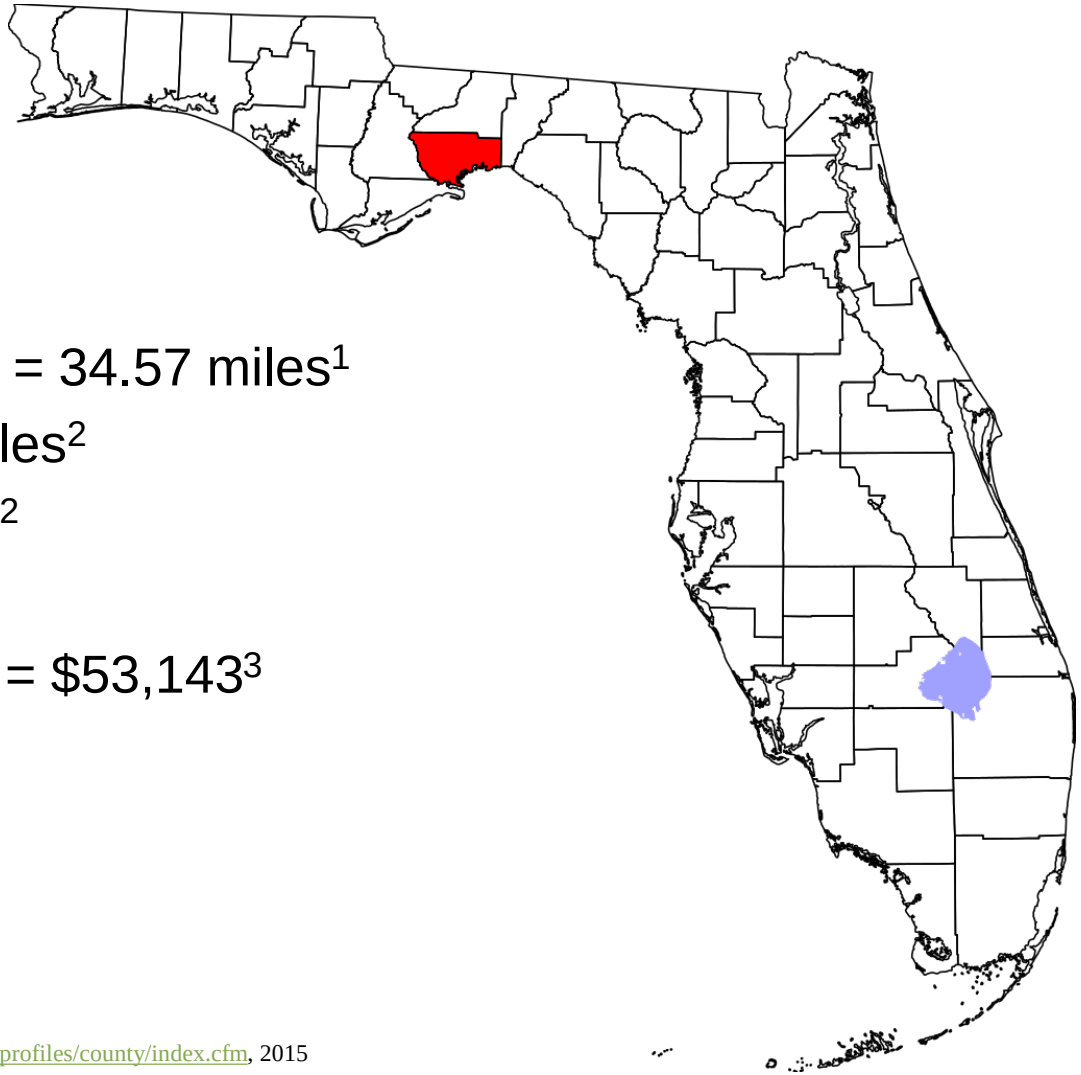
- Coastal Emergency/Resiliency Program
  - New Emergency Operation Center - East Point
  - Protection of historical resources
  - Community trust
- Promote Tourism
  - Airport improvements
- Landfill buffer
  - Land acquisition for a buffer around the County landfill
  - Water quality protection



Franklin County – Project Budgets

Project	Estimated Total Cost	Estimated Pot 3 Request	Other Potential Funding Sources
Coastal Emergency/Resiliency Program	$1.5M	$1.5M	
Enhance Fisheries Access	$TBD	$TBD	
Apalachicola Oyster Resiliency Program	$TBD	$TBD	NFWF
Promote tourism	$TBD	$TBD	Triumph Gulf
Landfill buffer	$TBD	$TBD	NRDA

Wakulla County

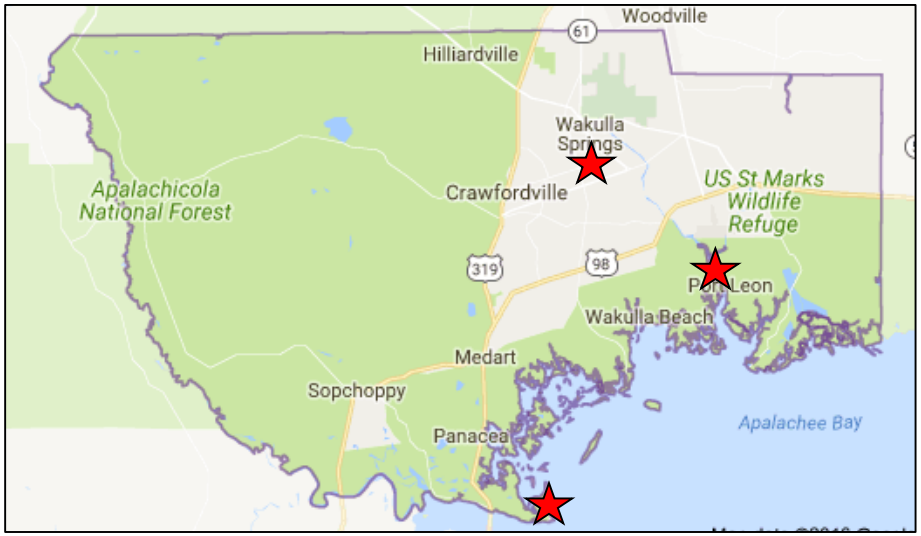


- Approximate Gulf shoreline = 34.57 miles[1]
- Land Area = 606 square miles[2]
- Population (2015) = 31,535[2]
- Density = 51/sq. mi.[2]
- Median Household Income = $53,143[3]
- Median Age = 39.2 years[3]

1.ESA, 2016; 2. Wikipedia, 2015; 3. http://edr.state.fl.us/Content/area-profiles/county/index.cfm, 2015

Wakulla County – Issues & Goals

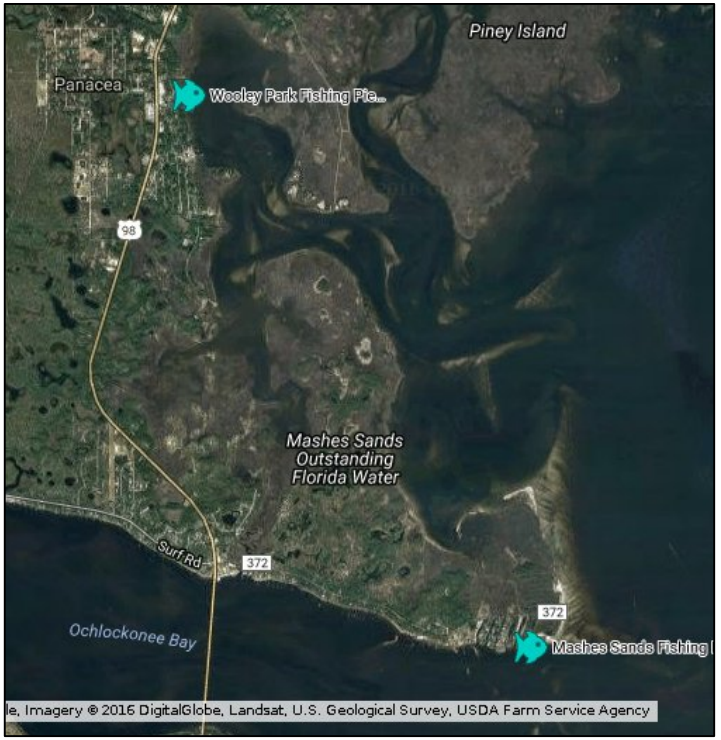
- Issues
  - Water quality protection
    - Aging septic systems
    - Lack of central sewer system along coast and springs basin protection areas
  - Habitat protection & preservation
  - Inadequate & limited public access



- Goals
  - Improve water quality
  - Manage public access
  - Expand outdoor recreation opportunities
  - Land acquisition to expand public access for outdoor recreation, preserve natural landscape, habitat restoration

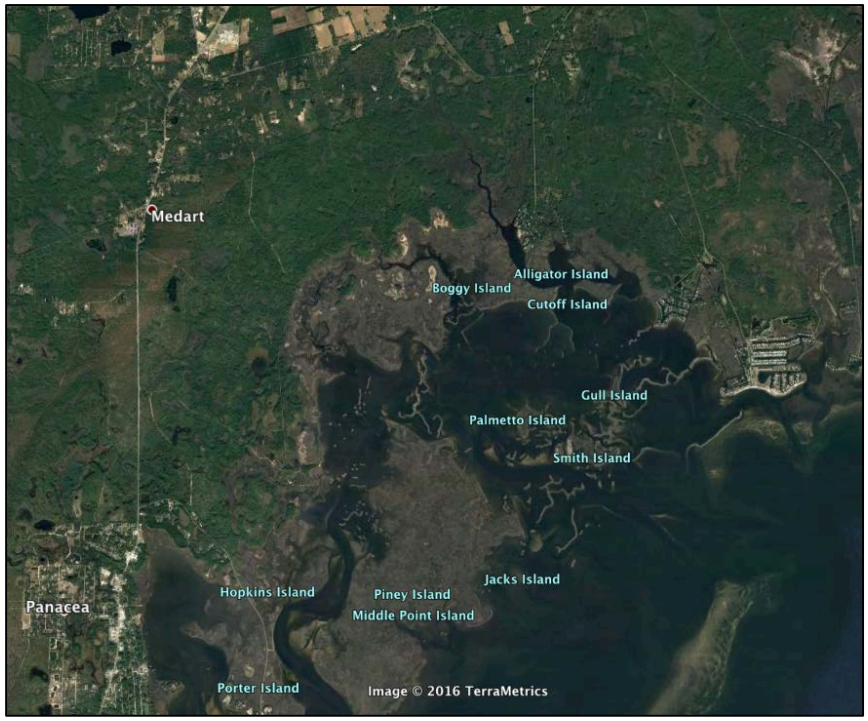
Wakulla County – Project Proposals

- Wakulla Coastal Access and Preservation Program
  - Mashes Sands Beach County Park
  - Bayside Marina Acquisition and Improvements
  - Skipper Bay Park and Boat Ramp
  - Oaks Property Trail system improvements
  - Spring Creek Park and Boat Ramp



Wakulla County – Project Proposals

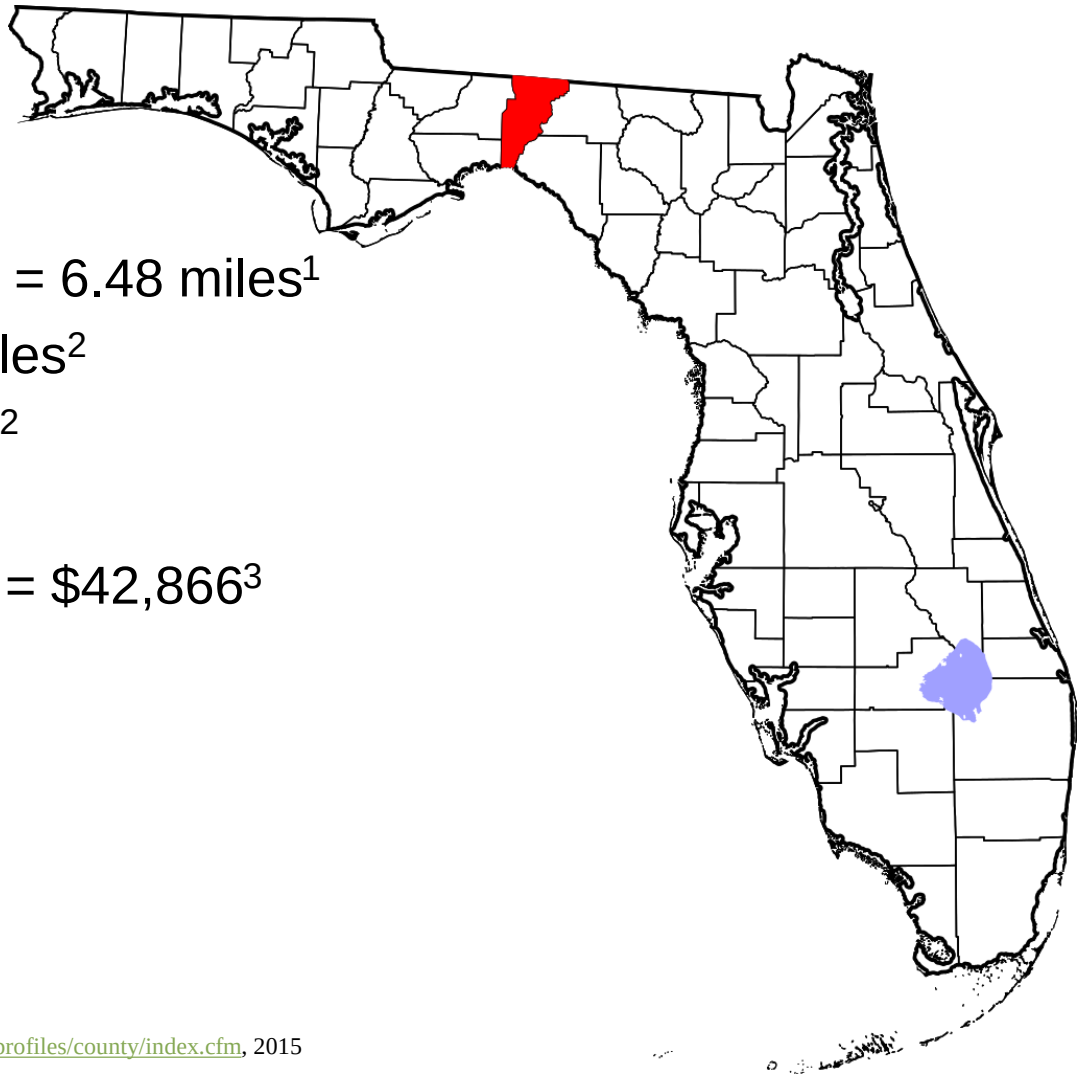
- Wakulla Springshed Water Quality Protection
  - Purchase the privately operated WINCO WWTF
  - Purchase St. Mark City WWTF
  - Remove aging/damaged septic systems
  - Expand central sewer service along the coastline, within Wakulla Springs Basin and focused areas
- Habitat Restoration
  - Oyster bed restoration
  - Artificial reef program, possibly partner with Franklin and Jefferson Counties
  - Prescribed burning and invasive species removal



Wakulla County – Project Budgets

Project	Estimated Total Cost	Estimated Pot 3 Request	Other Potential Funding Sources
Wakulla Coastal Access and Preservation Program	$6M	$6M	NRDA, NFWF
Wakulla Springshed Water Quality Protection	$10M	$6.8M	DEP Springs, NRDA, NFWF
Regional Artificial Reef Program	$TBD	$TBD	NRDA, NFWF

Jefferson County

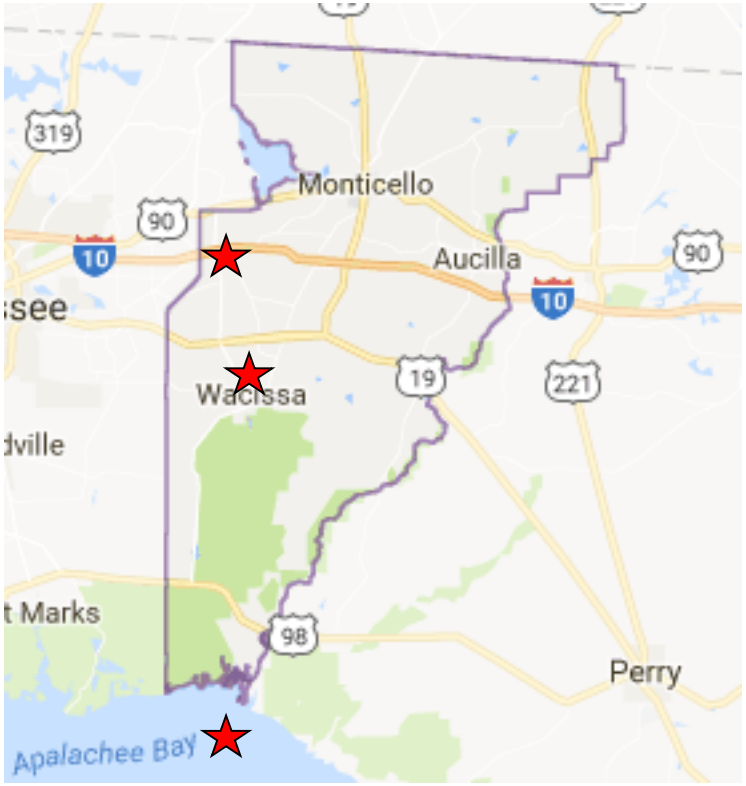


- Approximate Gulf shoreline = 6.48 miles[1]
- Land Area = 598 square miles[2]
- Population (2015) = 14,081[2]
- Density = 25/sq. mi.[2]
- Median Household Income = $42,866[3]
- Median Age = 45.6 years[3]

1.ESA, 2016; 2. Wikipedia,2015; 3. http://edr.state.fl.us/Content/area-profiles/county/index.cfm, 2015

Jefferson County – Issues & Goals

- Issues
  - Water quality impairments
  - Proposed growth in aquifer recharge areas
  - Vulnerable natural & archeological resources
  - Coastal resource data gaps
- Goals
  - Improve water quality
  - Preserve natural and archaeological resources
  - Acquire coastal data (bathymetry, etc.)
  - Environmental education and stewardship

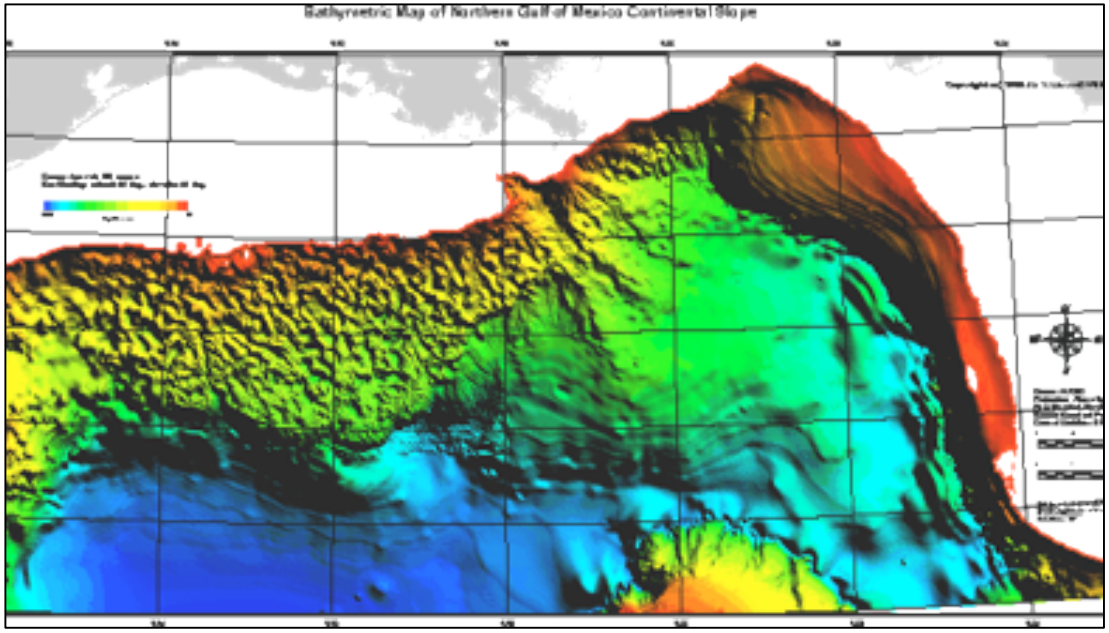


Jefferson County – Project Proposals

- Aucilla/Wacissa rivers headwaters protection
  - Wastewater infrastructure improvements
    - Septic to sewer in aquifer recharge area near Lloyd
    - Septic to sewer in Wacissa River headwaters
  - Wacissa River boat ramp & restroom facilities
  - BMPs to reduce sediments into the only Paleo-Indian sites
- Shellfish monitoring
  - Support stable scallop population
  - Support FWRI efforts

Jefferson County – Project Proposals

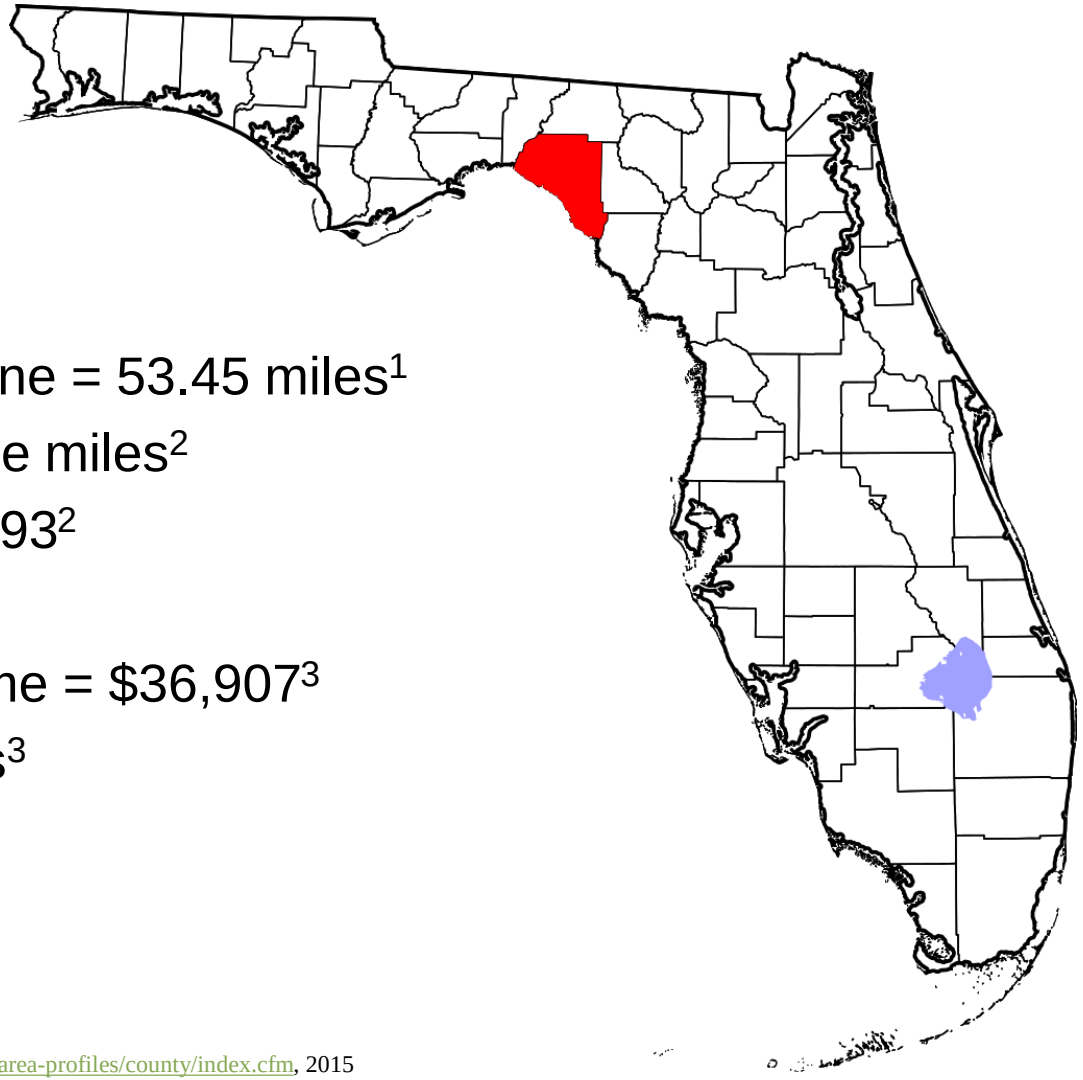
- Aucilla Research Institute
  - Regional marine science center to promote STEM focus, grades K-12
  - Potential cooperation with other research institutes around the state
- Bathymetric survey
  - LiDAR seafloor mapping



Jefferson County – Project Budgets

Project	Estimated Total Cost	Estimated Pot 3 Request	Other Potential Funding Sources
Aucilla/Wacissa headwaters protection	$7.2M	$TBD	
Shellfish monitoring	$TBD	$TBD	
Regional marine science center	$5.8M	$TBD	
Bathymetric survey - LiDAR mapping	$200K	$TBD	

Taylor County



- Approximate Gulf shoreline = 53.45 miles[1]
- Land Area = 1,043 square miles[2]
- Population (2015) = 22,493[2]
- Density = 22/sq. mi.[2]
- Median Household Income = $36,907[3]
- Median Age = 42.6 years[3]

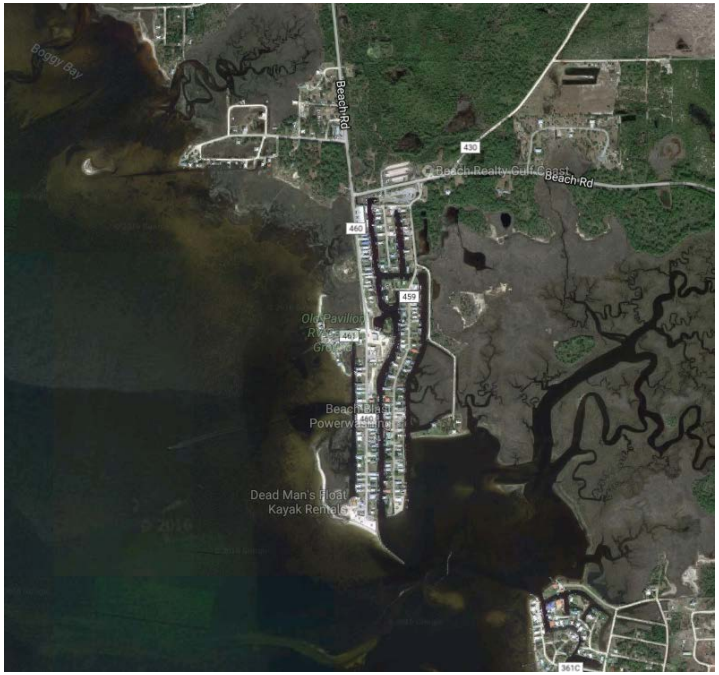
1.ESA, 2016; 2. Wikipedia, 2015; 3. http://edr.state.fl.us/Content/area-profiles/county/index.cfm, 2015

Taylor County – Issues & Goals

- Issues
  - Inadequate navigational access to Gulf
  - Scallop & habitat data gaps
  - Prop scar seagrass loss
- Goals
  - Improve navigation and reduce vessel congestion
  - Promote scallop-based tourism
  - Reduce prop scarring
  - Offshore artificial reefs

Taylor County – Project Proposals

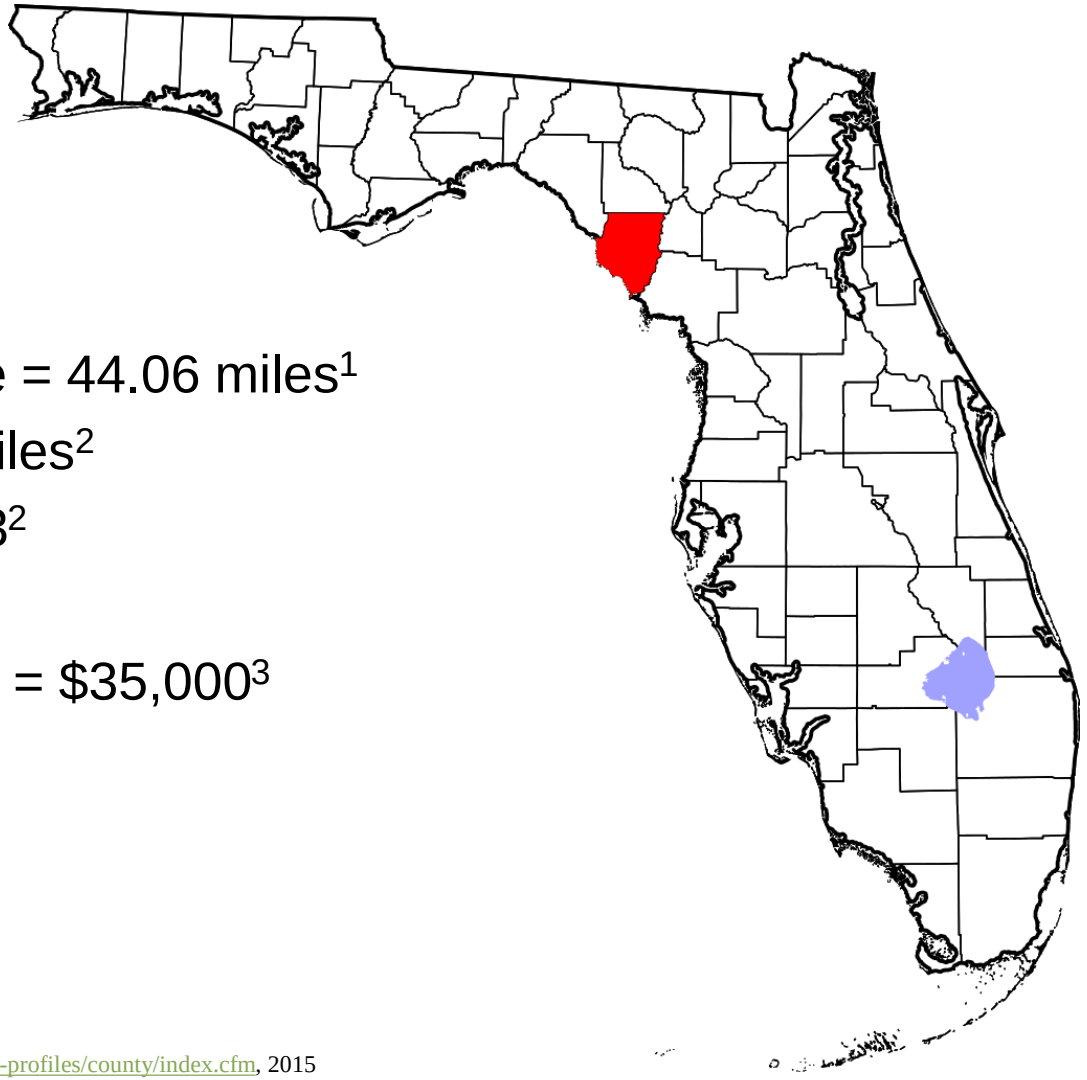
- Coastal community dredging program
  - Keaton Beach
  - Dekle Beach
  - Dark Island
  - Cedar Island
  - Steinhatchee Boat Ramp
- Additional boat ramps for Spring Warrior Creek, other access points
- Expand regional artificial reef system in Taylor County
- Monitor, study scallop distributions for health and tourism



Taylor County – Project Budgets

Project	Estimated Total Cost	Estimated Pot 3 Request	Other Potential Funding Sources
Coastal Community Dredging	$5.9M	$5.9M	NRDA
Boat Ramp at Spring Warrior Creek	$TBD	$TBD	NRDA
Artificial Reef System Expansion	$TBD	$TBD	NFWF, NRDA
Scallop and water quality monitoring	$TBD	$TBD	NFWF, NRDA

Dixie County

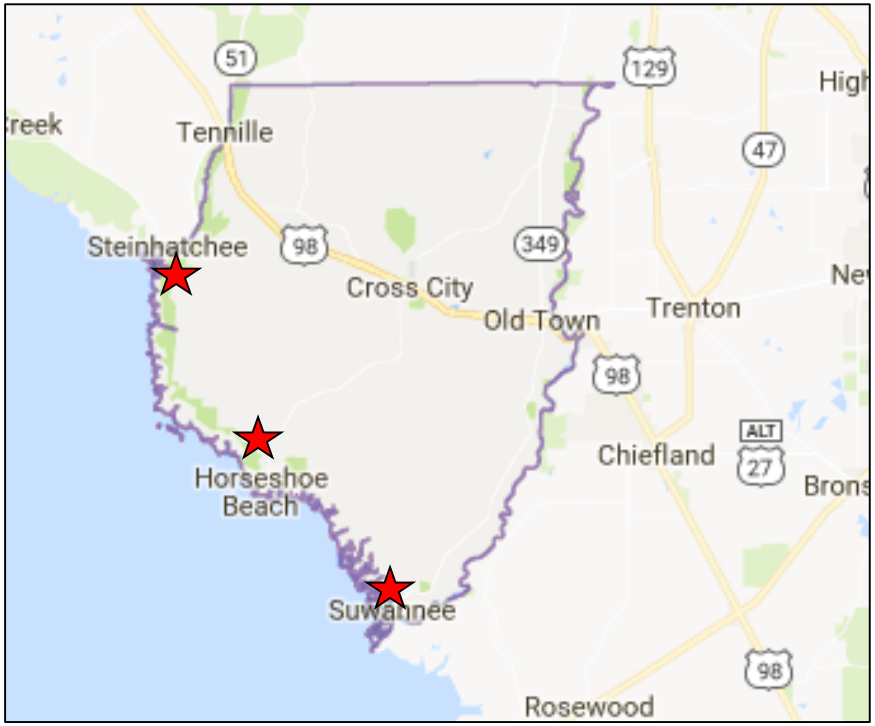


- Approximate Gulf shoreline = 44.06 miles[1]
- Land Area = 705 square miles[2]
- Population (2015) = 16,203[2]
- Density = 23/sq. mi.[2]
- Median Household Income = $35,000[3]
- Median Age = 46.9 years[3]

1.ESA, 2016; 2. Wikipedia, 2015; 3. http://edr.state.fl.us/Content/area-profiles/county/index.cfm, 2015

Dixie County – Issues & Goals

- Issues
  - Water quality impairments
  - Sustainability of recreational shellfish harvesting
  - Limited public access
  - Limited economic diversity
- Goals
  - Monitor & improve scallop fishery
  - Convert septic to sewer
  - Promote shellfish aquaculture



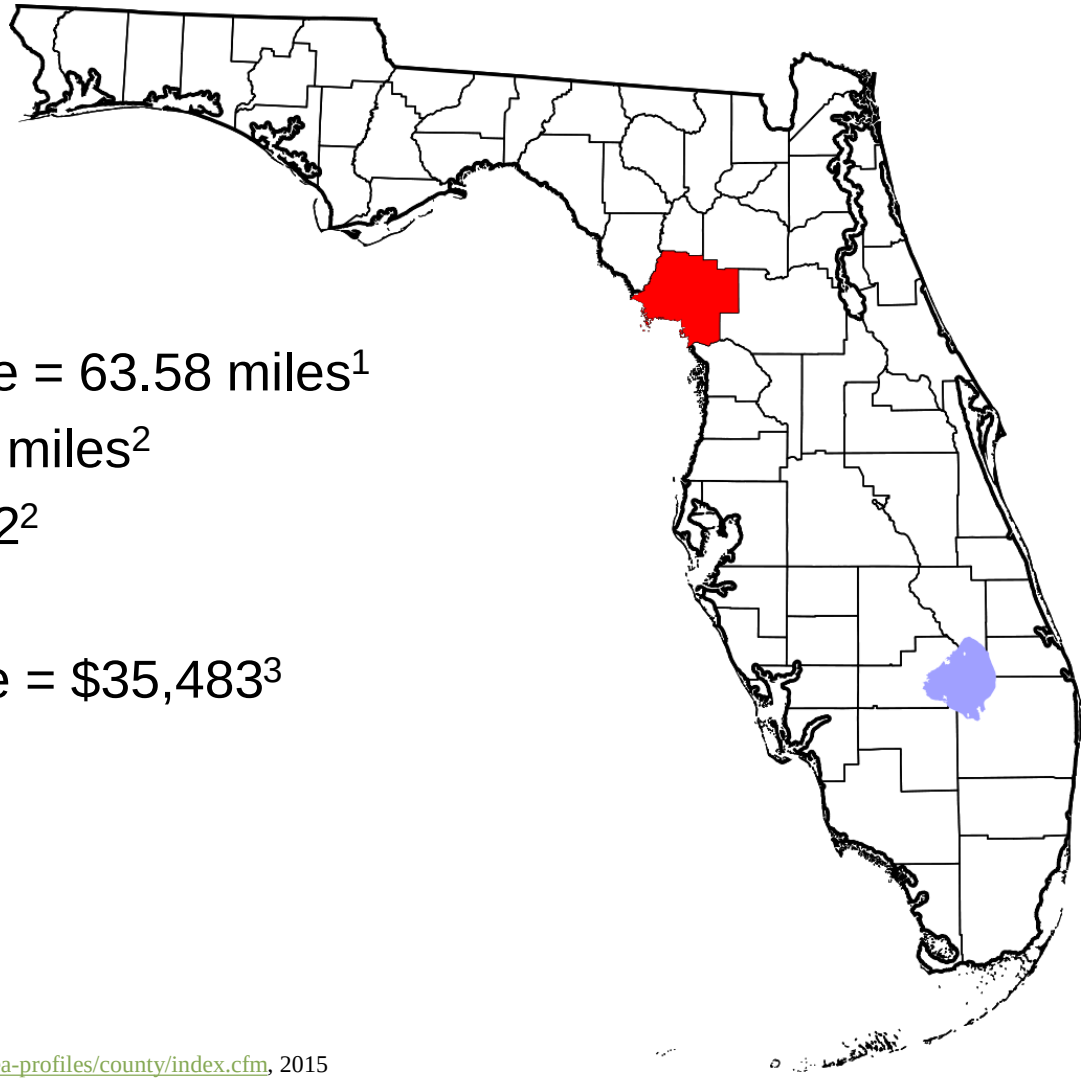
Dixie County – Project Proposals

- Horseshoe Beach and McGriff Pass maintenance dredging
- Scallop monitoring and tourism promotion
- Additional artificial reefs with Taylor and Levy counties
- Septic to sewer in Horseshoe Beach, Suwannee, and Jena
- Land acquisition north of Shired Island Park/Shired Creek
- Shellfish aquaculture opportunities

Dixie County – Project Budgets

Project	Estimated Total Cost	Estimated Pot 3 Request	Other Potential Funding Sources
Horseshoe Beach & McGriff Pass maintenance dredging	$TBD	$TBD	FEMA
Scallop monitoring & tourism promotion	$TBD	$TBD	NFWF
Artificial reef program	$TBD	$TBD	NFWF, NRDA
Septic to sewer in targeted locations	$TBD	$TBD	NRDA
Land acquisition north of Shired Island Park	$TBD	$TBD	
Shellfish aquaculture opportunities	$TBD	$TBD	NFWF

Levy County

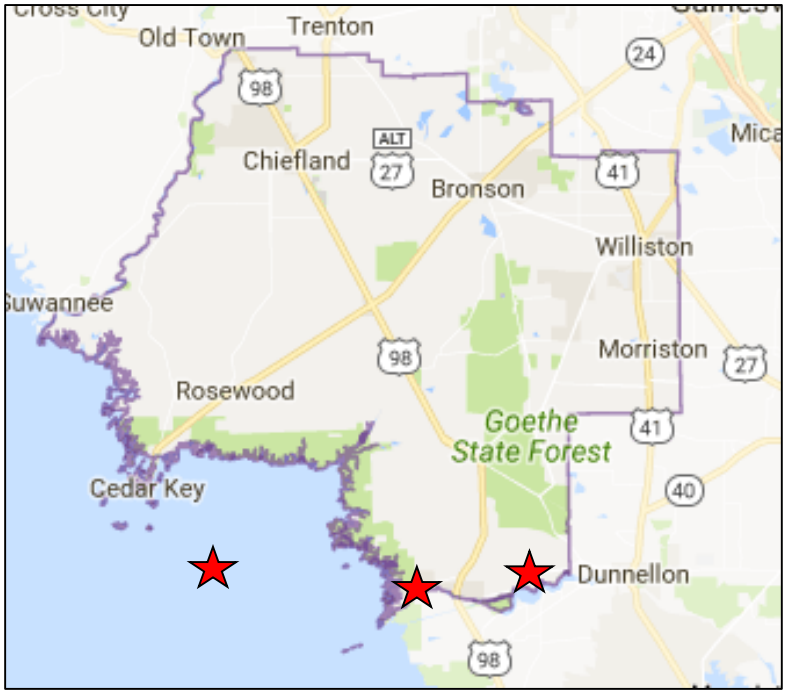


- Approximate Gulf shoreline = 63.58 miles[1]
- Land Area = 1,118 square miles[2]
- Population (2015) = 39,832[2]
- Density = 36/sq. mi.[2]
- Median Household Income = $35,483[3]
- Median Age = 46.2 years[3]

1.ESA, 2016; 2. Wikipedia, 2015; 3. http://edr.state.fl.us/Content/area-profiles/county/index.cfm, 2015

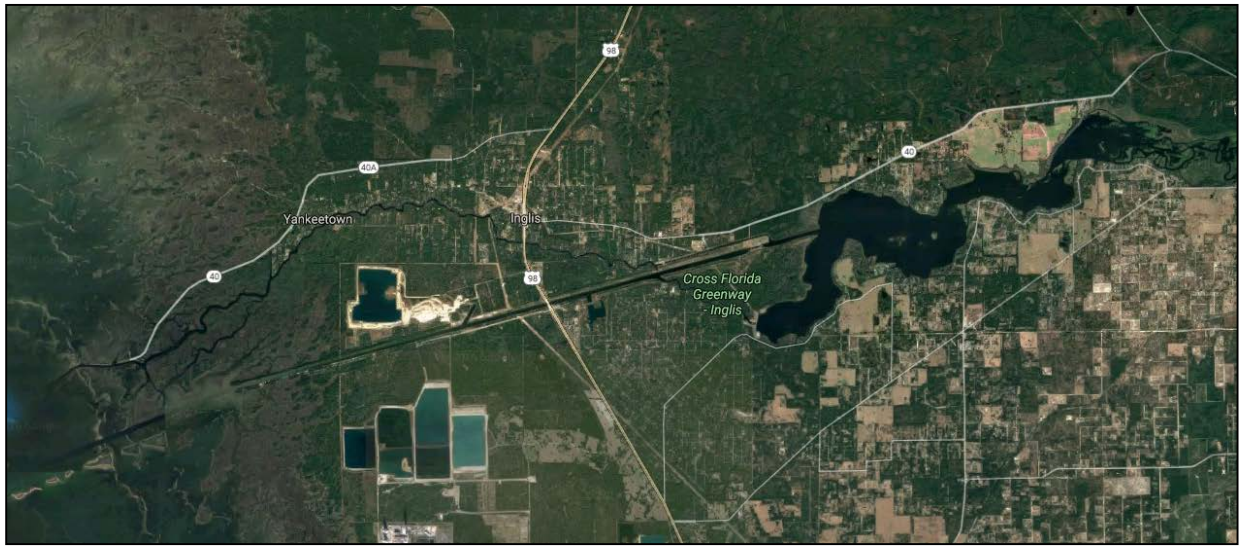
Levy County – Issues & Goals

- Issues
  - Inadequate wastewater infrastructure in some coastal areas
  - Maintenance of water quality for aquaculture
  - Enhance offshore fisheries
- Goals
  - Septic to sewer conversions to preserve shellfish harvesting
  - Regional artificial reef system



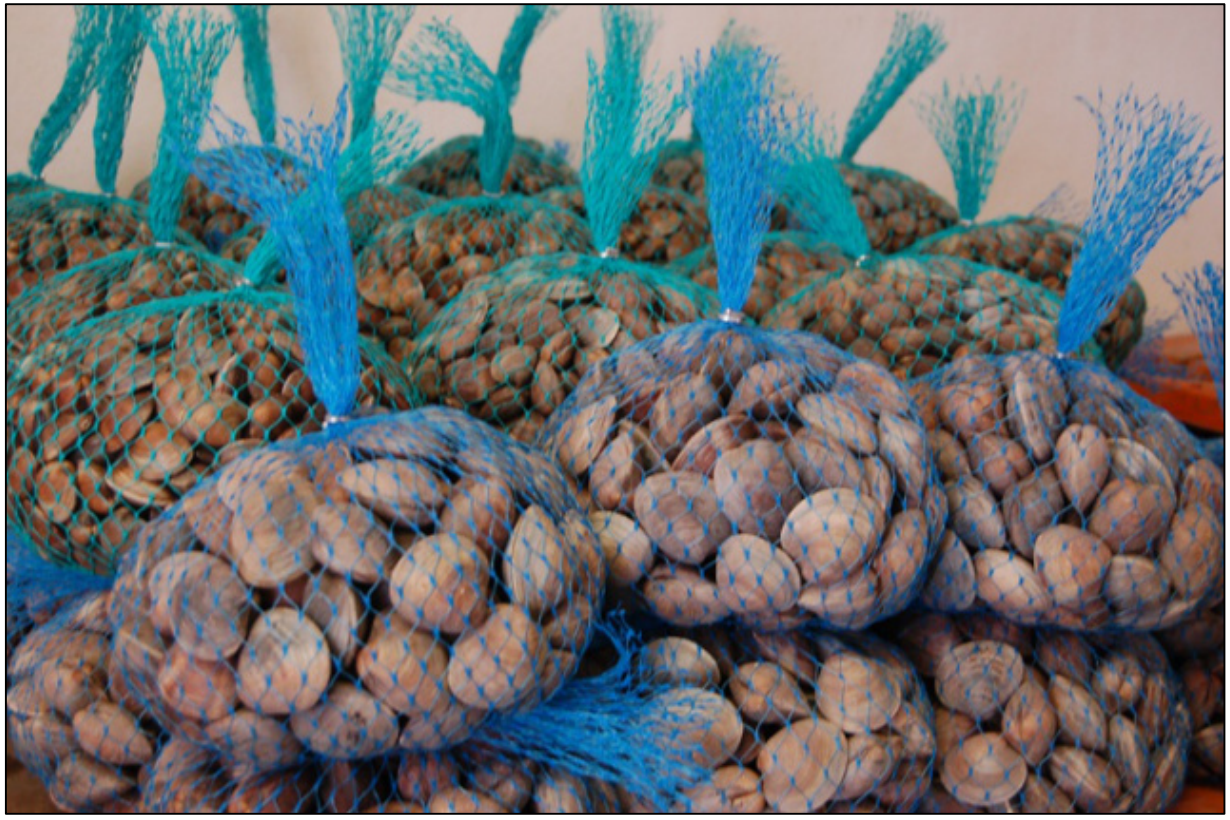
Levy County – Project Proposals

- Septic to sewer
  - Lake Rousseau/ Peaceful Acres
  - Camp Azalea and Fowlers Bluff
  - Inglis/Yankeetown
- Regional artificial reef system expansion



Levy County – Project Proposals

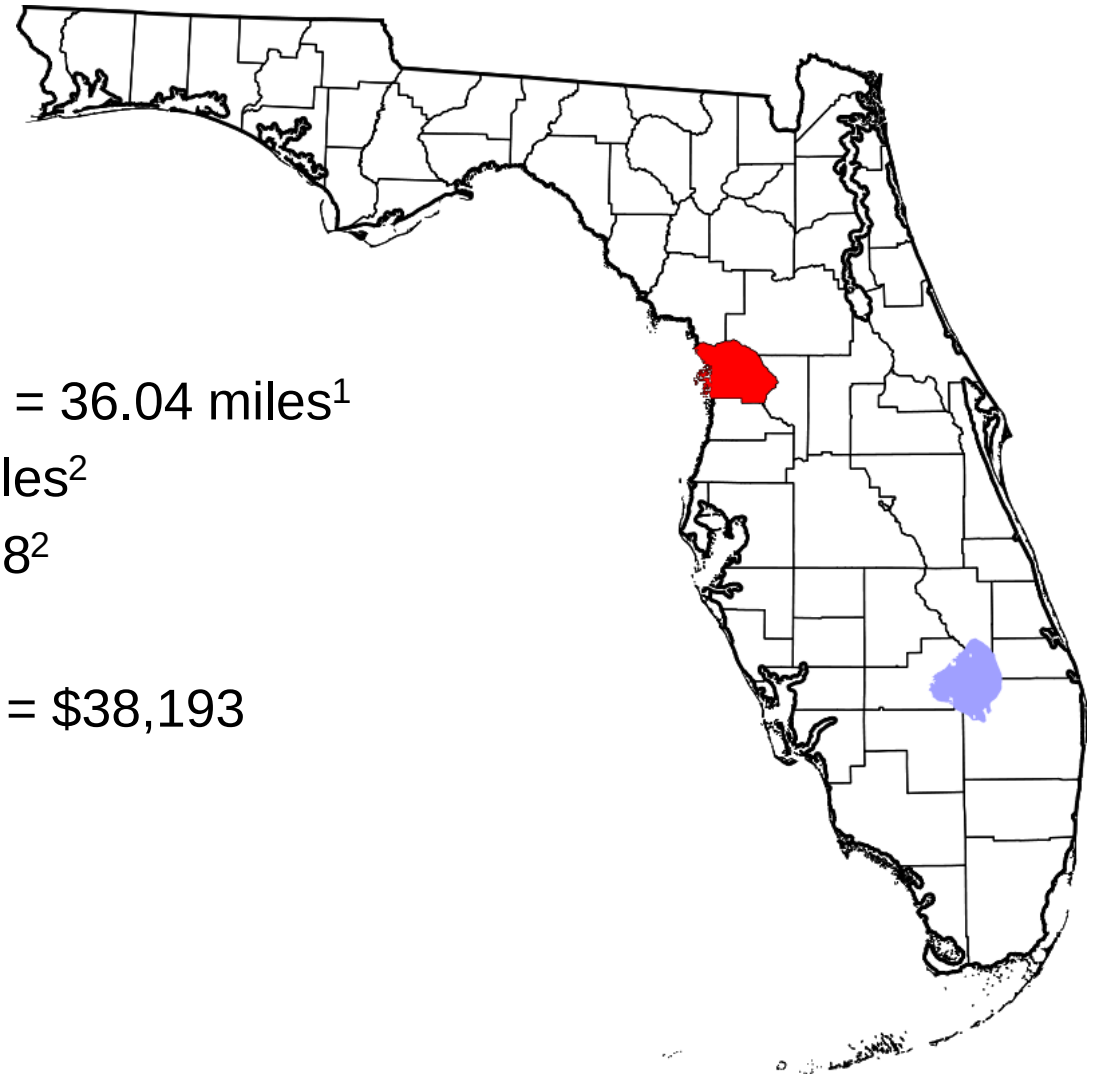
- Shellfish monitoring & promotion of aquaculture
  - Clams
  - Scallops
  - Oysters
  - Crabs



Levy County – Project Budgets

Project	Estimated Total Cost	Estimated Pot 3 Request	Other Potential Funding Sources
Septic to Sewer	$TBD	$TBD	NRDA
Regional Artificial Reef Program	$TBD	$TBD	NRDA, NFWF
Scallop Monitoring & Promotion of Aquaculture	$TBD	$TBD	NFWF

Citrus County

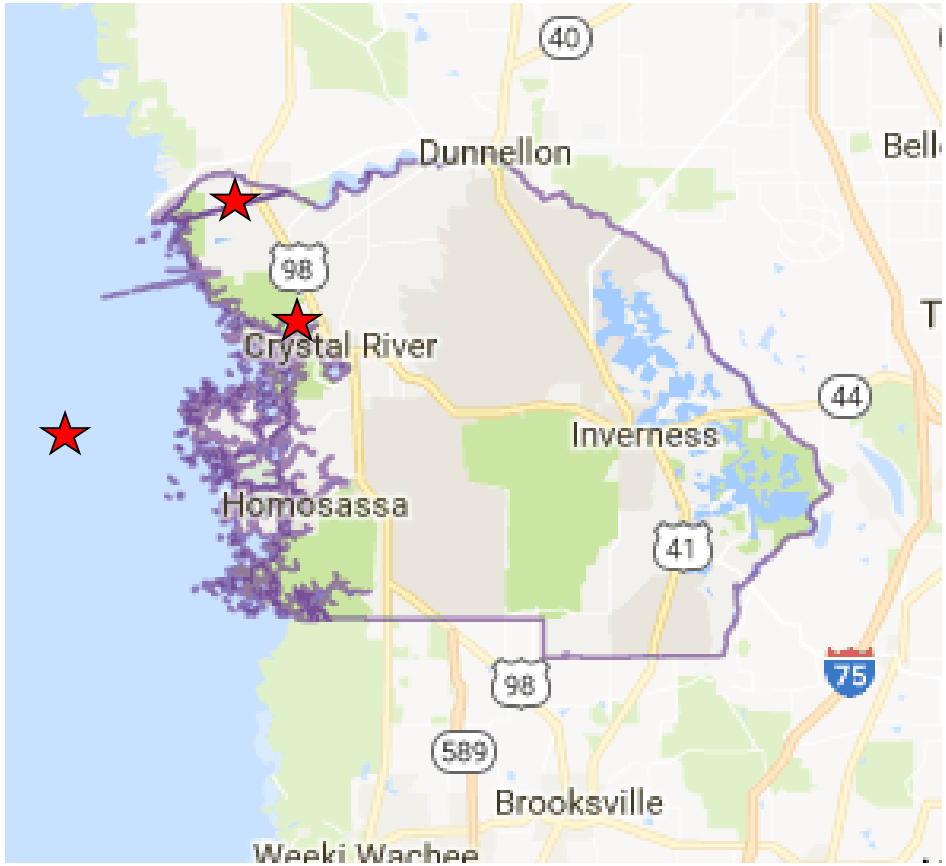


- Approximate Gulf shoreline = 36.04 miles[1]
- Land Area = 582 square miles[2]
- Population (2015) = 141,058[2]
- Density = 243/ sq. mi.[2]
- Median Household Income = $38,193
- Median Age = 55.5 years[3]

1.ESA, 2016; 2. Wikipedia, 2015; 3. http://edr.state.fl.us/Content/area-profiles/county/index.cfm, 2015

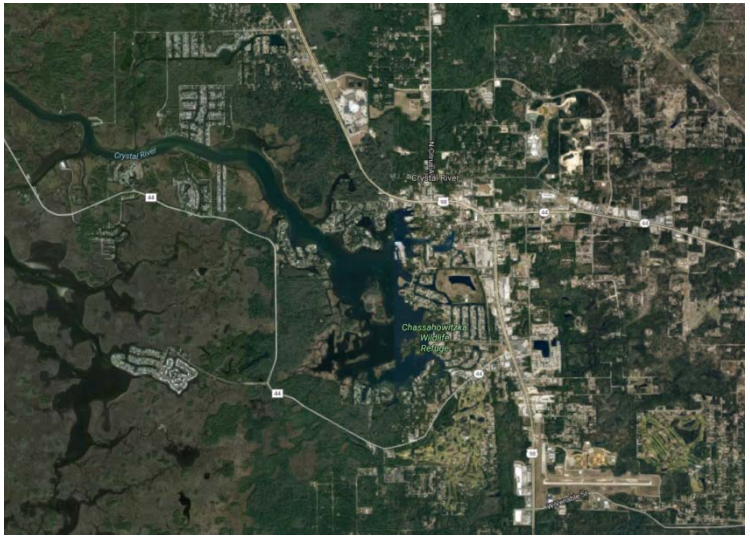
Citrus County – Issues & Goals

- Issues
  - Water quality impairments and habitat loss in King's Bay
  - Limited public access
  - Limited offshore hardbottom
- Goals
  - Water quality and habitat restoration in King's Bay
  - Public access for eco-tourism
  - Artificial reef program

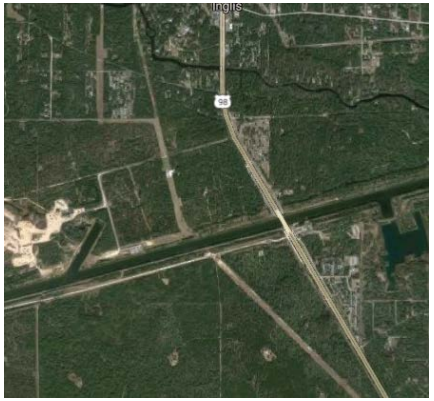


Citrus County – Project Proposals

- King's Bay Restoration – Crystal River
  - Partnership with SWFWMD
  - Pilot projects to restore SAV, remove filamentous algae
  - Nutrient reduction (fertilizer and septic)
  - Muck removal
  - Living shorelines



- Barge Canal Boat Ramp
  - Permits in place
  - Regional letters of support
  - Reduces number of boats in manatee habitat
  - Existing deep water access to the Gulf



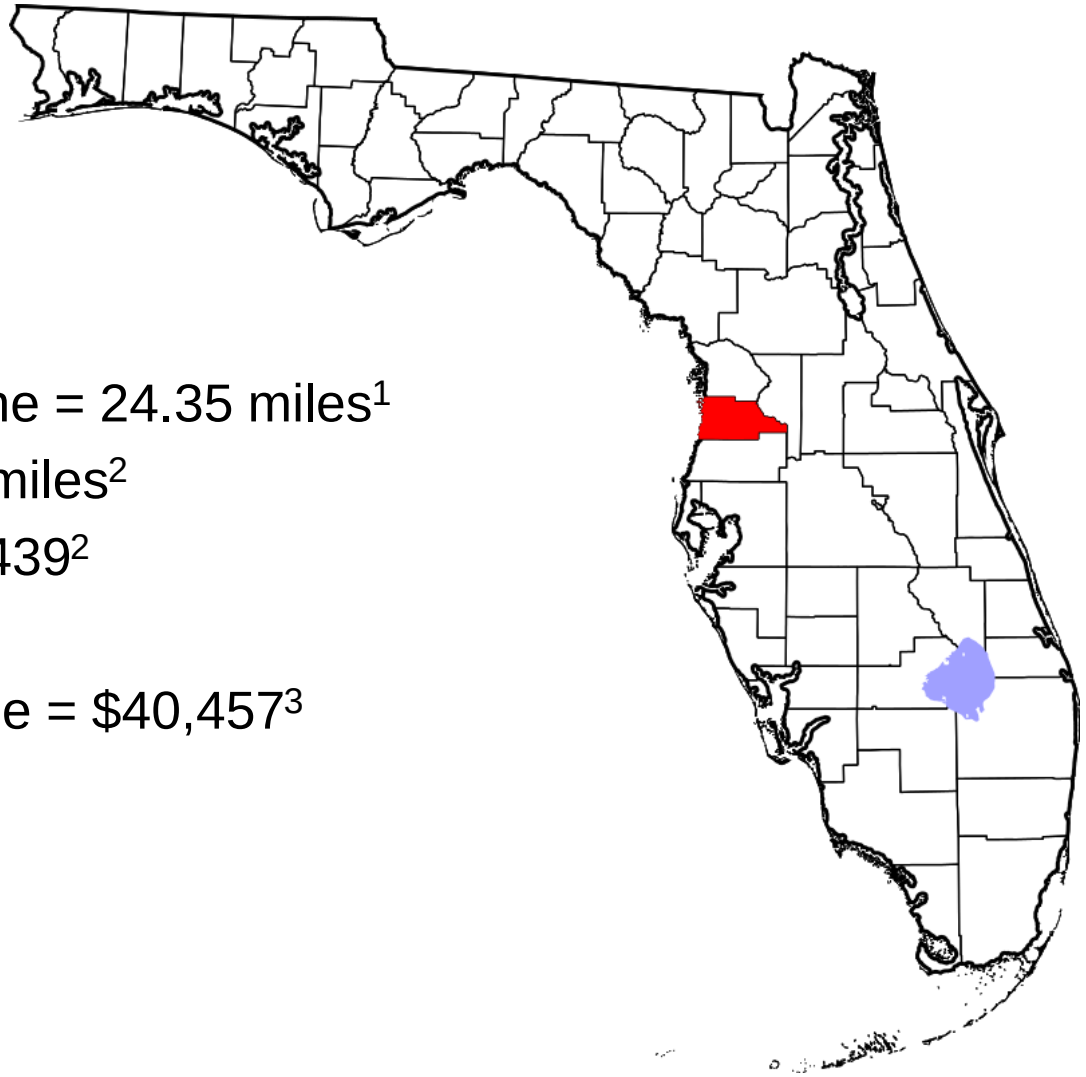
Citrus County – Project Proposals

- Artificial Reef Program
  - Enhance existing artificial reef Fish Haven #1 with old bridge material
  - New inshore reef sites

Citrus County – Project Budgets

Project	Total Cost	Pot 3 Request	Other Funding
King's Bay Restoration	$9M	$4.5M	SWFWMD - $4.5M
Barge Canal Boat Ramp	$5.64M	$5.2M	$440,000 from County
Artificial Reef Program	$825,000	$750,000	$75,000 from County

Hernando County

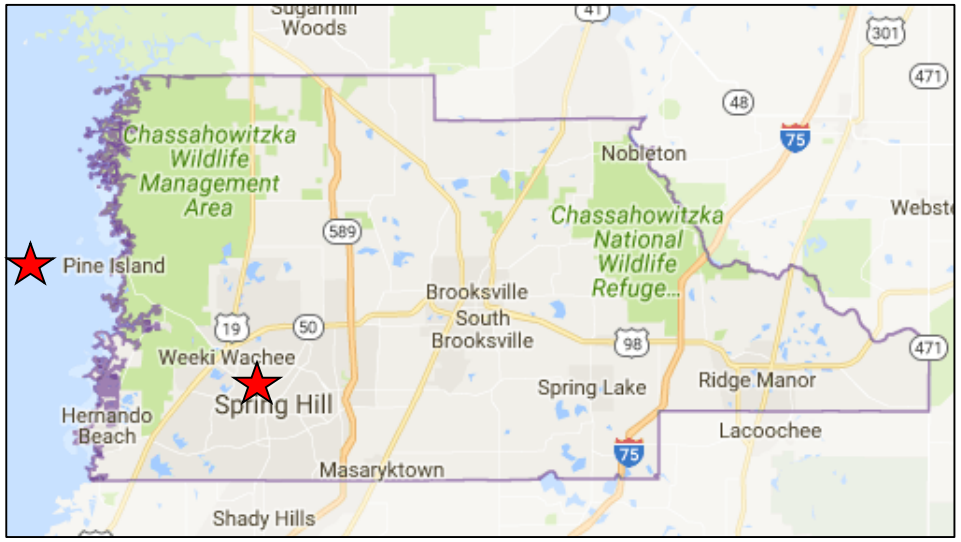


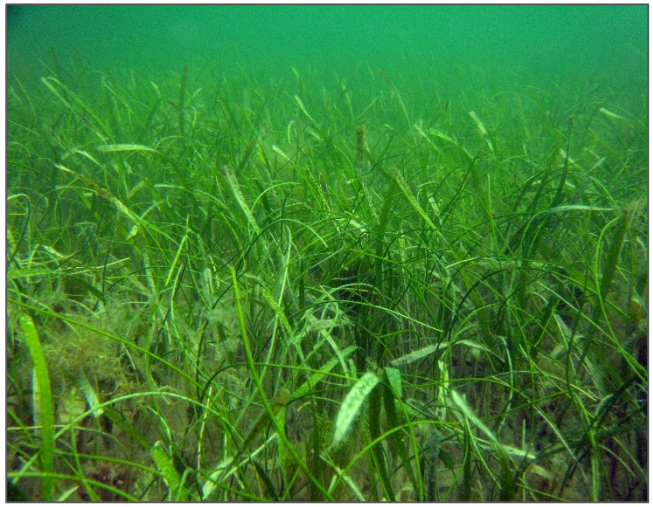
- Approximate Gulf shoreline = 24.35 miles[1]
- Land Area = 473 square miles[2]
- Population (2015) = 178,439[2]
- Density = 366/sq. mi.[2]
- Median Household Income = $40,457[3]
- Median Age = 49 years[3]

1.ESA, 2016; 2. Wikipedia, 2015; 3. http://edr.state.fl.us/Content/area-profiles/county/index.cfm, 2015

Hernando County – Issues & Goals

- Issues
  - Marine and coastal habitat loss & degradation
  - Limited recreational opportunities & access
  - Weeki Wachee natural system and water quality degradation
- Goals
  - Marine & coastal resource management
  - Eco-tourism
  - Weeki Wachee water quality improvement/habitat restoration





Hernando County – Project Proposals

- Artificial Reefs & Living Shorelines
  - Expand offshore artificial reefs
  - New inshore reef sites, reef balls
  - Hardbottom mapping & monitoring
  - Oyster habitat and living shorelines
  - Marine Resource Master Plan

Bendickson 2016

Photo credit: Lara Cerri, Tampa Bay Times

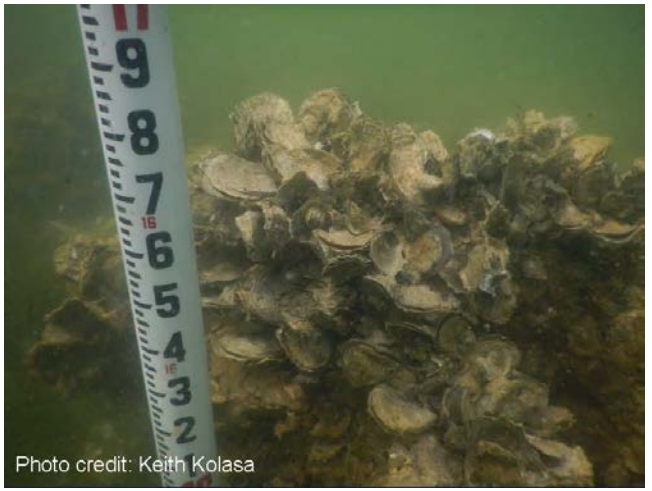
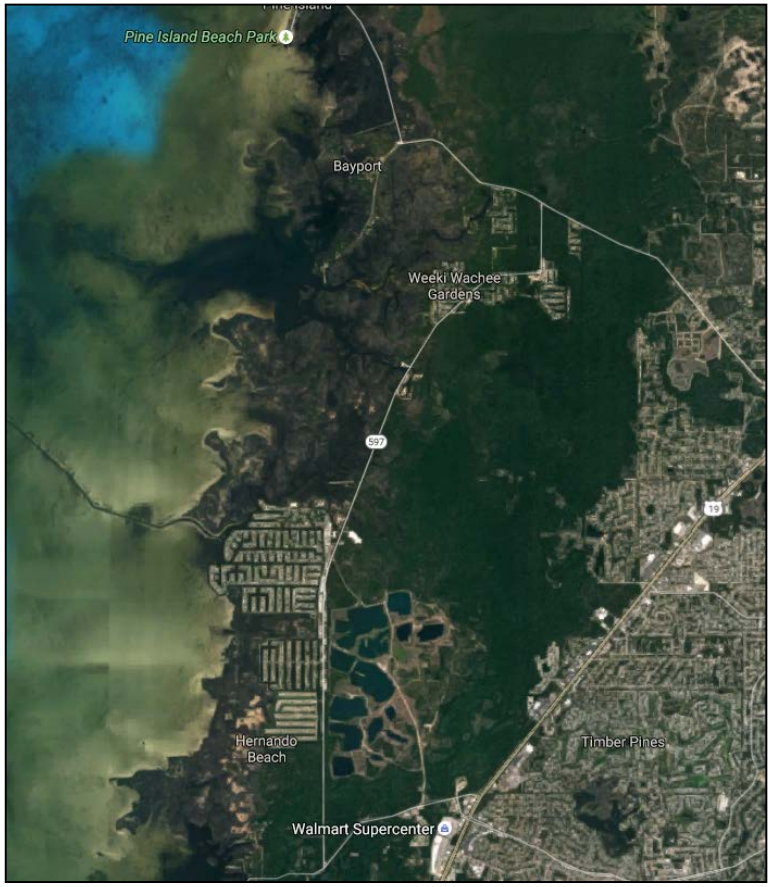


Photo credit: Keith Kolasa

Hernando County – Project Proposals

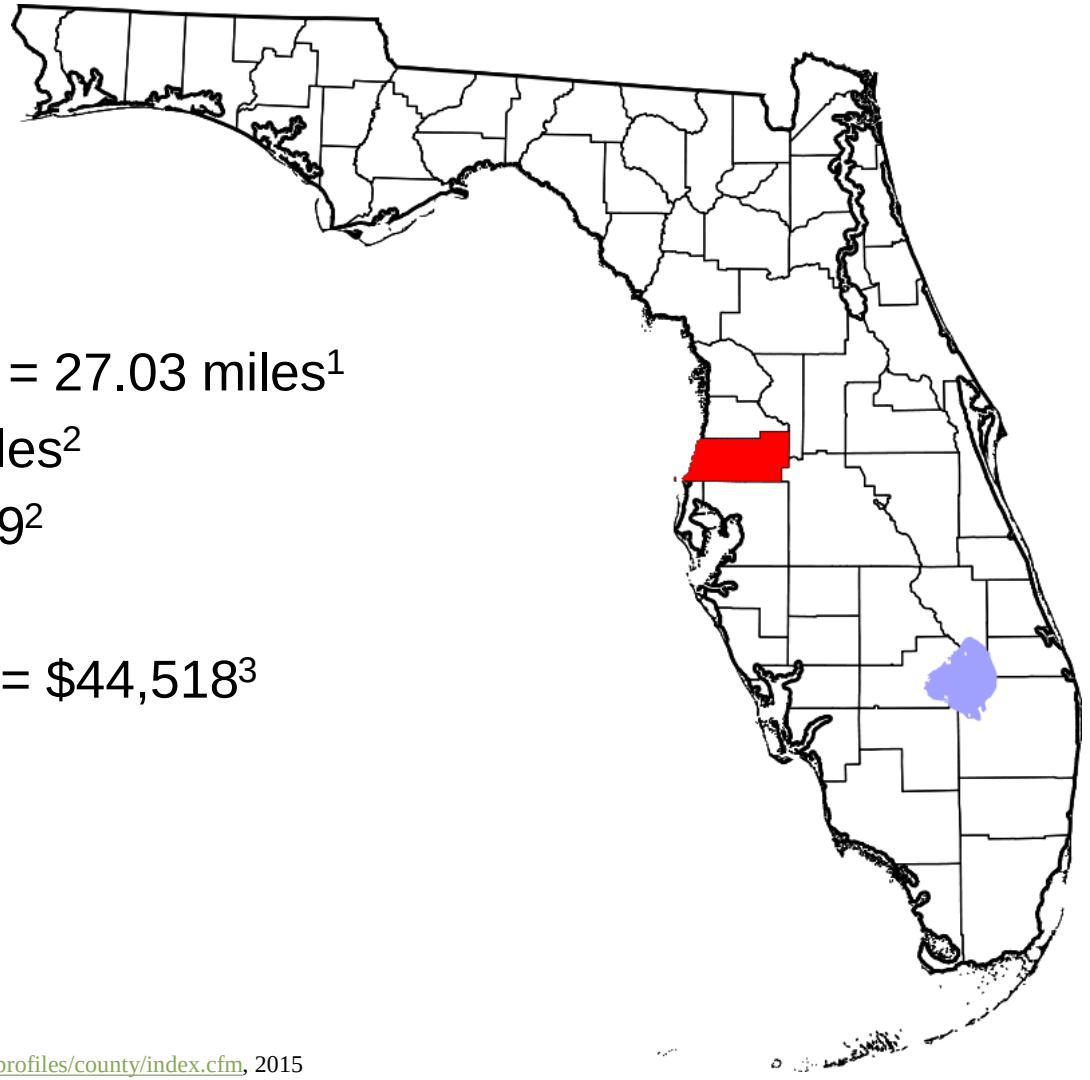
- Waterway Access Program
  - Blueways shelters, boat ramp upgrades
  - Parking, restrooms, amenities
  - Hydrographic surveying and dredging feasibility
  - Stormwater improvements
- Weeki Wachee Springshed
  - Spring Hill feasibility study/water quality
  - Weeki Wachee, Mud River study
  - Canal Aeration



Hernando County – Project Budgets

Project	Total Cost	Pot 3 Request	Other Funding
Artificial Reefs & Living Shorelines	$3.3M	$3.3M	
Septic to Sewer – Spring Hill, Weeki Wachee	$4M	$4M	
Waterway Access Program	$5.5M	$5.5M	

Pasco County

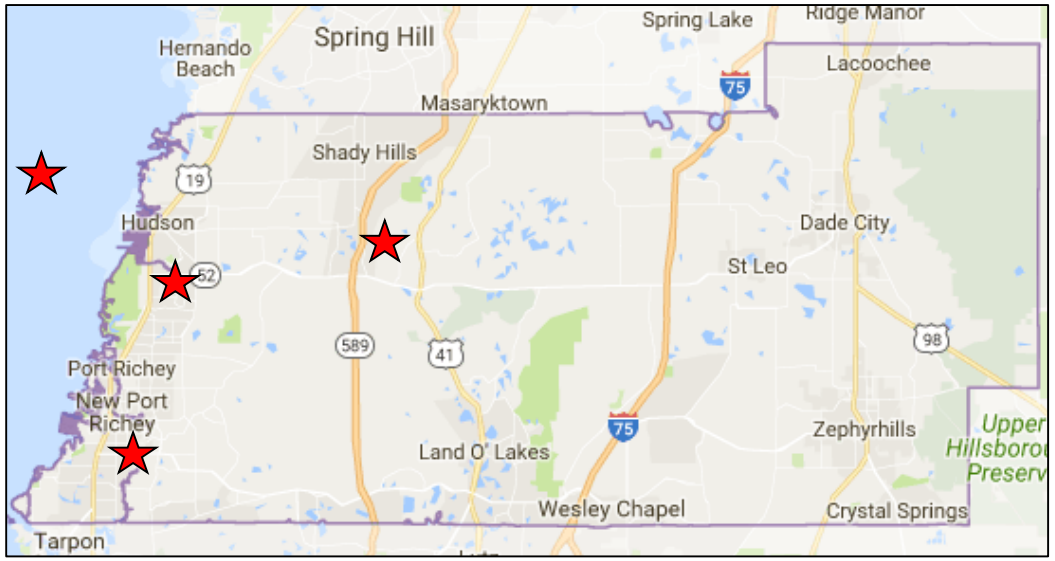


- Approximate Gulf shoreline = 27.03 miles[1]
- Land Area = 747 square miles[2]
- Population (2015) = 497,909[2]
- Density = 650/ sq. mi.[2]
- Median Household Income = $44,518[3]
- Median Age = 44.1 years[3]

1.ESA, 2016; 2. Wikipedia, 2015; 3. http://edr.state.fl.us/Content/area-profiles/county/index.cfm, 2015

Pasco County – Issues & Goals

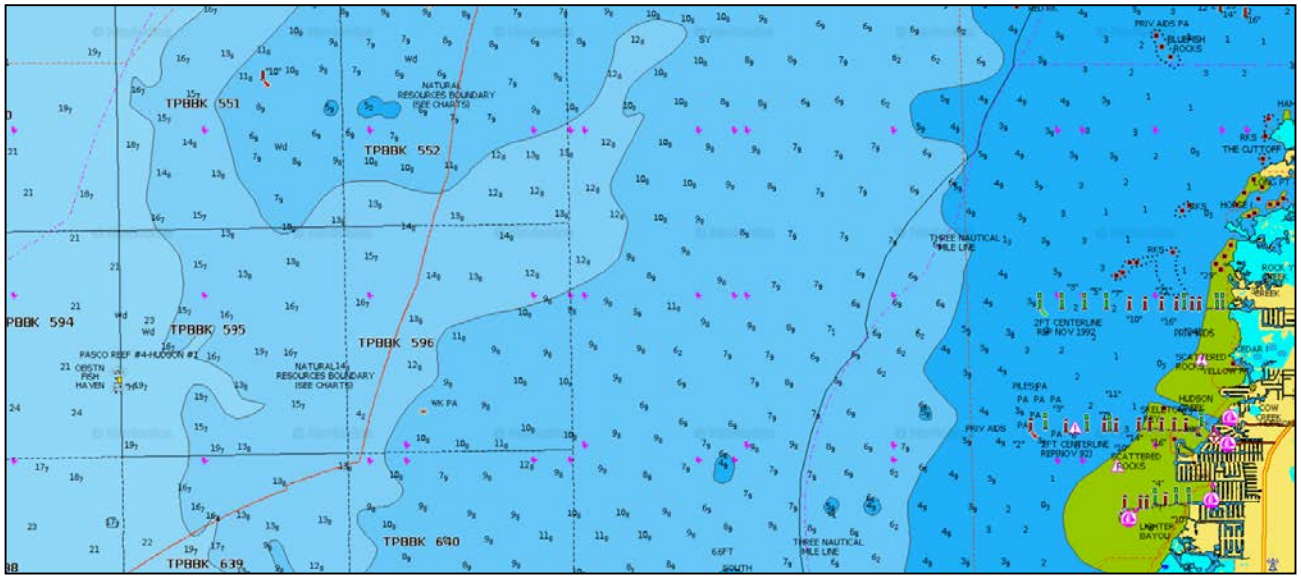
- Issues
  - Stormwater management & flooding prevention
  - Water quality impairments
  - Wetland loss in Crews Lake
  - Limited offshore hardbottom



- Goals
  - Reduce flooding & improve stormwater treatment
  - Support restoration education efforts via School Board
  - Restore wetland habitat in Crews Lake
  - Pithlachascotee River Basin Improvements

Pasco County – Project Proposals

- Stormwater upgrades
  - Port Richey, Madison Street, Hammock Creek/Sea Pines, Forest Hills
- Artificial Reef Program
  - Create new inshore artificial reefs, 6-7 miles offshore, rehab Hudson Reef
  - Sites have current permits, inshore snorkel trail.
  - Preserve and protect natural inshore hardbottom



Pasco County – Project Proposals

- Coastal Environmental Research Network (CERN)/Pasco Institute for Environmental Research & Restoration (PIERR)
  - Werner Boyce State Park
  - PHSC, USF, FIO, St. Leo
  - Pasco students grades 9-12
  - Monitoring, research, education
- Crews Lake Restoration
  - Rehydration of wetland areas using Reclaimed Water
  - Aquifer recharge
- Septic to Sewer

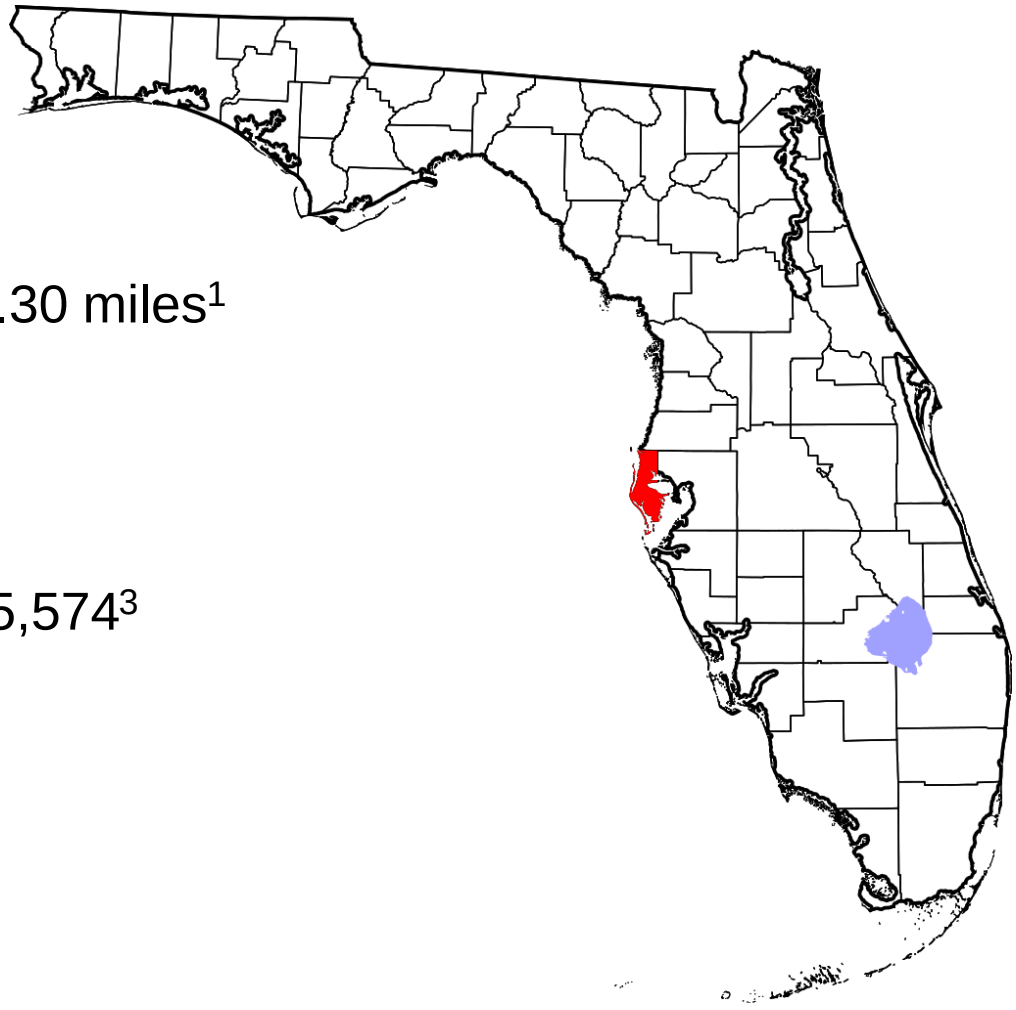
Credit: Pasco County School Board

Credit: Pasco County

Pasco County – Project Budgets

Project	Total Cost	Pot 3 Request	Other Funding
Stormwater Projects	$17M	$5M	
Artificial Reefs	$620,000	$620,000	
CERN/PIERR	$2.1M	$2.1M	
Crews Lake Restoration	$1.5M	$1.5M	
Septic to Sewer	$5M	$3.58M	

Pinellas County

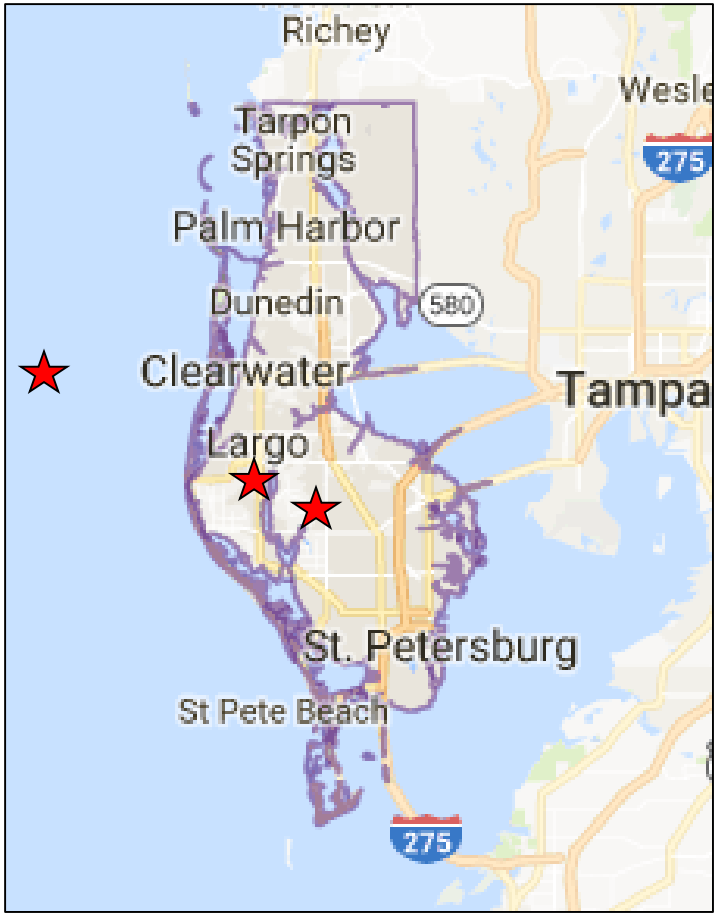


- Approximate Gulf shoreline = 50.30 miles[1]
- Land Area = 280 square miles[2]
- Population (2015) = 916,542[2]
- Density = 3,347/ sq. mi.[2]
- Median Household Income = $45,574[3]
- Median Age = 46.9 years[3]

1.ESA, 2016; 2. www.pinellascounty.org/facts ; 3. http://edr.state.fl.us/Content/area-profiles/county/index.cfm, 2015

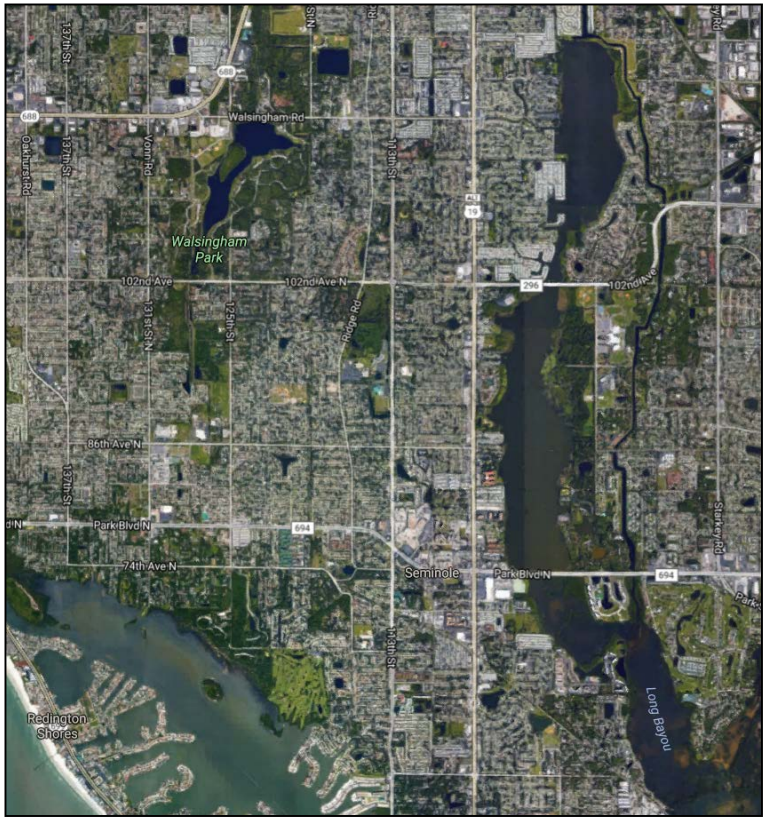
Pinellas County – Issues & Goals

- Issues
  - Numerous impaired water bodies
  - Coastal flooding
  - Limited offshore habitat
- Goals
  - Address legacy pollution from contaminated sediments, remnant septic tanks, flood-prone developed areas
  - Urban lands acquisition for watershed restoration, public access
  - Offshore reef rehabilitation
  - Water pollution source evaluation
  - Resource planning



Pinellas County – Project Proposals

- Lake Seminole Dredging
  - 684 acre bayou impounded for citrus water supply in 1940's
  - Over 1 million cubic yards of nutrient laden sediments
  - Discharges nutrients and organic matter to Boca Ciega Bay
  - Project specified in FDEP Reasonable Assurance Plan
  - Complements over $15 million in project planning and completed storm water treatment projects



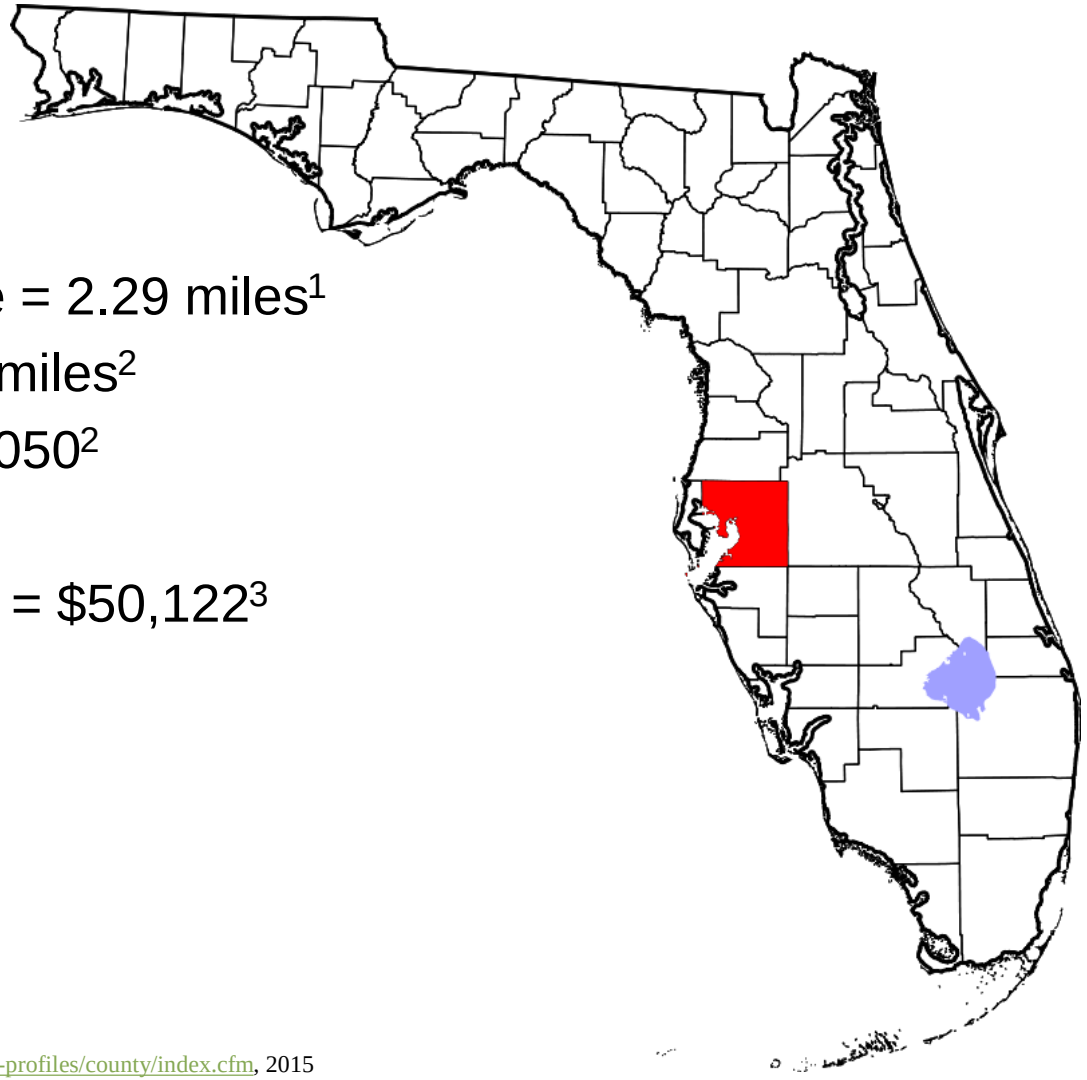
Pinellas County – Project Proposals

- Septic to Sewer
  - Lake Seminole, Joe's Creek, Allen's Creek watersheds
  - Impaired for bacteria and nutrients
- Property Acquisition
  - Watershed/floodplain restoration
  - Public access to water
- Microbial Source Tracking Studies
- Artificial Reef Construction
- Park Management Plans

Pinellas County – Project Budgets

Project	Estimated Total Cost	Estimated Pot 3 Request	Other Potential Funding Sources
Lake Seminole Dredging	$31M	$5M	$8M from Pinellas County $8M from SWFWMD Balance from Legislature
Septic to Sewer – Lake Seminole, Lealman	$18M	$2M	Pinellas General Fund
Property Acquisition for Watershed Restoration	$4.65M	$2.6M	
Property Acquisition for Public Access to Water	$2M	$2M	
Microbial Source Tracking	$450,000	$450,000	
Artificial Reef Construction	$450,000	$450,000	Pinellas General Fund
Park Resource Management Plans	$300,000	$300,000	

Hillsborough County



- Approximate Gulf shoreline = 2.29 miles[1]
- Land Area = 1,020 square miles[2]
- Population (2015) = 1,349,050[2]
- Density = 1,323/ sq. mi.[2]
- Median Household Income = $50,122[3]
- Median Age = 36.2 years[3]

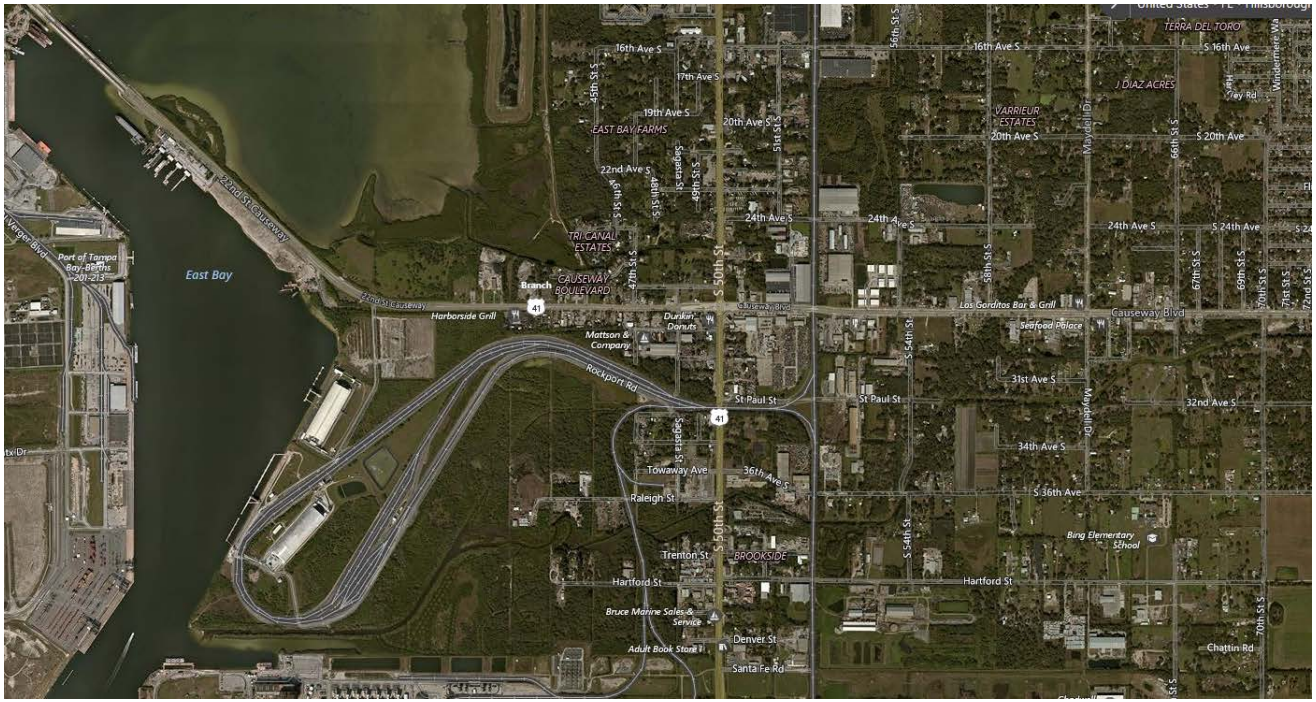
1.ESA, 2016; 2. Wikipedia, 2015; 3. http://edr.state.fl.us/Content/area-profiles/county/index.cfm, 2015

Hillsborough County – Issues & Goals

- Issues
  - Impaired water quality in Delaney Creek
  - Exotic species infestations on County-owned lands
- Goals
  - Improve water quality in the Delaney Creek through septic to sewer conversions, WWTF upgrades
  - Improving native habitats on County–owned lands

Hillsborough County – Project Proposals

- Septic to Sewer
  - Palm River Heights neighborhood
  - Headwaters of Delaney Creek, tributary to Hillsborough Bay
  - Addresses longstanding water quality impairments



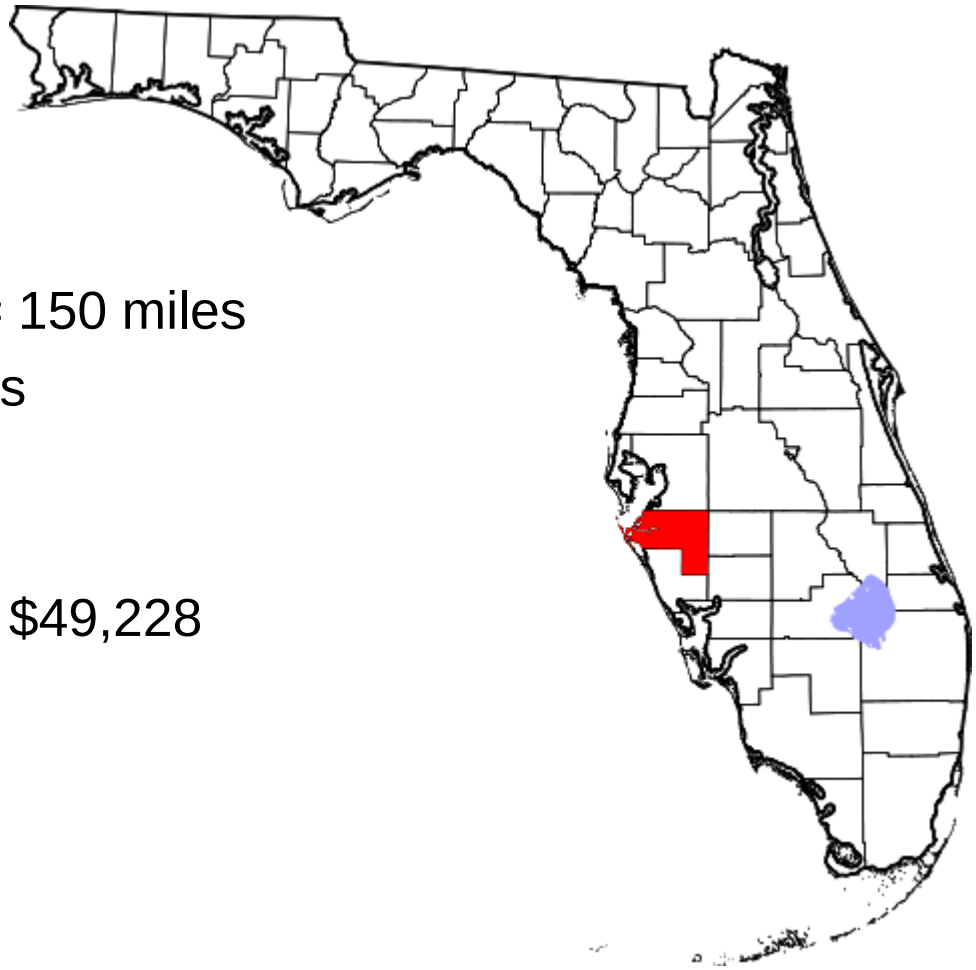
Hillsborough County – Project Proposals

- Exotic Vegetation Removal on ELAPP Lands
  - Improve sustainability of native habitats in coastal watersheds of Tampa Bay
  - Reduce the expansion & proliferation of exotic species into other coastal watersheds

Hillsborough County – Project Budgets

Project	Estimated Total Cost	Estimated Pot 3 Request	Other Potential Funding Sources
Septic to Sewer – Delaney Creek	$25M	$8.8M	NRDA
Exotic Removal ELAPP Lands	$10M	$4M	

Manatee County



- Approximate Gulf shoreline = 150 miles
- Land Area = 741 square miles
- Population (2015) = 363,369
- Density = 434.5/ sq. mi.
- Median Household Income = $49,228
- Median Age = 44 years

Manatee County – Issues & Goals

- Issues
  - Rapid resident and tourist growth
  - Need for resiliency planning
- Goals
  - Protect and enhance natural systems
  - Preserve coastal economy & working waterfronts
  - Promote aquaculture
  - Improve water quality through better stormwater management

Manatee County Projects

- Natural Systems Protection and Enhancement
  - Land acquisition/easements
  - Manatee River Oyster Habitat Restoration
  - Robinson Preserve Expansion Coastal Uplands
  - Living Shoreline Restoration
  - Preserve Management Plans

Robinson Preserve Restoration

Manatee County Projects

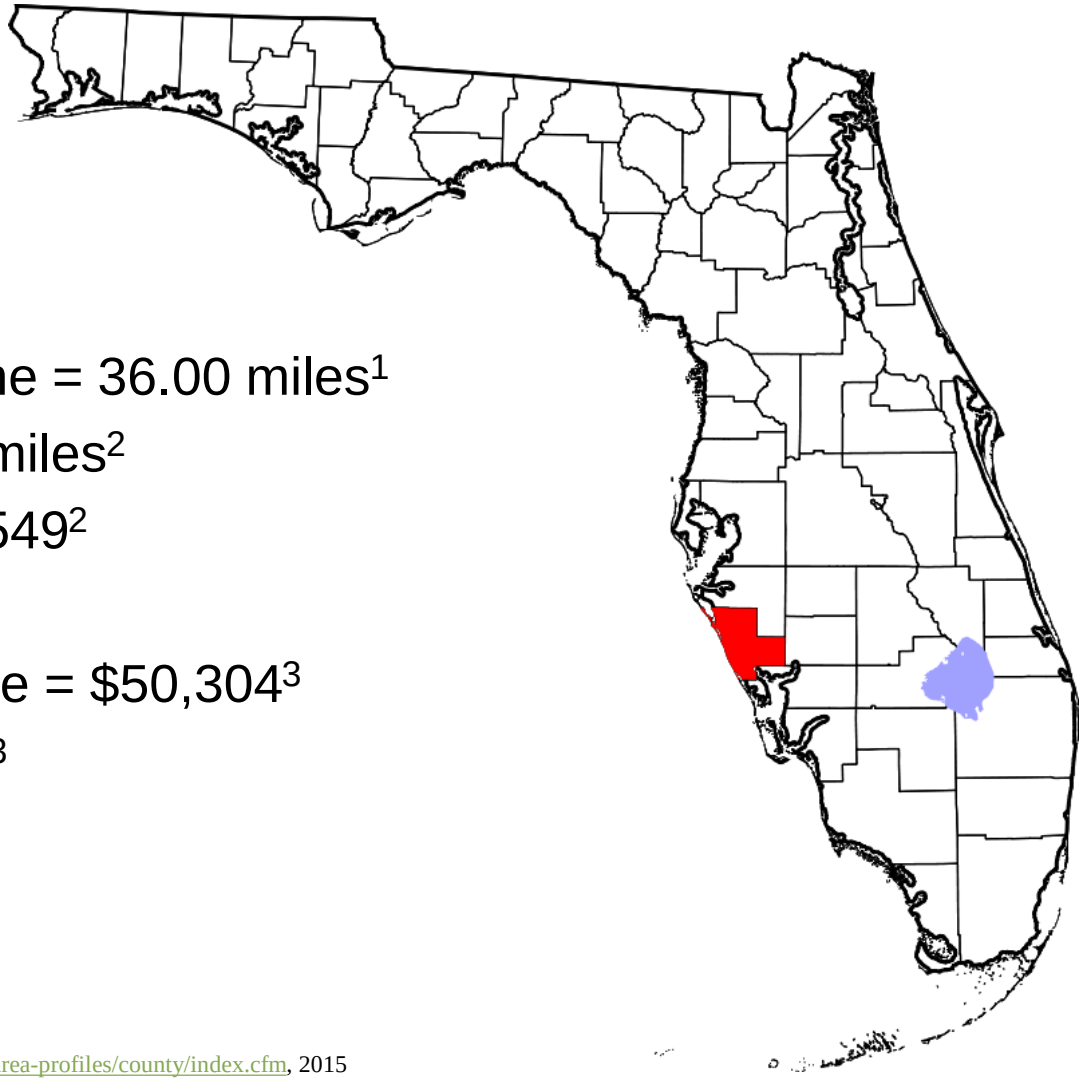
- Coastal Economics/Working Waterfronts
  - FISH Preserve - Cortez
  - Artificial reef creation
  - Manatee River oyster habitat restoration
  - Gulf Coast Shellfish Institute: applied research & promote aquaculture
  - Boardwalks & observation decks

- Stormwater Quality Improvements
  - Coastal Watershed Management Plans
  - Urban park stormwater improvements

Manatee County – Project Budgets

Project	Estimated Total Cost	Estimated Pot 3 Request	Other Potential Funding Sources
Land Acquisition/Easements	$10M	$3.575M	Federal & State Funding Partners
Manatee River Oyster Habitat Restoration	$3M	$2M	NRDA, Federal & State Funding Partners
Robinson Preserve Expansion Coastal Uplands	$1.25M	$1.25M	SWFWMD, Federal & State Funding Partners
Living Shoreline Restoration	$1M	$1M	Federal & State Funding Partners
Preserve Management Plans	$300K	$300K	Federal & State Funding Partners
Artificial Reef Creation	$1M	$1M	NRDA, SWFWMD, FWC, FDEP
Gulf Coast Shellfish Institute: Promote aquaculture	$300K	$300K	SWFWMD, FWC, FDEP
Boardwalks & Observation Decks	$1M	$1M	SWFWMD, FWC, FDEP
FISH Preserve	$375K	$375K	SWFWMD, FWC, FDEP
Coastal Watershed Management Plans	$2.5M	$1.0M	SWFWMD
Urban Park Stormwater Improvements	$2.0M	$1.0M	SWFWMD

Sarasota County

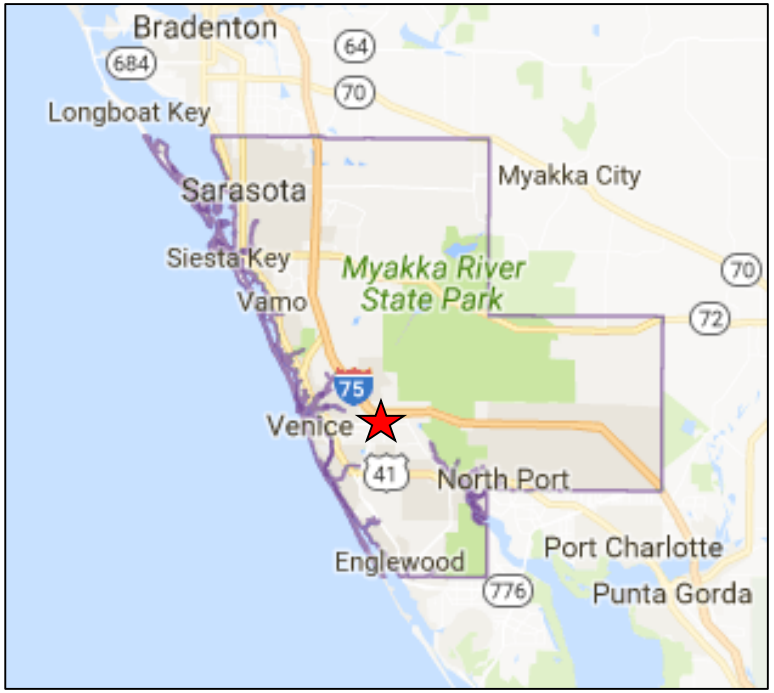


- Approximate Gulf shoreline = 36.00 miles[1]
- Land Area = 556 square miles[2]
- Population (2015) = 405,549[2]
- Density = 683/ sq. mi.[2]
- Median Household Income = $50,304[3]
- Median Age = 54.2 years[3]

1.ESA, 2016; 2. Wikipedia, 2015; 3. http://edr.state.fl.us/Content/area-profiles/county/index.cfm, 2015

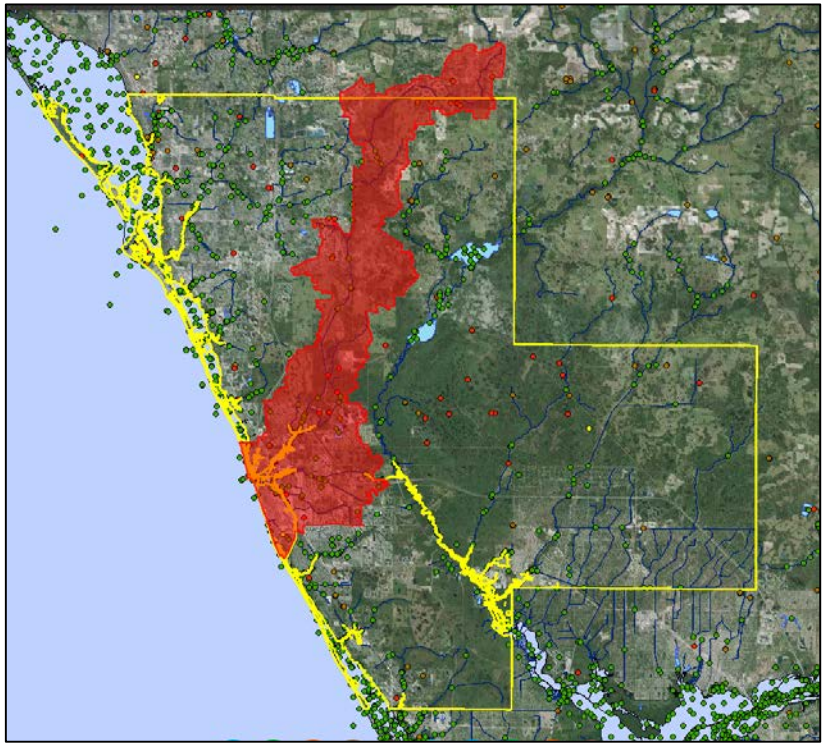
Sarasota County – Issues & Goals

- Issues
  - Flooding & historic hydrologic alteration
  - Impaired water bodies
  - Altered salinity regimes
  - Degraded ecosystems in Dona & Roberts Bays
- Goals
  - Restore freshwater/saltwater regime in the estuaries
  - Restore freshwater flow patterns
  - Reduce flood damage
  - Improve water quality
  - Develop alternative surface water supplies



Sarasota County – Project Proposals

- Dona and Roberts Bay Restoration Program
  - Phase 1 (construction)
  - Phase 2 (permitting)
  - Phase 3 - ASR well / Reuse to City of Venice
  - Phase 4 - Replacement / reconfiguration of the Kingsgate Weir
  - Phase 5 - Blackburn Canal project
  - Phase 6 - Habitat Restoration



Sarasota County – Project Proposals

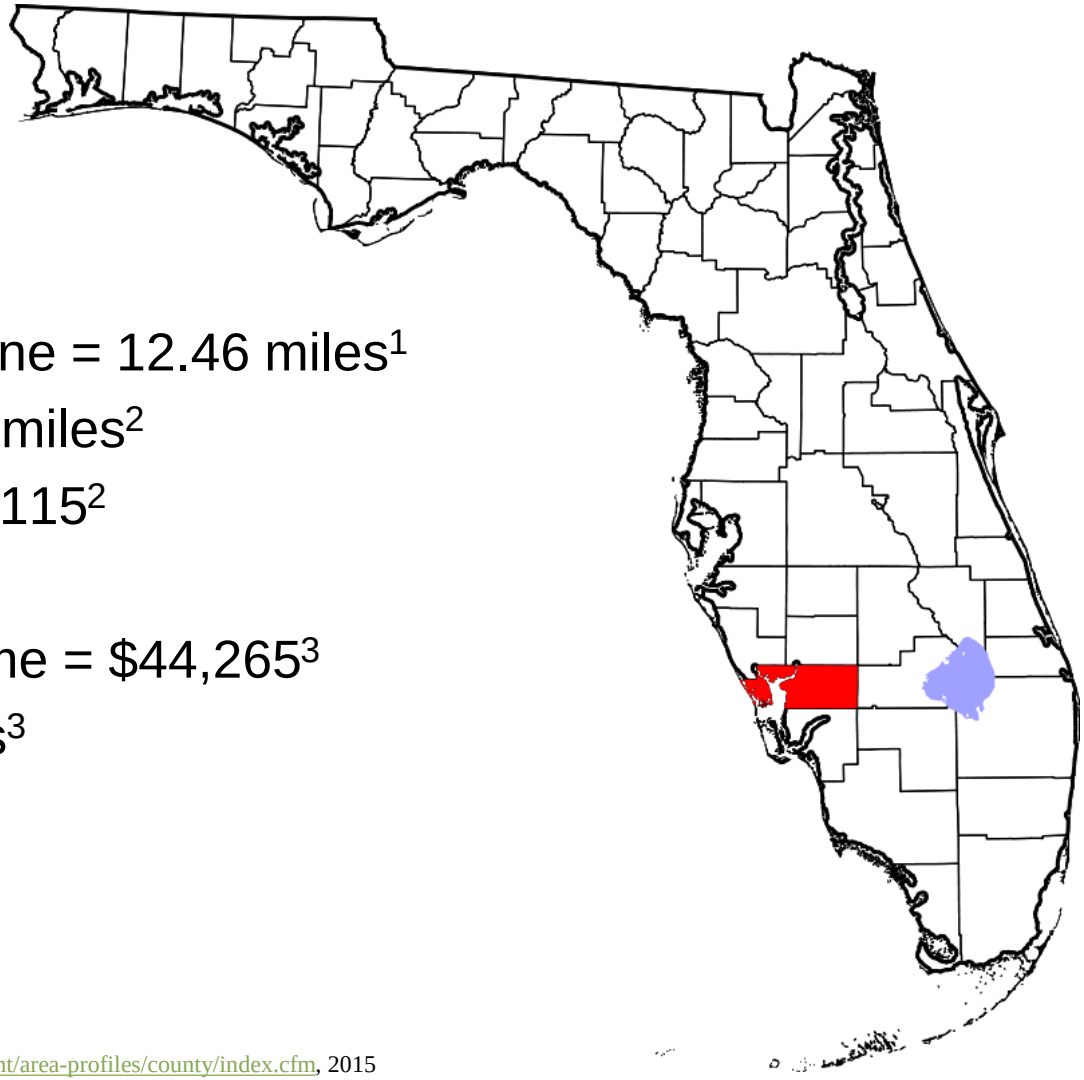
Phase I Construction Upper Watershed – November 2016

Upper Dona Bay Receiving Water

Sarasota County – Project Budgets

Project	Estimated Total Cost	Estimated Pot 3 Request	Other Potential Funding Sources
Dona Bay Restoration Program – Phase 3	$36.8 M (including Phases 1 and 2)	$6.8M	Legislative appropriations SWFWMD grant TMDL grant Pot 1 funds
Dona Bay Restoration Program – Phase 4		$2.0M	
Dona Bay Restoration Program – Phase 5		$2.0M	
Dona Bay Restoration Program – Phase 6		$2.0M	

Charlotte County



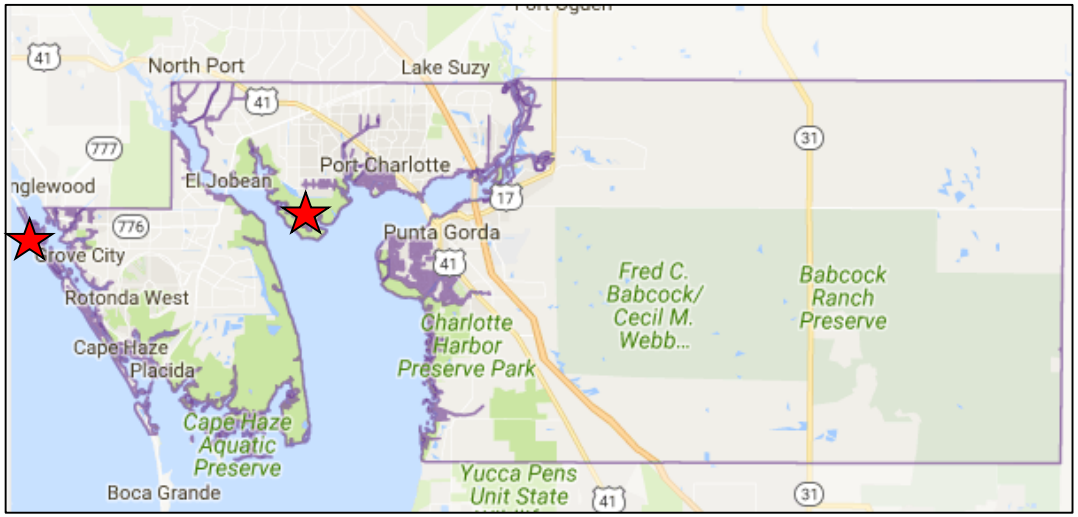
- Approximate Gulf shoreline = 12.46 miles[1]
- Land Area = 680 square miles[2]
- Population (2015) = 173,115[2]
- Density = 235/ sq. mi.[2]
- Median Household Income = $44,265[3]
- Median Age = 57.1 years[3]

1.ESA, 2016; 2. Wikipedia, 2015; 3. http://edr.state.fl.us/Content/area-profiles/county/index.cfm, 2015

Charlotte County – Issues & Goals

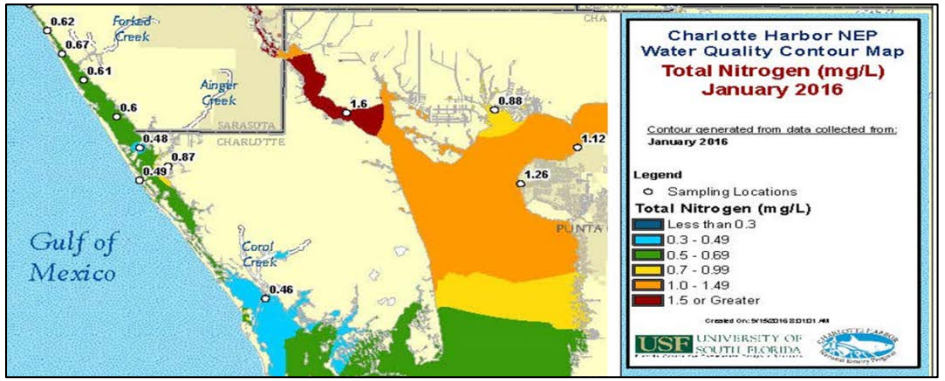
- Issues
  - Impaired water bodies
  - Densely populated coastal areas
  - Coastal beach erosion

- Goals
  - Address legacy pollution
    - Aging and failing septic tanks
    - Flood prone developed areas
  - Beach re-nourishment
    - Habitat restoration
    - Community resiliency



Charlotte County – Project Proposals

- Charlotte Harbor Water Quality Improvement Program
  - Charlotte Harbor impaired for bacteria, nutrients, dissolved oxygen and mercury
  - Impairment sources
    - septic systems
    - storm water drainage systems
  - Design and install central sewer infrastructure
  - 30-year program



Charlotte County – Project Proposals

- North Manasota Key Beach Re-Nourishment Program
  - Storm protection to the critically-eroded beaches that comprise north Manasota Key, Florida
  - Enhanced shoreline recreational/aesthetic value

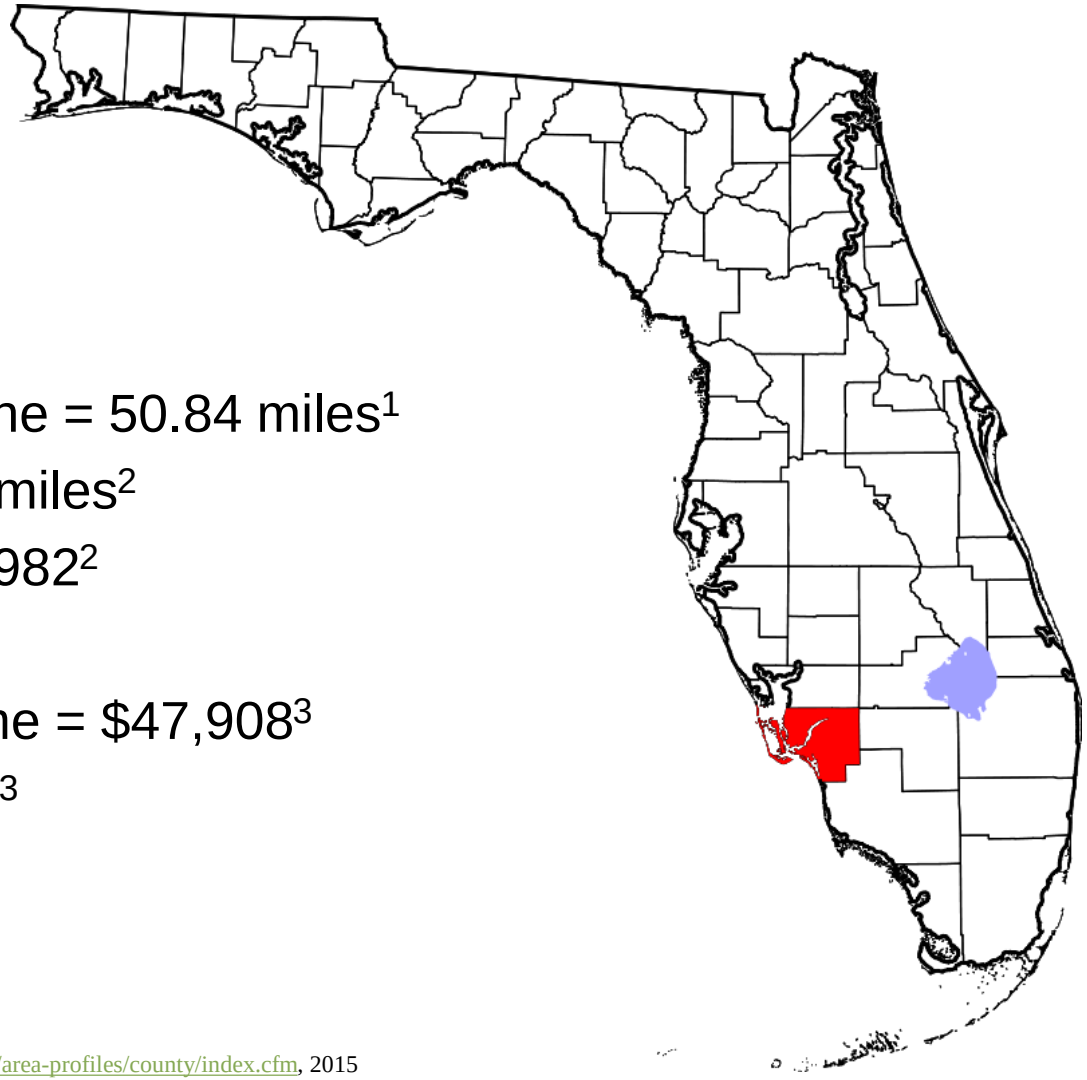
2009 North Manasota Beach

2016 North Manasota Beach

Charlotte County – Project Budgets

Project	Total Cost	Pot 3 Request	Other Potential Funding Sources
Charlotte Harbor Water Quality Improvement Program	$1 Billion over 30 years	$12.8 M	• County General Fund • MSBU Assessments • State Revolving Fund Loans • Pot 1, Pot 2 • DEP TMDL Grants • Legislative Appropriations • NRDA
Manasota Key Beach Nourishment Program	$26.8 Million	$TBD	• Manasota Key Beach Renourishment MSTU • FDEP Beach Management Funding Assistance Program

Lee County

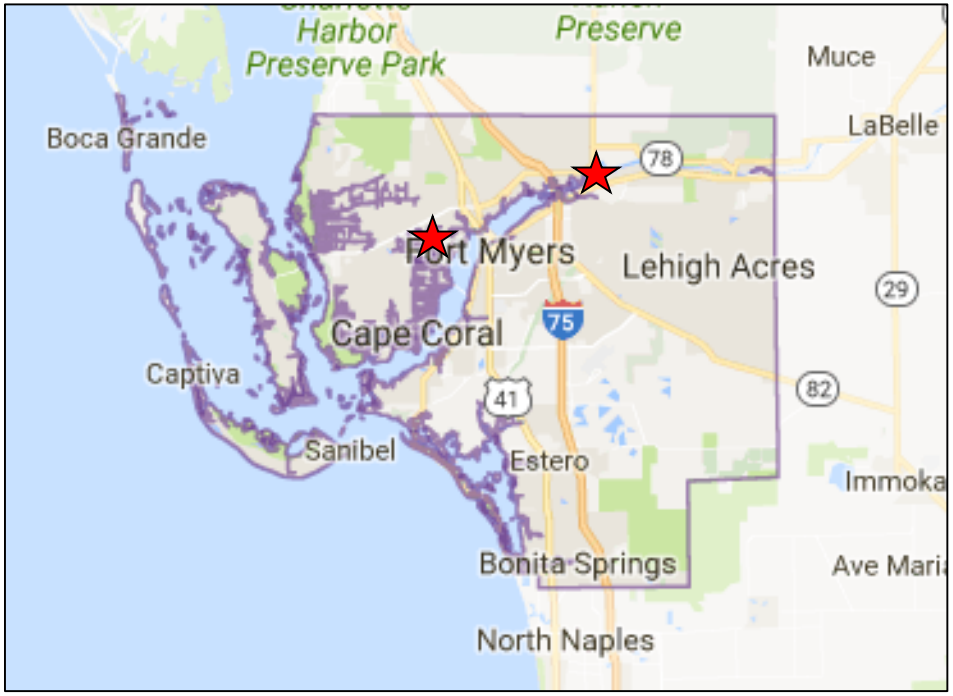


- Approximate Gulf shoreline = 50.84 miles[1]
- Land Area = 785 square miles[2]
- Population (2015) = 701,982[2]
- Density = 769/ sq. mi.[2]
- Median Household Income = $47,908[3]
- Median Age = 46.3 years[3]

1.ESA, 2016; 2. Wikipedia, 2015; 3. http://edr.state.fl.us/Content/area-profiles/county/index.cfm, 2015

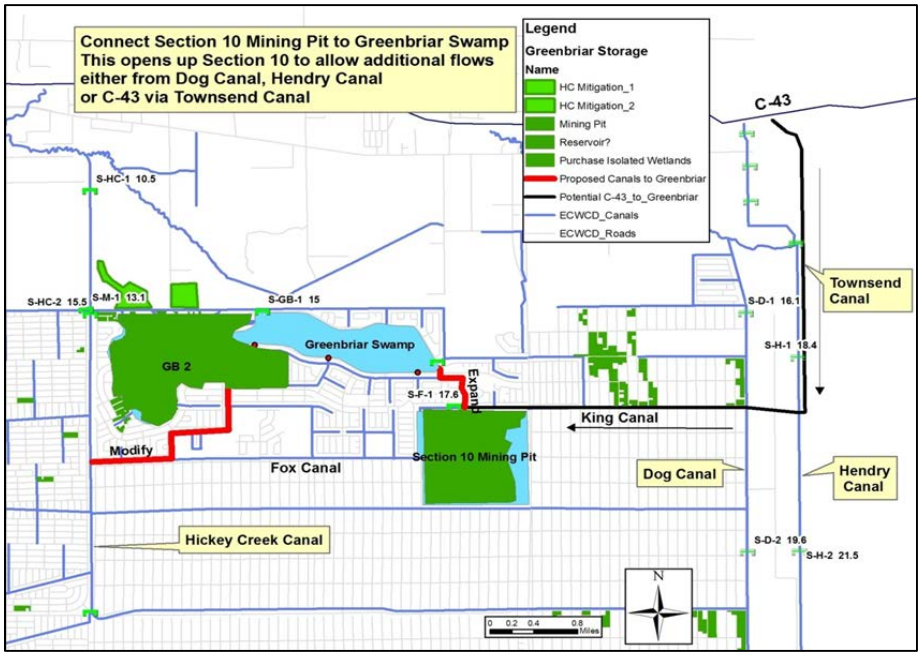
Lee County – Issues & Goals

- Issues
  - Impaired water quality in the Caloosahatchee River
  - Altered watershed hydrology
- Goals
  - Reduce pollutant loading to the Caloosahatchee River
  - Restore wetland hydrology
  - Septic to sewer conversion



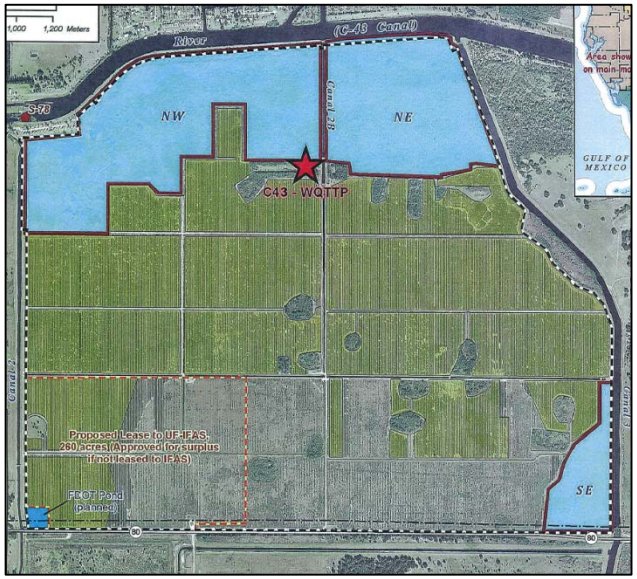
Lee County – Project Proposals

- Caloosahatchee River Water Quality Restoration Program
  - GS-10 Project
    - Water storage/Hydropattern restoration
      - Reduce peak discharges & pollutant loads
      - Greenbriar wetland restoration
      - Aquifer Recharge
  - Bob Janes Preserve WQ Program
    - Hydrologic restoration of Ag Fields
    - Address TMDL
    - Public access
  - Septic to Sewer
    - North Ft. Myers WQ Improvement Project
    - Impaired for bacteria & nutrients



Lee County – Project Proposals

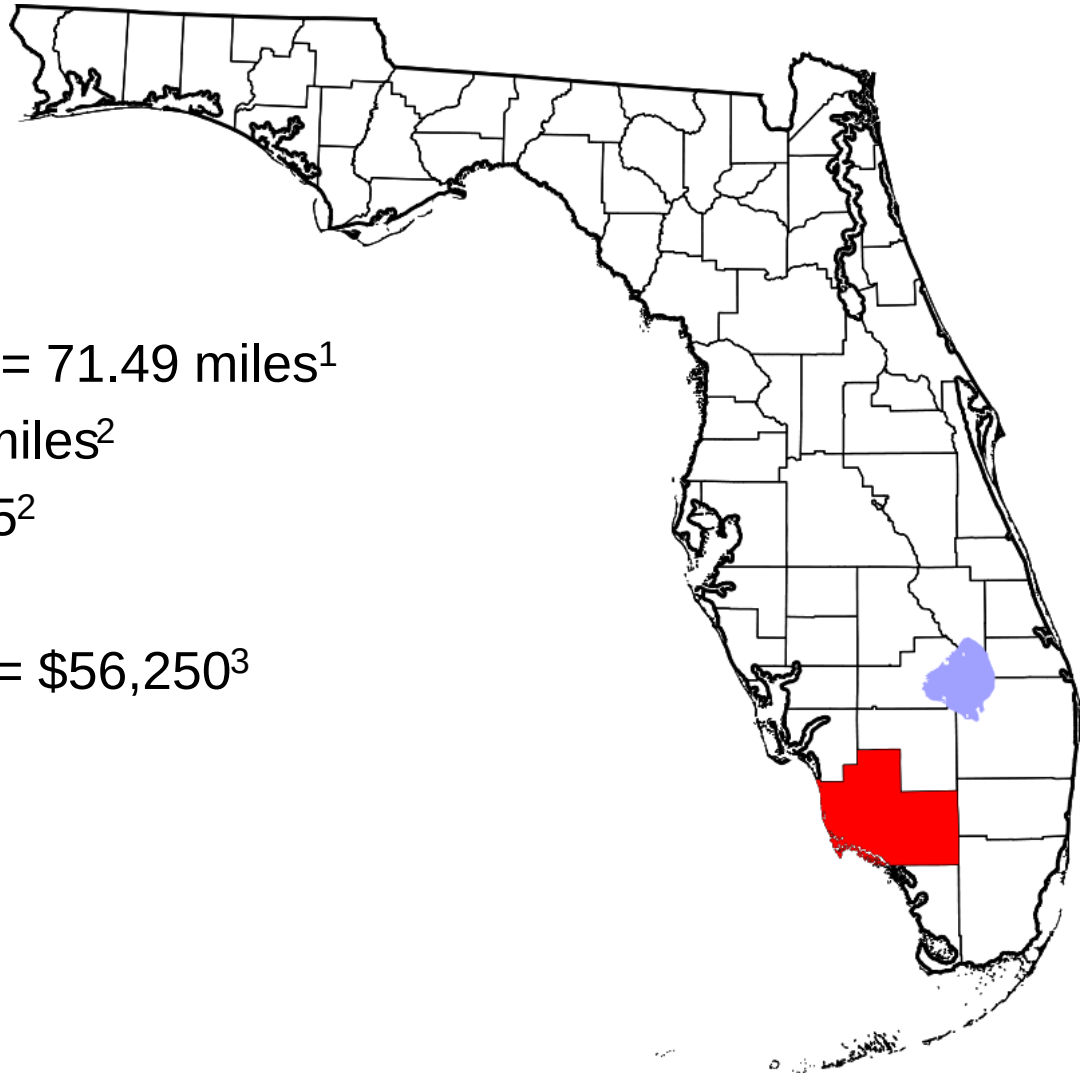
- Land Acquisition
  - Purchase of environmentally sensitive land
    - Hydrologic/habitat restoration
    - Water quality improvement
    - Public access
  - Adjoins existing preserve lands
- C-43 Water Quality Treatment Facility (BOMA)
  - 1,700 acre parcel in Glades County adjacent to Caloosahatchee River
  - Nitrogen reduction technology pilot project
  - Full scale stormwater treatment area



Lee County – Project Budgets

Project	Estimated Total Cost	Estimated Pot 3 Request	Other Potential Funding Sources
GS10	$TBD	$TBD	Lehigh Acres Municipal Services Improvement District (LAMSID)
Bob Janes Preserve	$TBD	$TBD	
North Ft. Myers Septic to Sewer	$TBD	$TBD	
Land Acquisition	$TBD	$TBD	
C-43 Water Quality Treatment Facility	$90M	$TBD	Lee County $10M towards $37M land purchase. Joint project with SFWMD

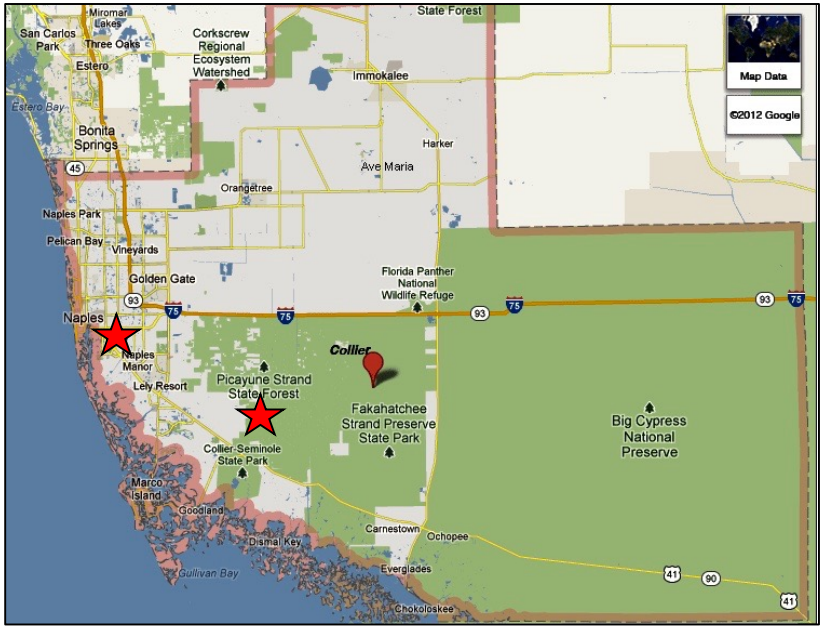
Collier County



- Approximate Gulf shoreline = 71.49 miles[1]
- Land Area = 1,998 square miles[2]
- Population (2015) = 357,305[2]
- Density = 161/ sq. mi.[2]
- Median Household Income = $56,250[3]
- Median Age = 48.2 years[3]

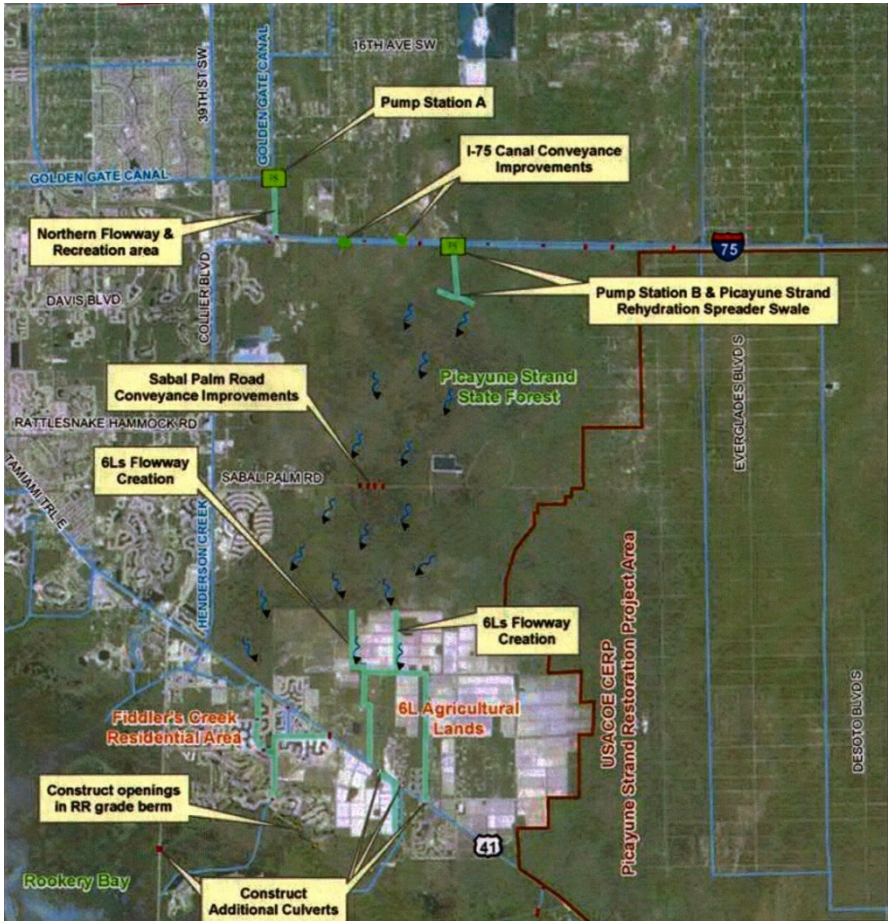
Collier County – Issues & Goals

- Issues
  - Legacy drainage and water quality impacts to Naples and Rookery Bays
- Goals
  - Restore natural salinity patterns in Naples Bay and Rookery Bay
  - Reduce pollutant loads to Naples Bay
  - Rehydrate Picayune Strand State Forest while maintaining new listed species habitat



Collier County – Project Proposal

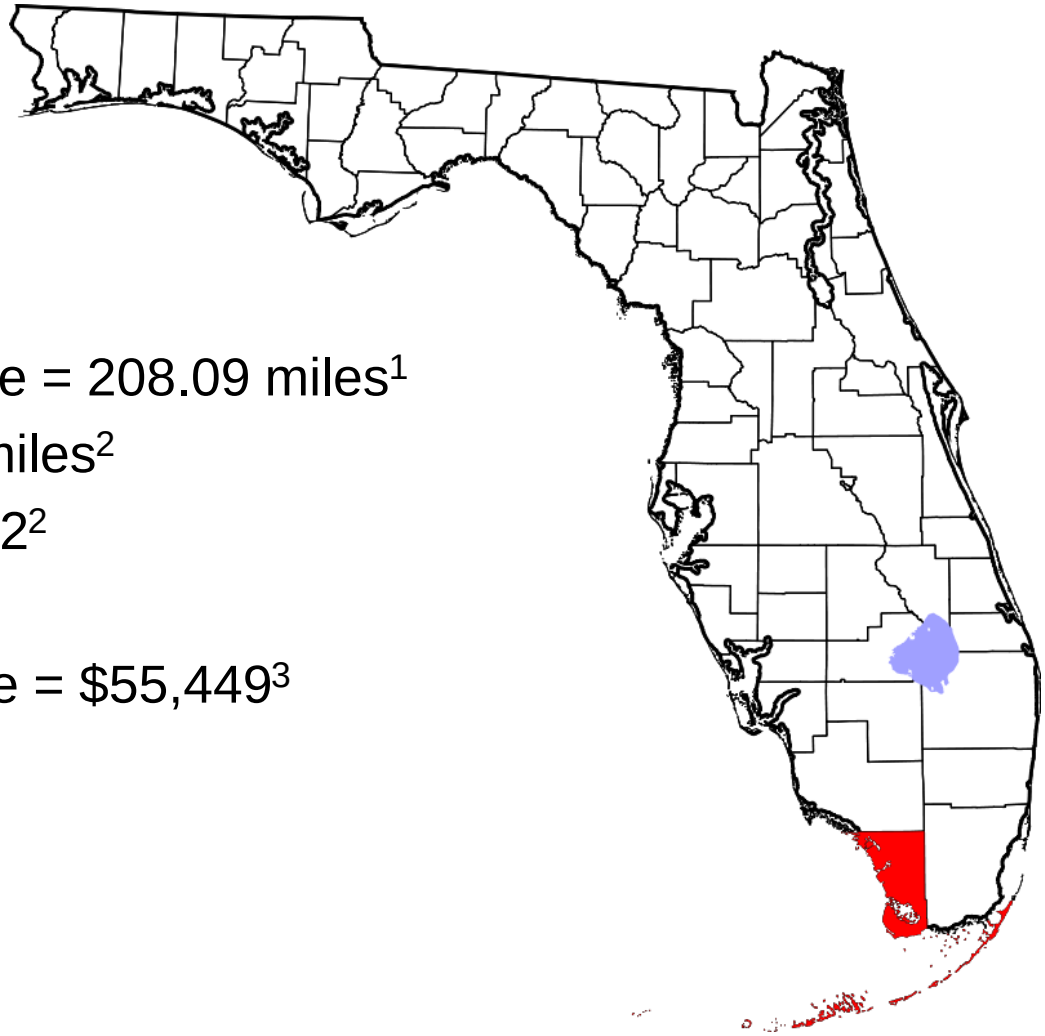
- Comprehensive Watershed Improvement Plan Implementation
  - Diverts flows from Golden Gate Canal to Picayune Strand State Park
  - Reduces excess freshwater inflows to Naples Bay
  - Restores historic freshwater inflows to Rookery Bay
  - Reduces nutrient levels in Naples Bay
  - Lowers possibility of fire in state forest
  - Recharges aquifer



Collier County – Project Budget

Project	Estimated Total Cost	Estimated Pot 3 Request	Other Potential Funding Sources
Collier County Comprehensive Watershed Improvement Plan	$31.9M	$12.8M	Pot 1, Pot 2, NRDA $250,000 (General Fund)

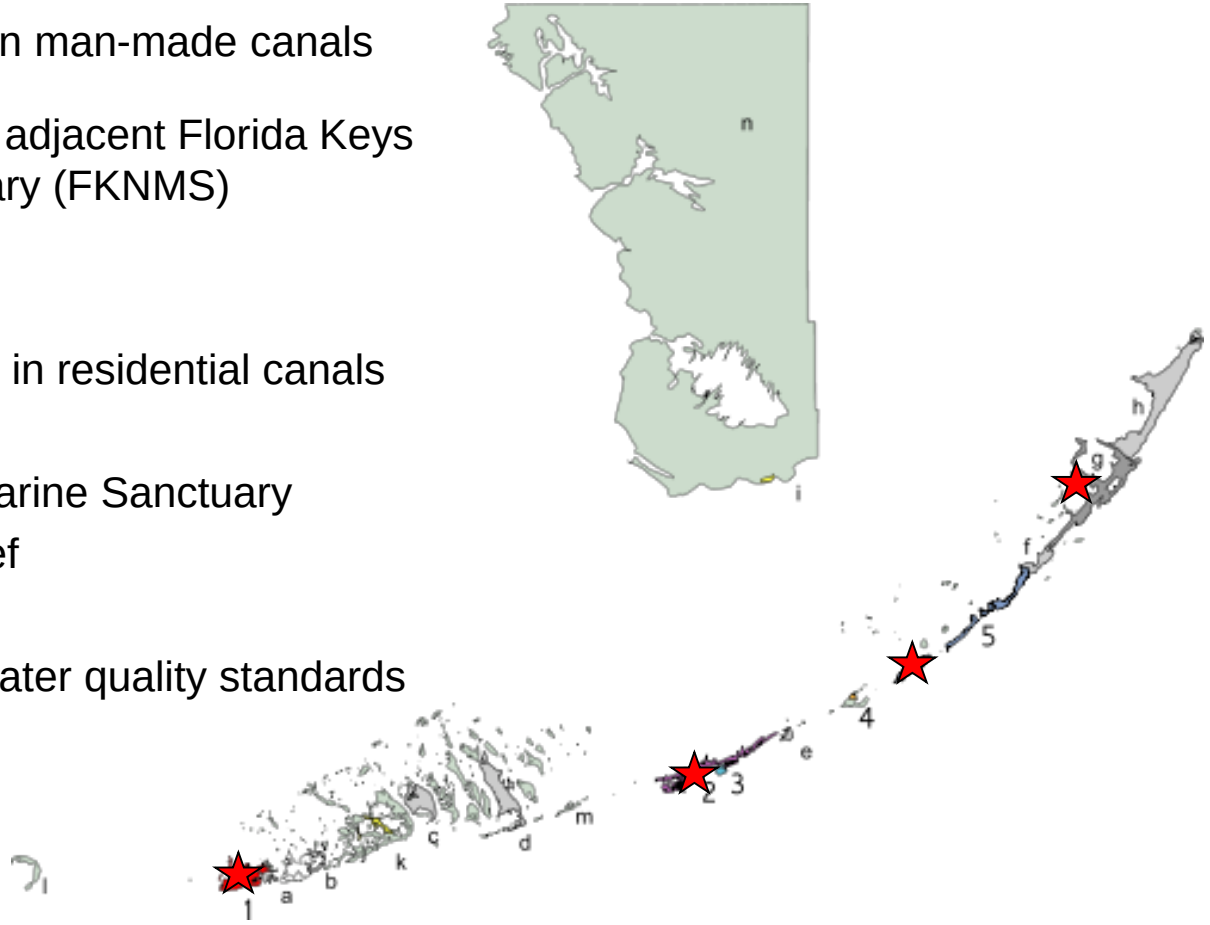
Monroe County



- Approximate Gulf shoreline = 208.09 miles[1]
- Land Area = 983 square miles[2]
- Population (2015) = 77,482[2]
- Density = 74/ sq. mi.[2]
- Median Household Income = $55,449[3]
- Median Age = 47.9 years[3]

Monroe County – Issues & Goals

- Issues
  - Degraded water quality in man-made canals
  - Water quality impacts to adjacent Florida Keys National Marine Sanctuary (FKNMS)
- Goals
  - Restore impaired waters in residential canals
  - Protection of National Marine Sanctuary water quality & coral reef
  - Compliance with state water quality standards



Impaired Canals

2/3 of the canals have either “Poor” or “Fair” water quality

Upper Keys – accumulated seaweed

Middle Keys – trapped seaweed

Summerland– trapped seaweed

Lack of flushing

Monroe County – Project Proposal

- Canal Management Master Plan
  - Legacy dredge & fill activities created 170 miles of canals
  - Many canals have little or no tidal flushing & accumulate detritus
  - Multiple methods identified to restore canal water quality
  - Pilot studies complete (6 canals)
  - Complements over $1B in wastewater & stormwater treatment upgrades

Monroe County – Project Budget

Project	Total Cost	Pot 3 Request	Other Funding
Florida Keys Canal Restoration	$671M	$12.8M	$6M (Pot 1) and $10M (local sources) NRDA

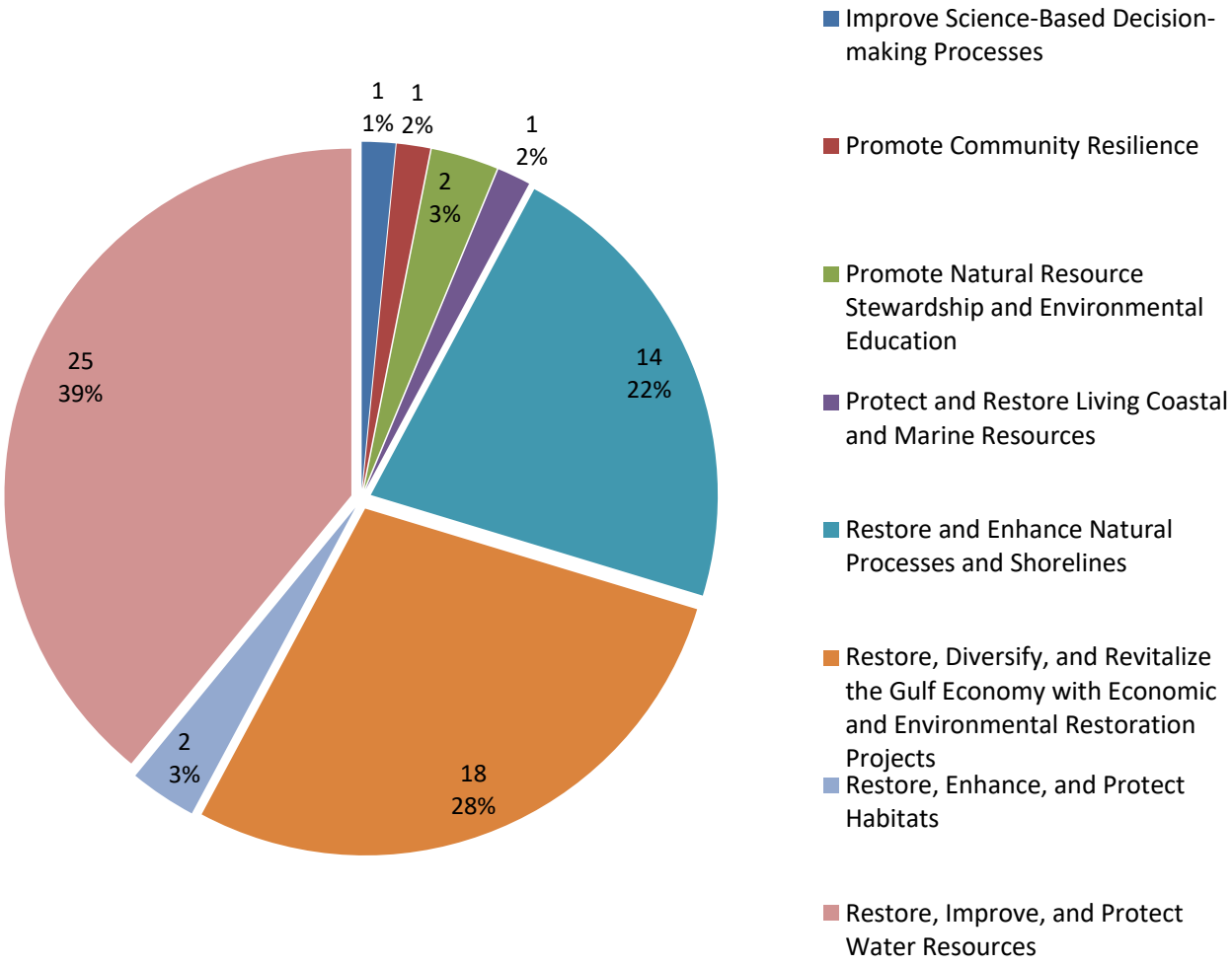
Observations and Conclusions

- This summary of initial County project proposals represents a first look at the SEP
- Most counties would propose different projects if the payout period were shorter than 15 years
  - Bonding options
    - FAC
    - State
  - Reimbursement for completed projects

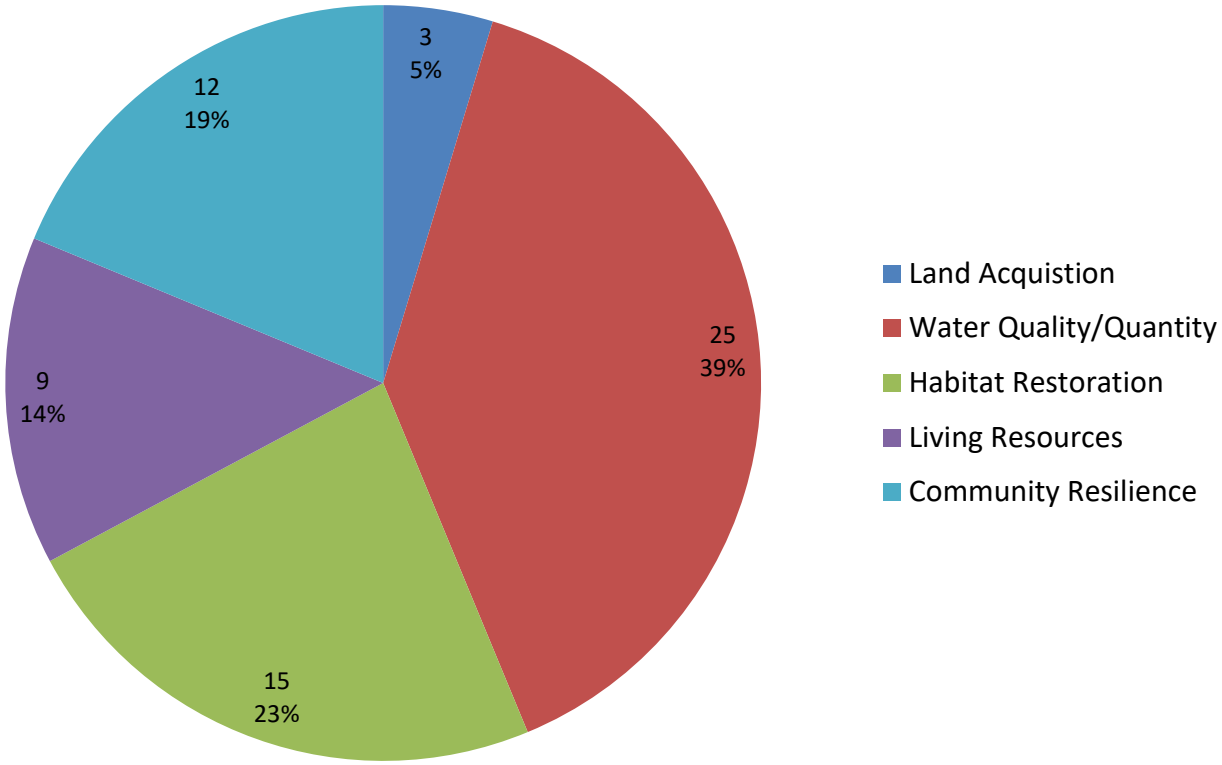
Observations and Conclusions

- Limited multi-county collaboration proposed
  - Big Bend/Springs Coast artificial reef program
  - Cross-county septic to sewer
- Diverse suite of projects addressing numerous RESTORE Act eligible activities
  - Reflects local government priorities
  - Addresses statewide issues
  - Coastal water quality is the primary focus

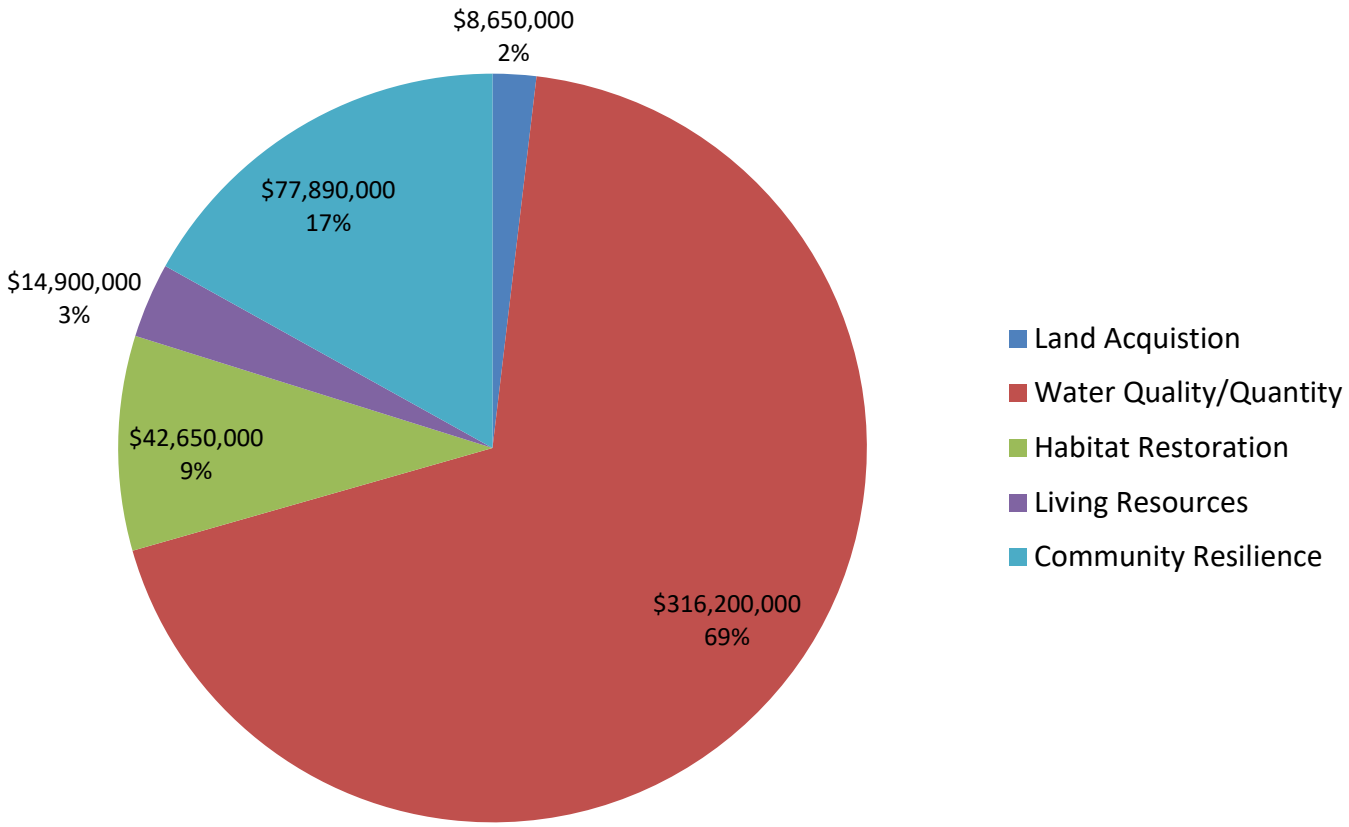
Projects by RA Eligible Activity



Projects by DEP Category



Project Dollars by DEP Category



<u>Totals</u>
64 projects
$460,290,000

Observations and Conclusions

- Wide range of project “readiness”
  - Many are concepts only
  - Conceptual design & feasibility studies completed
  - Permits in hand
  - Only a few are truly “shovel ready”
- Vast majority of proposed projects need further definition and refinement
  - Conceptual design
  - Feasibility assessments
  - Realistic cost estimates

Recommendations

- Not meant to fill holes in departmental budgets or fund ongoing programmatic functions
- Fewer large projects are definitely preferred over numerous small projects
- Projects should have clear beginning and end points
- Several related projects should be rolled up under a single program or theme
- All projects must demonstrate quantifiable benefits

Recommended Approaches

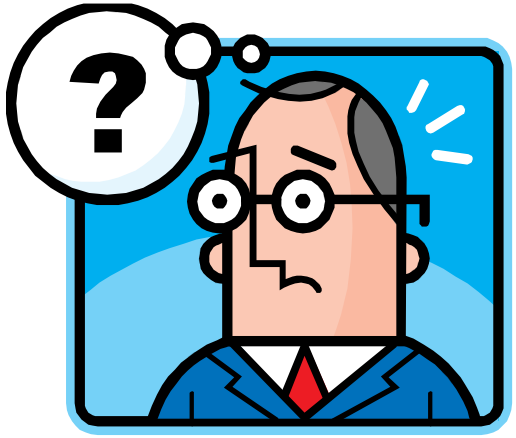
Single Project

Phase 1 – Baseline monitoring
Phase 2 – Feasibility assessment
Phase 3 – Design & permitting
Phase 4 – Construction
Phase 5 – Success monitoring

Multiple Projects

Theme	Programs	Projects
Water quality improvement in Jones Bayou	Septic to Sewer	Project 1 Project 2
	Stormwater Retrofit	Project 1 Project 2

Questions & Discussion



Gulf Shoreline Delineation