

Florida Water Resources Monitoring Council

Coastal Monitoring Network
Information Gathering

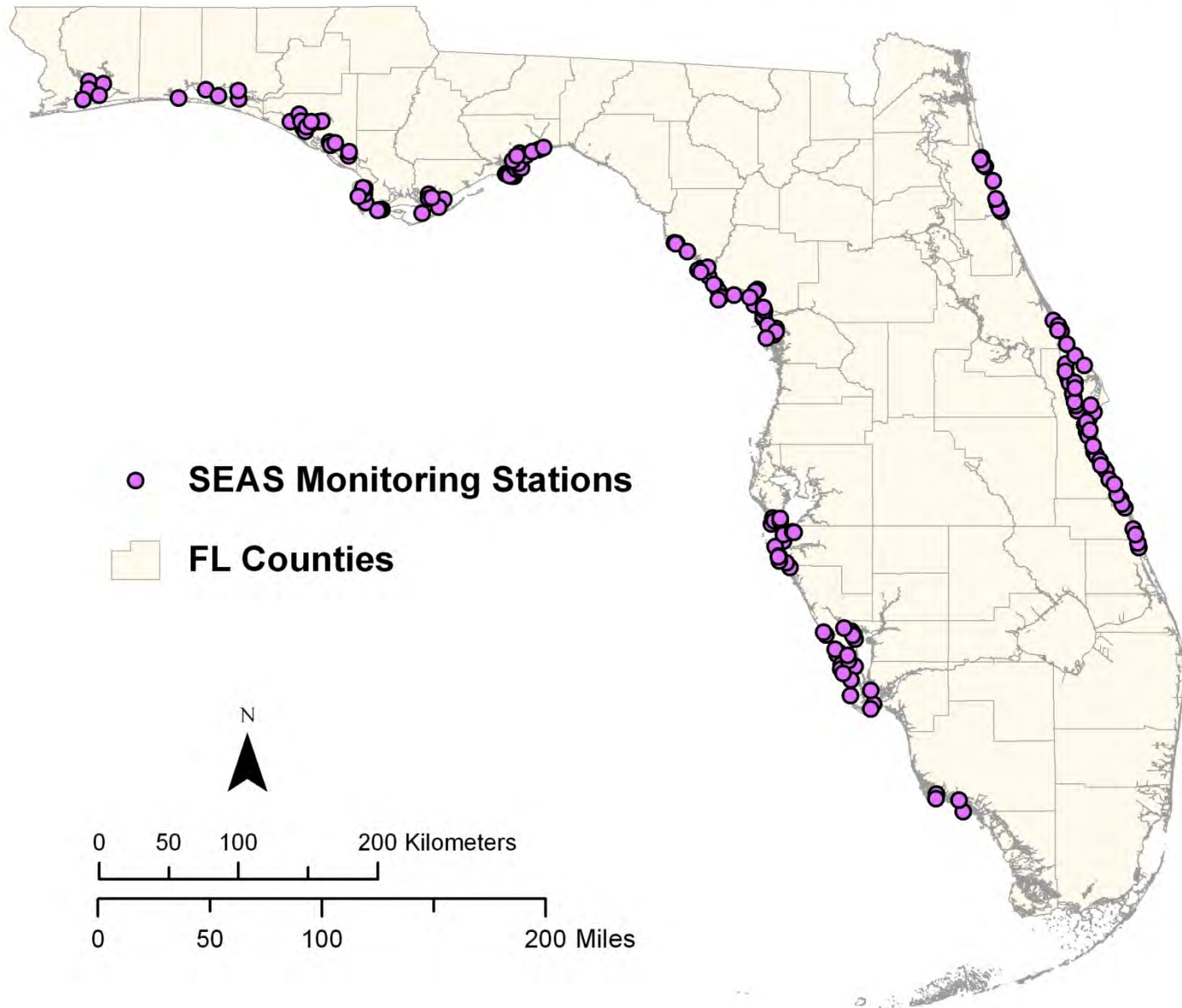
Florida Dep't of Ag and Consumer Services

- **Objective: Human Health Resource Protection**

Statewide marine monitoring network focused on Protection of public health for consumers of molluscan shellfish by monitoring for:

- Fecal coliform (as an indicator of mammalian waste) in estuarine waters ;
- Phys/Chem properties

FL DACS SEAS - Monitoring Stations (as of Jan 2012)



Florida Dep't of Ag and Consumer Services

Event specific:

- Harmful algal blooms in estuarine waters and their associated marine biotoxins (NSP, PSP, ASP, DSP) in shellfish
- Polycyclic aromatic hydrocarbon (PAH) presence in association with oil spill or:
- oil resuspension sampled only as needed

Florida Department of Health

Healthy Beaches Initiative

- Objective: Human Health Protection for Recreation
- Florida conducted weekly sampling at 304 beaches for fecal coliforms and enterococci since August 2002 to Sept 2011.
- 34 county health departments handle sampling, some lab work and notification in their respective counties while the state health office handles the data collection and reporting process and policy making

Healthy Beaches Initiative, continued

Starting September 2011:

- Change from weekly to bi-weekly testing
- Suspend winter sampling at northern locations
- Test for only enterococci, eliminate coliform
- Beaches that will continue to be monitored
 - Retain swim seasonal 246 of 304 beaches
 - Retain 144 year-round beaches

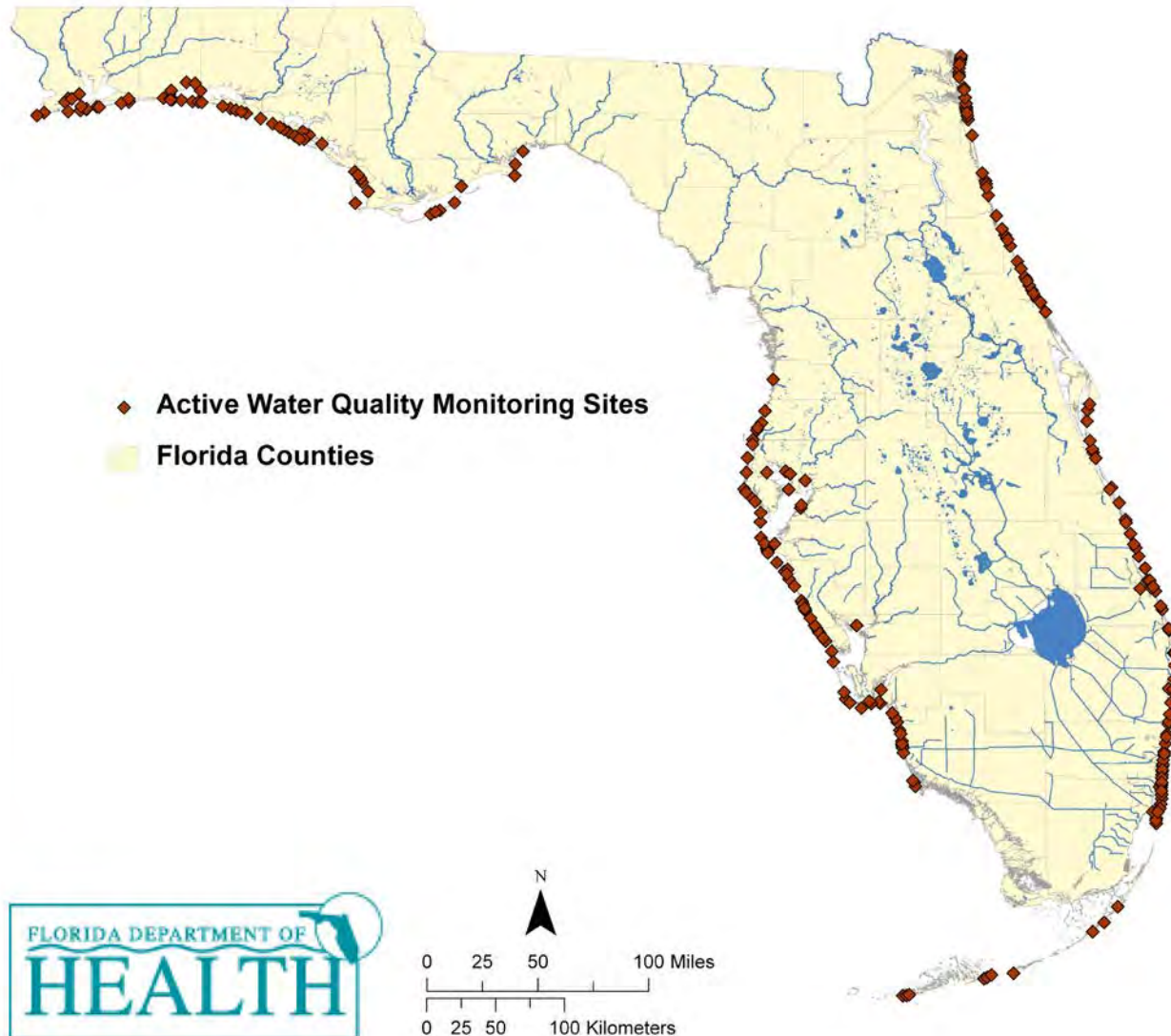


Healthy Beaches Initiative, continued

- Advisory data is sent to EPA directly by DOH for beach advisory postings
- DEP uses data for impaired waters rule

Credit for Information provided: Bob Vincent, DOH

Florida Department of Health Healthy Beaches Program



Florida FWCC (FWRI)

- Multiple initiatives:
 - 5 year rotation National Coastal Condition Assessments (EPA initiative) - WQ, biological, habitat monitoring
 - NASA remotely Sensed Optical Water Quality – Suwannee Estuary. Objective: determine seagrass loss and gains in the Big Bend
 - Seagrass Integrated Mapping and Monitoring – statewide, multiple agency initiative: WQ monitoring, seagrass cover
 - South Florida, fisheries habitat assessment: WQ. Seagrass community dynamic relationships

Florida FWCC (FWRI)

- Coral monitoring in Florida Keys and Dry Tortugas to determine extent/condition of coral communities
- HAB monitoring, multiple agency support to provide data in support of FDACs shellfish harvesting areas
- “MARVIN” monitoring: looks at multiple metrics: WQ, algae, currents, meteorology, nitrate, urea sensors, and contains a water sampling device (Sarasota Bay)
- Fisheries monitoring, multiple objectives, including documenting changes in the biological condition of Florida’s estuaries. Collect WQ, weather, habitat types, etc.

Department of Environmental Protection

- *Estuarine Numeric Nutrient Criteria (NNC)* – Utilizing different data sources to develop NNC. Current monitoring includes standard WQ monitoring, with concurrent fish sampling, and community based biological assessments
- *Ocean Acidification* – current monitoring for pH and phys/chem constituents to address TMDL challenges
- *Mercury* - monitoring as part of multi-agency cooperative effort to determine sources and possible strategies to reduce mercury in fisheries
- *Trend Monitoring* – To determine WQ trends overtime and determine loading from watershed basins
- *Coastal and Aquatic Areas*: Aquatic preserves monitoring

Estuarine Numeric Nutrient Criteria (NNC)

- Adequate data is needed to continue to develop/validate NNC in Florida estuaries. These are regional, not state-wide criteria
- Need: A physical/chemical description of each system, including causal parameters (nutrients) and supporting variables (hydrodynamics, water residence time, transparency, salinity, dissolved oxygen [DO], etc)

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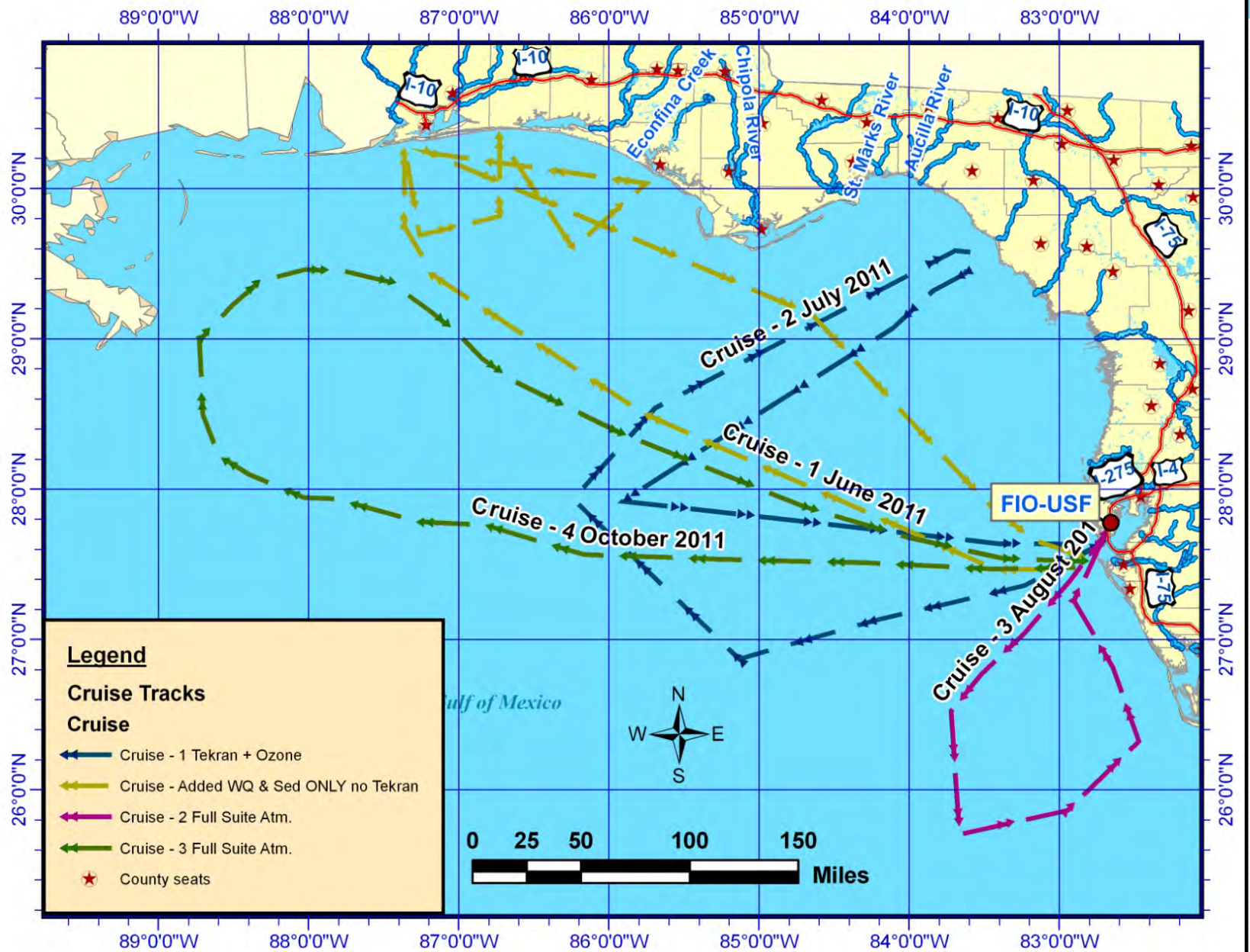
Mercury monitoring

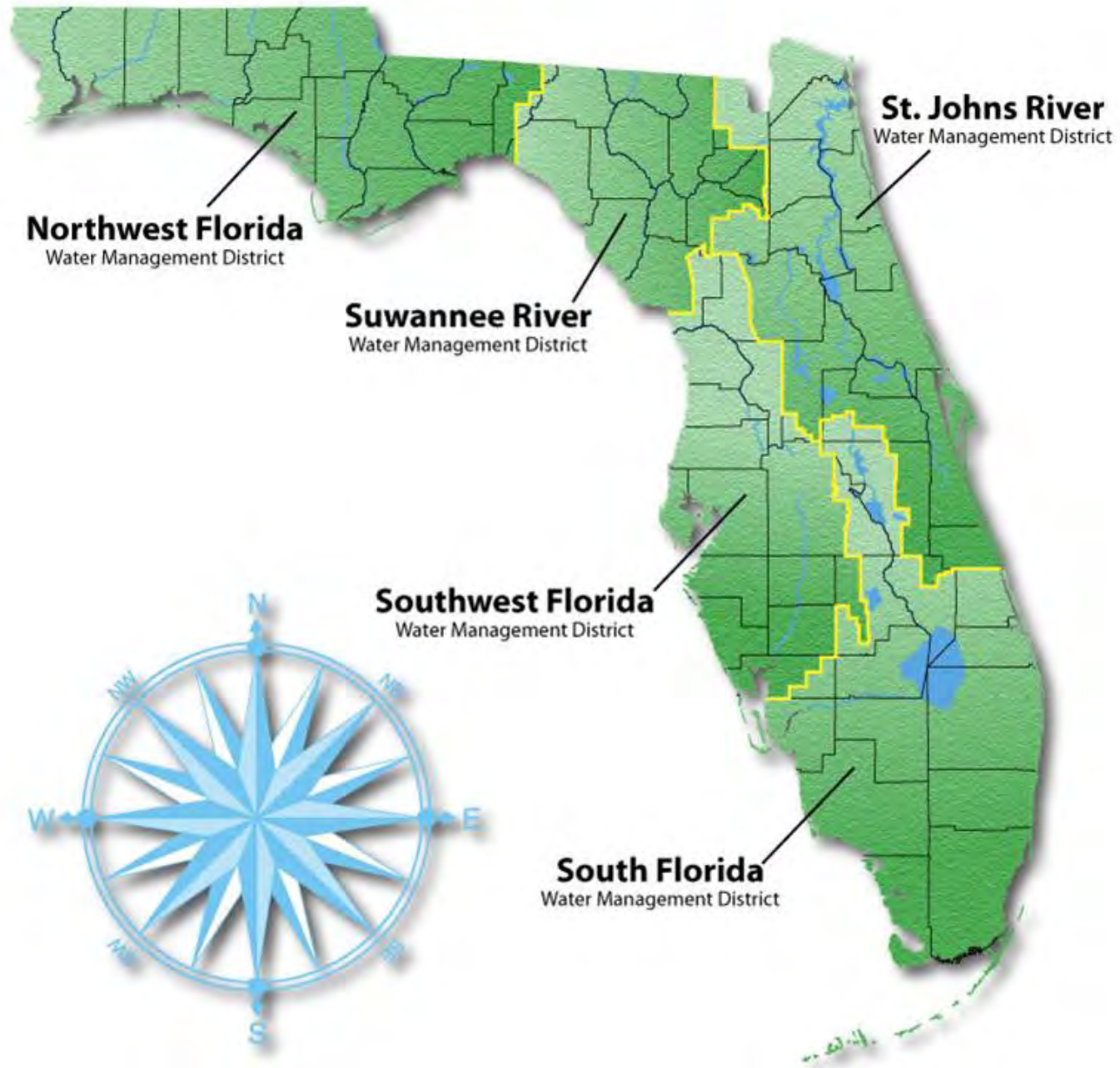
Objective: Hg goal - safe Hg concentration in fish for the 5 Gulf States and the U.S. Additionally, Florida directed to develop Hg TMDL

Florida DEP, DOH, FWC, and DACS work together to determine sources and processes of Hg cycling

- Past effort involving stations that collected Hg information has been curtailed. Data are now being incorporated into development of models.
- Currently gathering water, sediment and atmospheric data from off-shore









Northwest Florida WMD

- Objective: measure trend in coastal WQ condition
 - bi-monthly sample collection on eight near shore sites for nutrients and standard WQ analyses
 - Supports volunteer monitoring efforts in Florida Panhandle coastal bays



NWFWMD Coastal Monitoring Sampling Sites

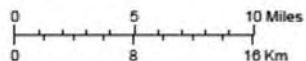


Monitoring Parameters

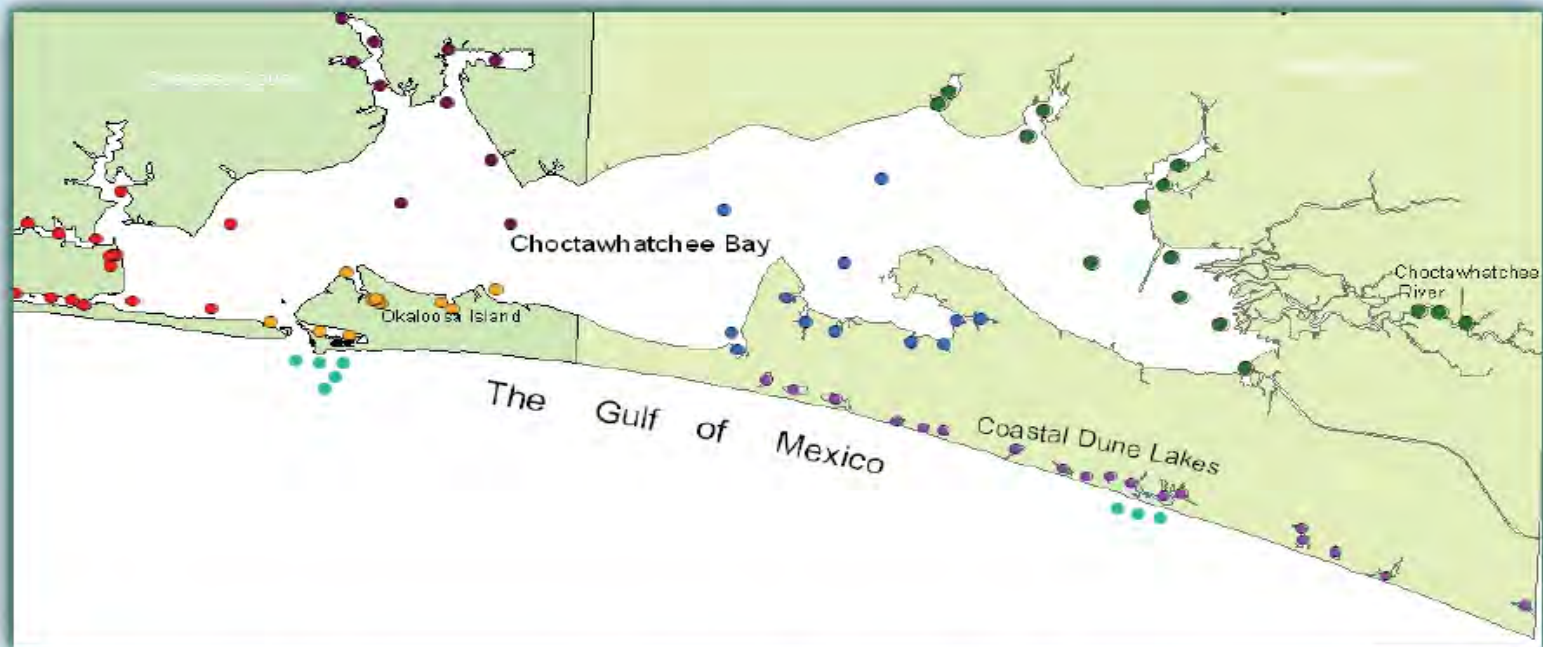
Bi-Monthly

Nitrate + Nitrite	Turbidity
Ammonia	Color
Total Kjeldahl Nitrogen	Temperature
Total Phosphorous	pH
Chlorophyll a	Specific Conductance
Photosynthetically Active Radiation	Dissolved Oxygen
Total Depth	Secchi Depth

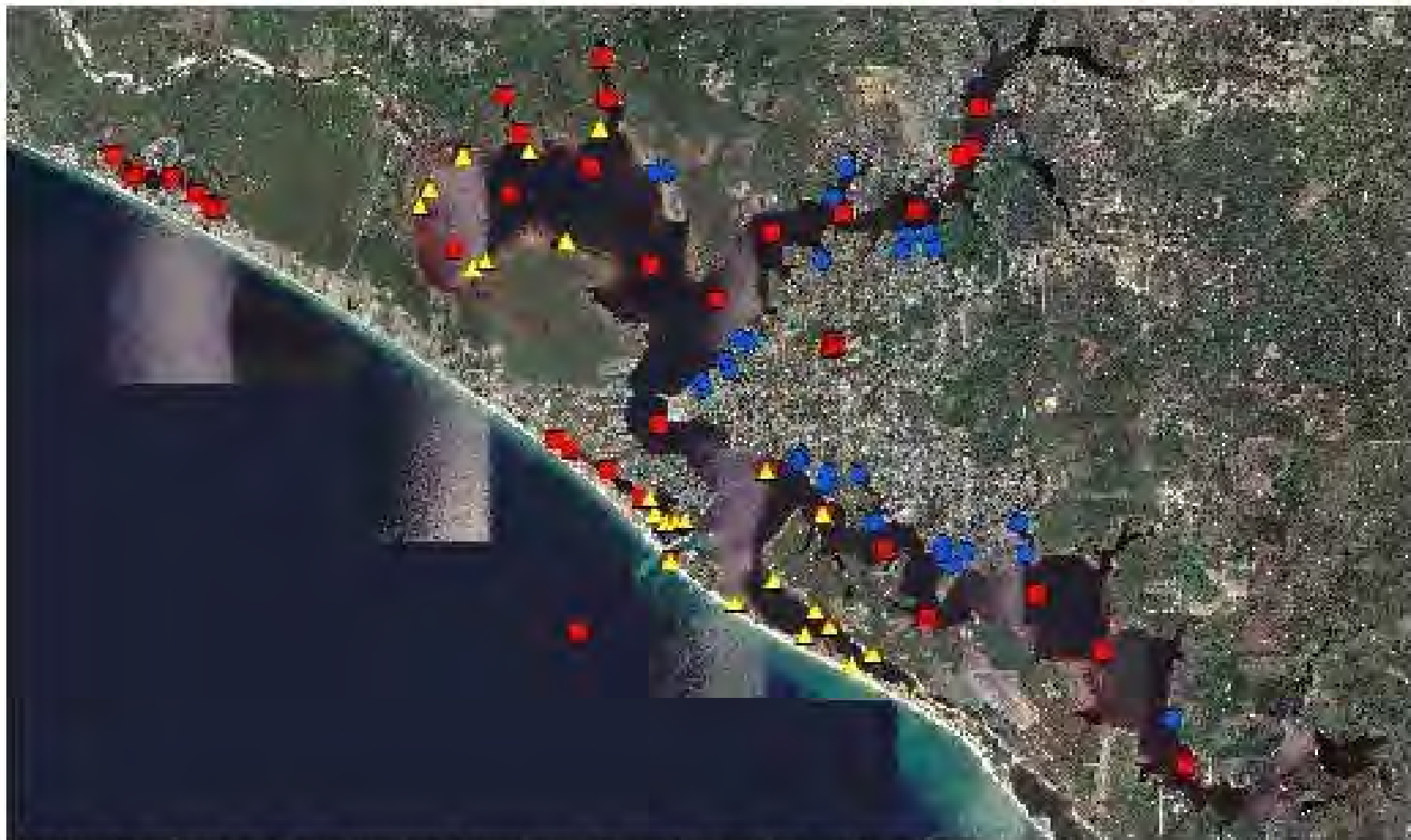
■ Water Quality Monitoring Sites



Monitoring: CBA coordinated long-term watershed sampling stations



- Over 100 sampling areas monitored by dedicated volunteers
- What is sampled monthly?
 - Surface: Total phosphorus, Total nitrogen, Chlorophyll, Water clarity, Color
 - Surface & Bottom: Temperature, Oxygen, Salinity, Turbidity, pH

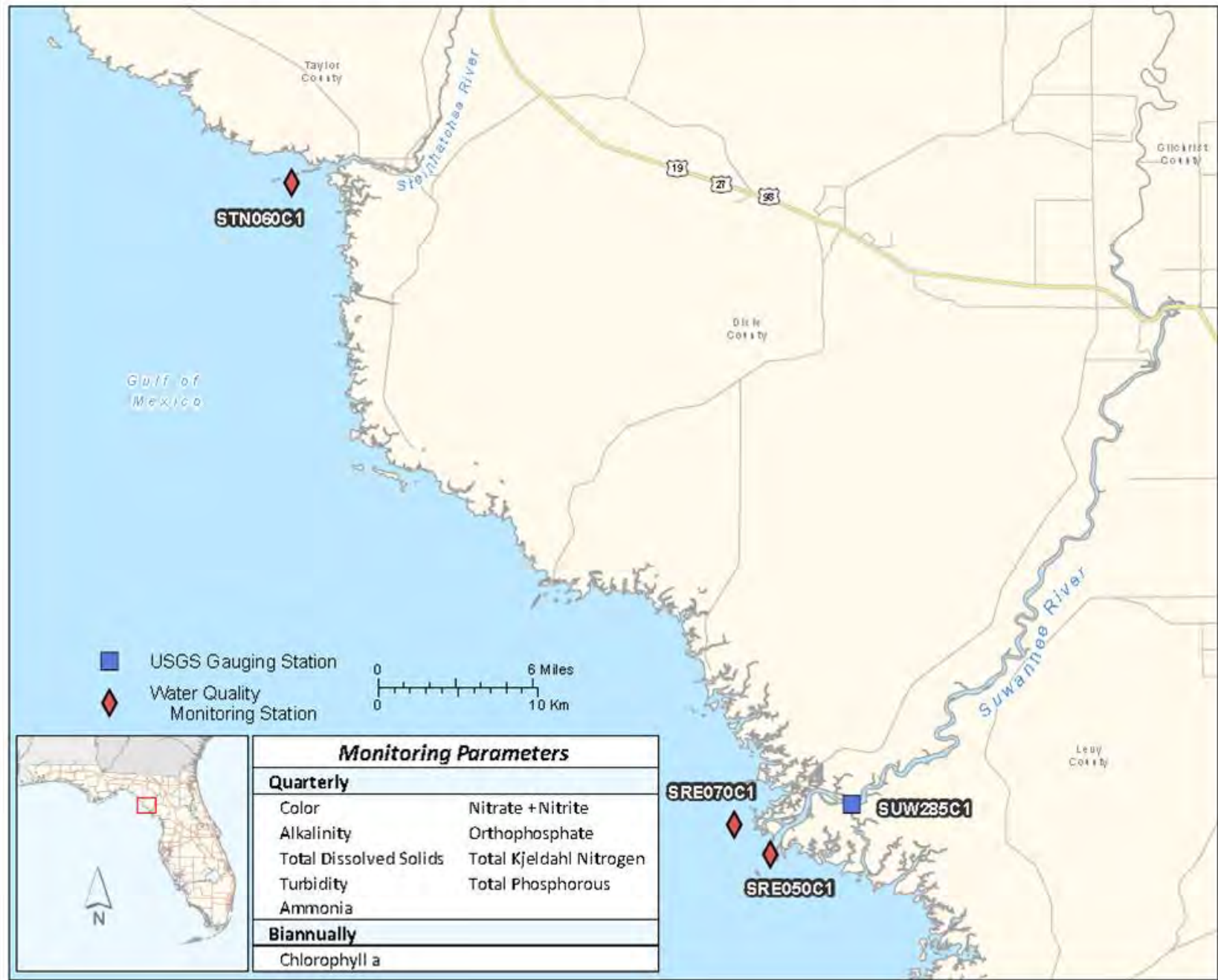


St. Andrew Bay Resource Management Association Baywatch water quality monitoring stations designated for University of Florida (UF - Red Squares), general Baywatch (BW - Blue Circles), and SeaGrass (SG- Yellow Triangles) site monitoring.

Suwannee River WMD

- Objective: Water quality condition reporting
- Coastal monitoring for water quality is limited to two sites in the Suwannee estuary, and one in Steinhatchee Sound.
- Stage and flow data is collected from the Suwannee River above Gopher River (02323592, USGS gauge). Continuous salinity, conductivity, and temperature are measured at two depths at this gauge.

SRWMD Coastal Monitoring Sampling Sites

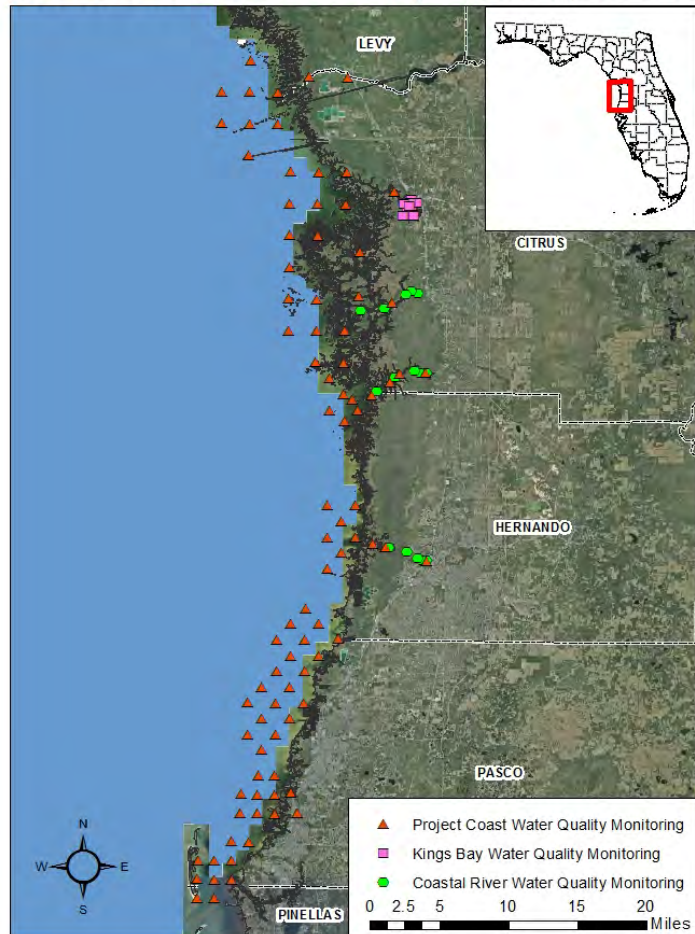


Suwannee River WMD

- Need water quality monitoring to determine long-term WQ trend at the mouth of the Waccasassa, Econfinia, Fenholloway, and Aucilla rivers.
- Need to establish a long-term network of coastal wells to monitor changes in salinity in the Floridan aquifer.

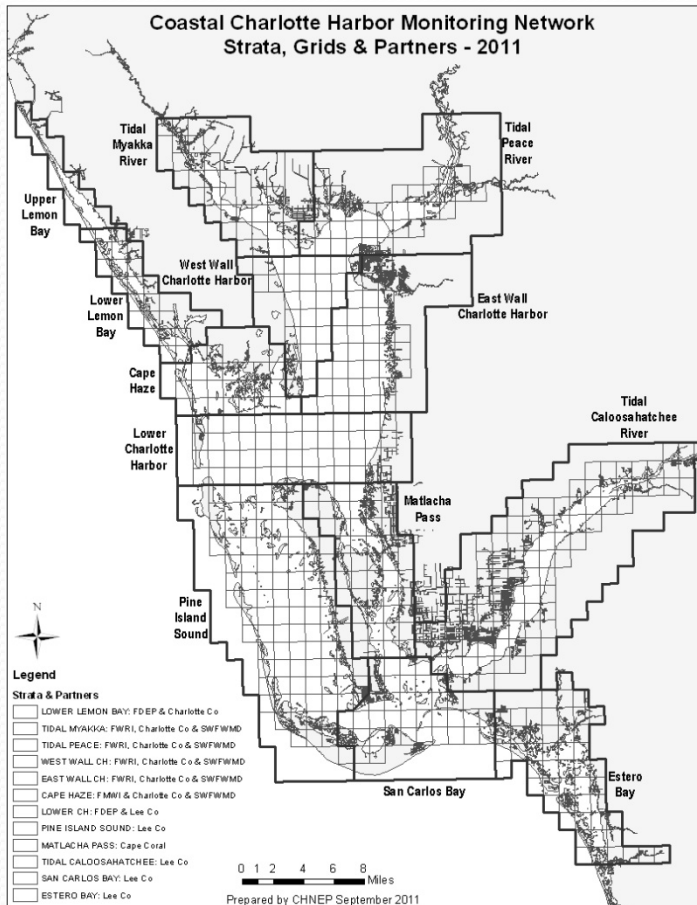
SW Florida WMD

SWFWMD Coastal Water Quality Monitoring Stations



- ***Project Coast Water Quality Monitoring.*** Data from this project are used to examine status and trends in water quality of nearshore Gulf Coast waters and tidal rivers adjacent to the Springs Coast and Pasco County.
- ***Kings Bay Water Quality Monitoring.*** Quarterly measurements of parameters related to water quality and water clarity are collected at fixed location sites on Kings Bay. Data are used to assess spatial and temporal trends in water quality and clarity.
- ***Coastal Rivers Water Quality Monitoring.*** Long-term monitoring for surface water quality data in the Homosassa, Chassahowitzka and Weeki Wachee spring-fed river systems. Data collected are used to monitor and evaluate changes in aquatic systems, to assist managers in developing restoration strategies to documented problems (mainly stormwater improvement)

SW Florida WMD, continued



Charlotte Harbor Water Quality Monitoring

- The purpose of the water quality monitoring is to establish a long-term database of water quality conditions within the estuary and provide essential data for planning and management of habitat restoration and water quality improvement projects. This is a long-term monitoring project that utilizes a random sampling design over 5 strata in Charlotte Harbor

SW Florida WMD

Continued monitoring of the three estuaries through the local government, state and NEP partnerships is critical to managing estuarine resources. For the Gulf of Mexico, work conducted by Mote on red tide is important, as is the monitoring of seagrass health both in the estuaries and along the coast.

Coastal monitoring along Pasco Co. will be discontinued. Funding to support continuance of this would be beneficial, but the SWFWMD would most likely not take the lead.

Funding is needed to support how to determine, and monitor, periphyton “loads” on seagrass.

South Florida WMD

- WQ and hydrological monitoring throughout WMD
- Sediment/sed tox monitoring
- Everglades and other restoration monitoring
- Over 105 projects throughout the district – more information will be provided with regard to specifics on programs

Sarasota Co.

- Monthly Sampling Frequency
- HAB sample collection
- WQ Parameters monitored:
 - Water Temperature
 - Specific Conductance
 - Salinity
 - Dissolved Oxygen
 - pH
 - Water Depth
 - Secchi Depth
 - Turbidity
 - Total Kjeldahl Nitrogen
 - Nitrate + Nitrite
 - Total Phosphorus
 - Chlorophyll a
 - Pheophytin
 - Color
 - pH



