

Florida's Coral Reef Water Quality Data Compilation, Analysis and Decision Support

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Florida Fish and Wildlife Conservation Commission (FWC)

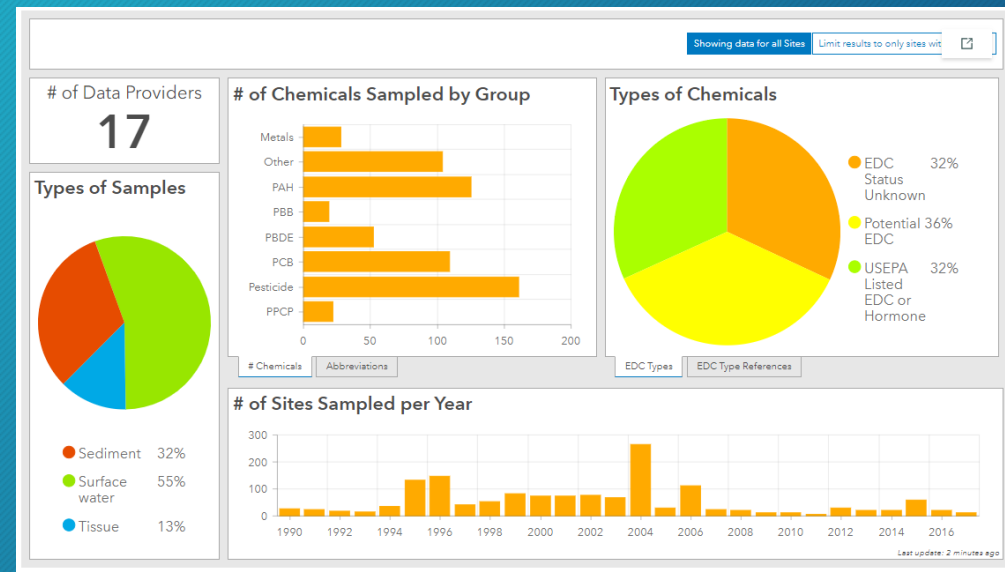
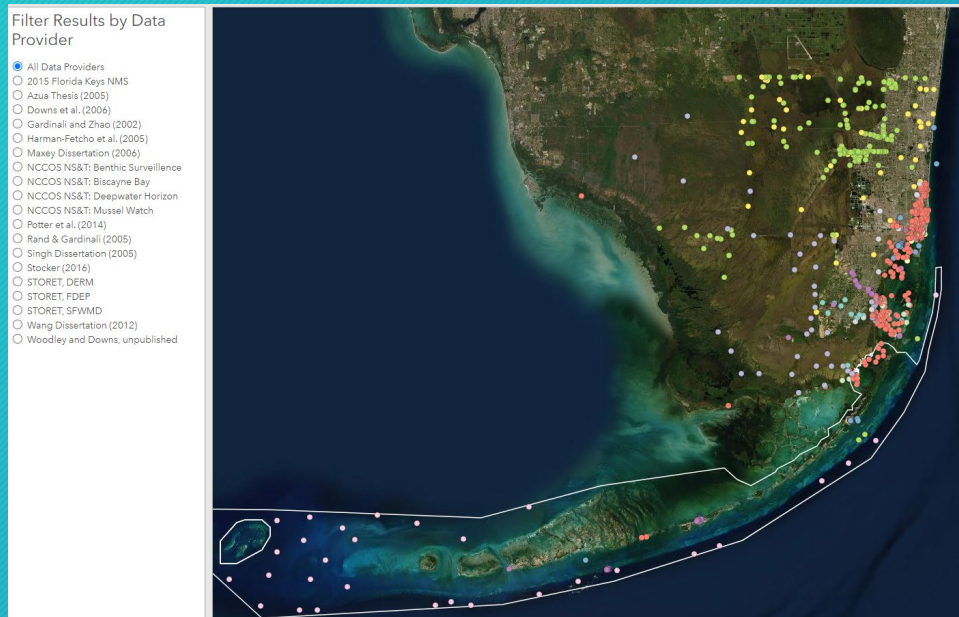
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Project Team

- Renee Duffey, FWC
- Andy Bruckner, Florida Keys National Marine Sanctuary (FKNMS)
- Karen Bohnsack, FKNMS
- Chris Kelble, NOAA Atlantic Oceanographic and Meteorological Lab (AOML)
- Alexandra Fine, AOML
- Kelly Montenero, AOML
- Emily Milton, AOML
- Frank Muller-Karger, University of South Florida (USF)
- Dan Otis, USF
- Tylar Murray, USF
- Department of Environmental Protection (DEP)

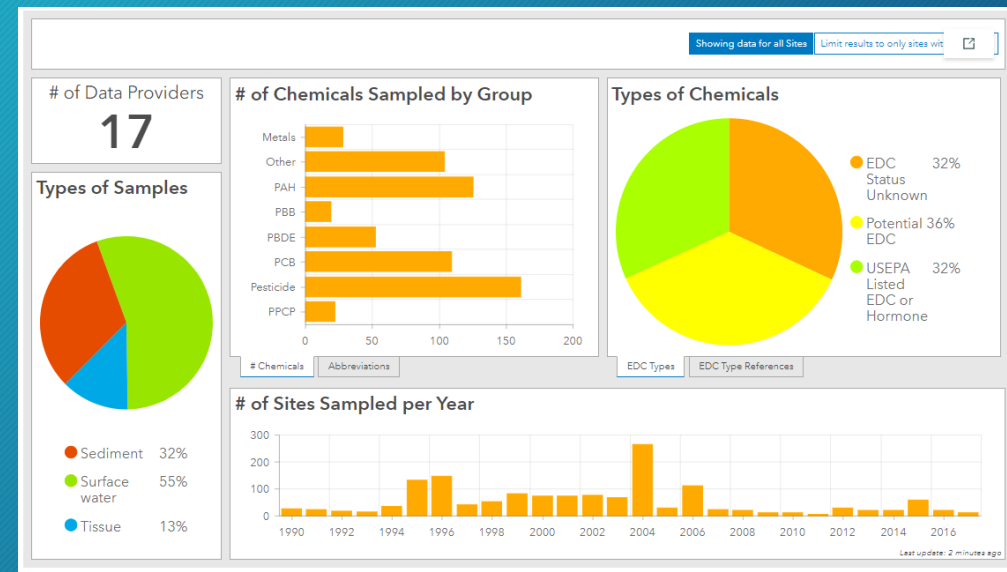
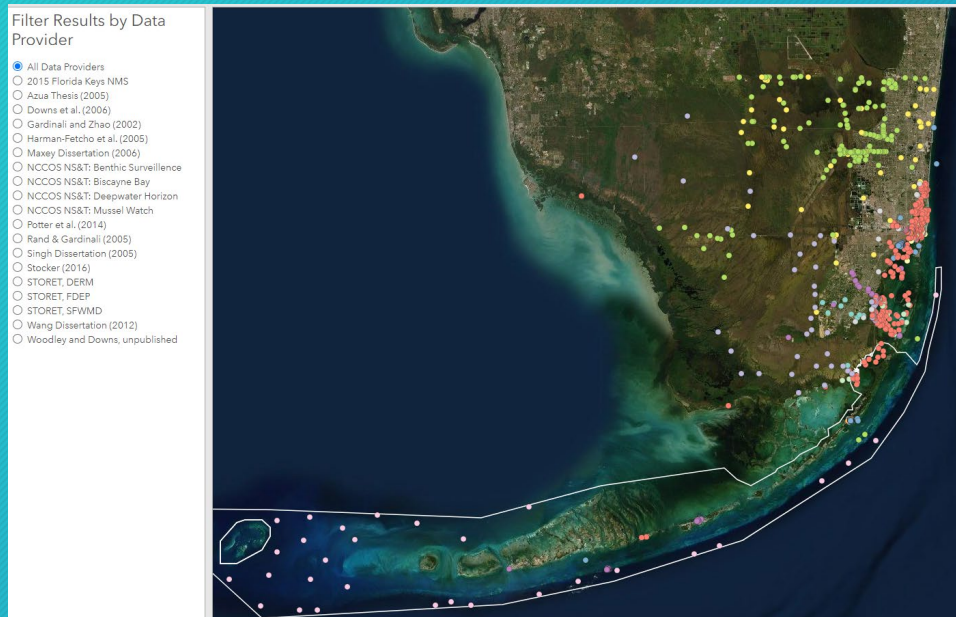
Background

- Each partner has some vested interest in water quality
- For example, Endocrine Disrupting Compounds (EDCs)
- Sampling is highly variable



Background

- Sampling variability is the challenge for water quality data
- No one program can capture everything
- Can we bring programmatic data together, given sampling, detection, etc.?



Goals

Given the recognized need to aggregate and visualize water quality data,

Leverage existing water quality databases, sampling efforts, programs, and satellite imagery products to do **four things**.

Goals

Leverage existing water quality databases, sampling efforts, programs, and satellite imagery products to:

- 1) Aggregate, crosswalk, and map water quality data
- 2) Determine how we can compare quantities between programs
- 3) Identify spatial and temporal hotspots and changing patterns from aggregate data
- 4) Integrate remote sensing data to validate data and identify additional hotspots

Where are we at?

Leverage existing water quality databases, sampling efforts, programs, and satellite imagery products to:

- ➡ 1) Aggregate, crosswalk, and map water quality data
- ➡ 2) Determine how we can compare quantities between programs
- 3) Identify spatial and temporal hotspots and changing patterns from aggregate data
- ➡ 4) Integrate remote sensing data to validate data and identify additional hotspots


Where are we at?

Leverage existing water quality databases, sampling efforts, programs, and satellite imagery products to:

- ➔ 1) Aggregate, crosswalk, and map water quality data
 - 5 to 10 years of sampling
 - Martin to Monroe County
 - Biscayne Bay, Florida Bay
 - Chlorophyll *a*, Temperature, Salinity, Nitrate+Nitrite (NO_x), Soluble Reactive Phosphorus (PO₄), Silica (Si), Turbidity, Total Nitrogen (TN), and Total Phosphorus (TP)

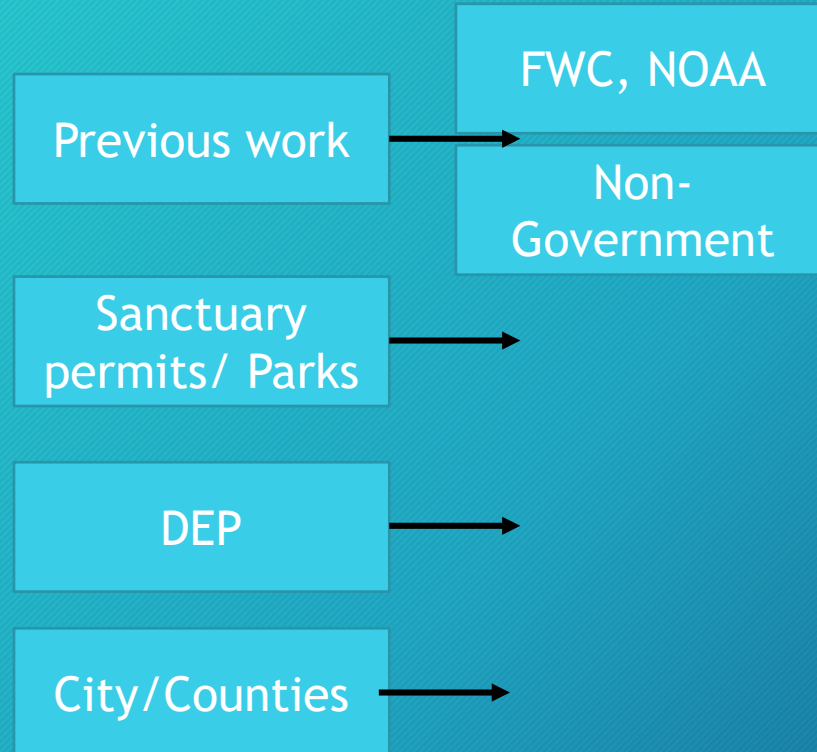
Where are we at?

Leverage existing water quality databases, sampling efforts, programs, and satellite imagery products to:

- 
- 1) Aggregate, crosswalk, and map water quality data
 - Have we overlooked a program?
 - Think about a long-term database solution
 - A Unified Reef Map for water quality

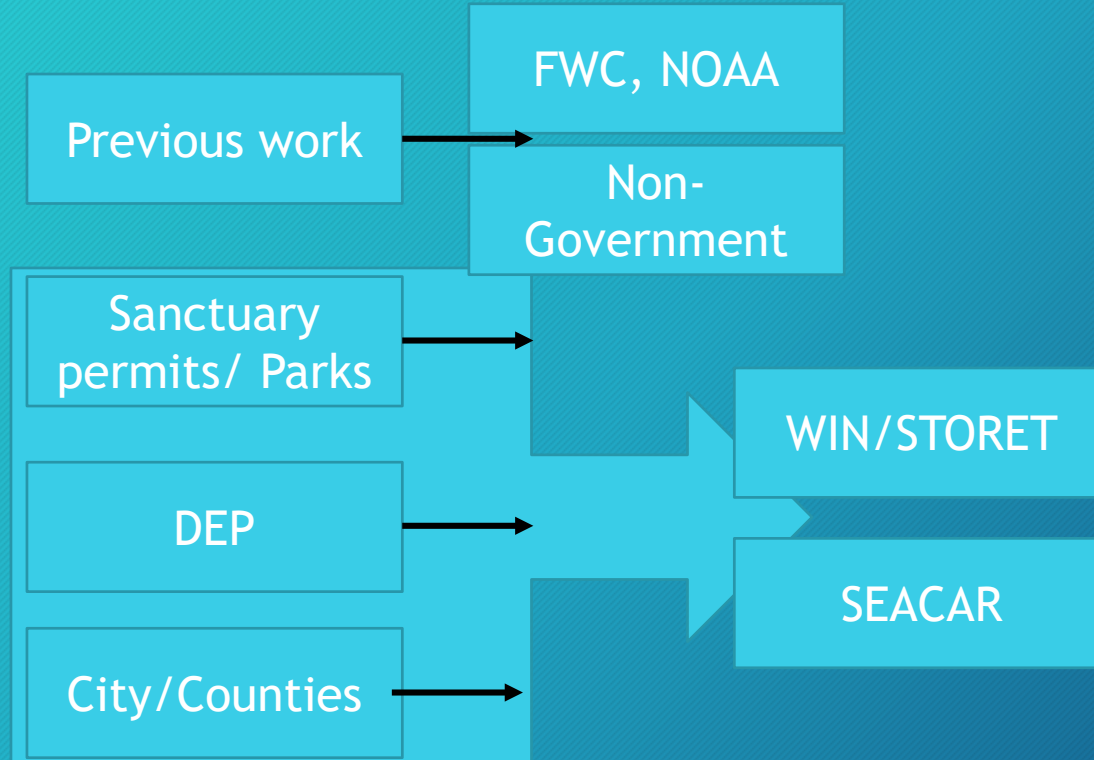
Aggregate, crosswalk, and map water quality data

Sources To Date:



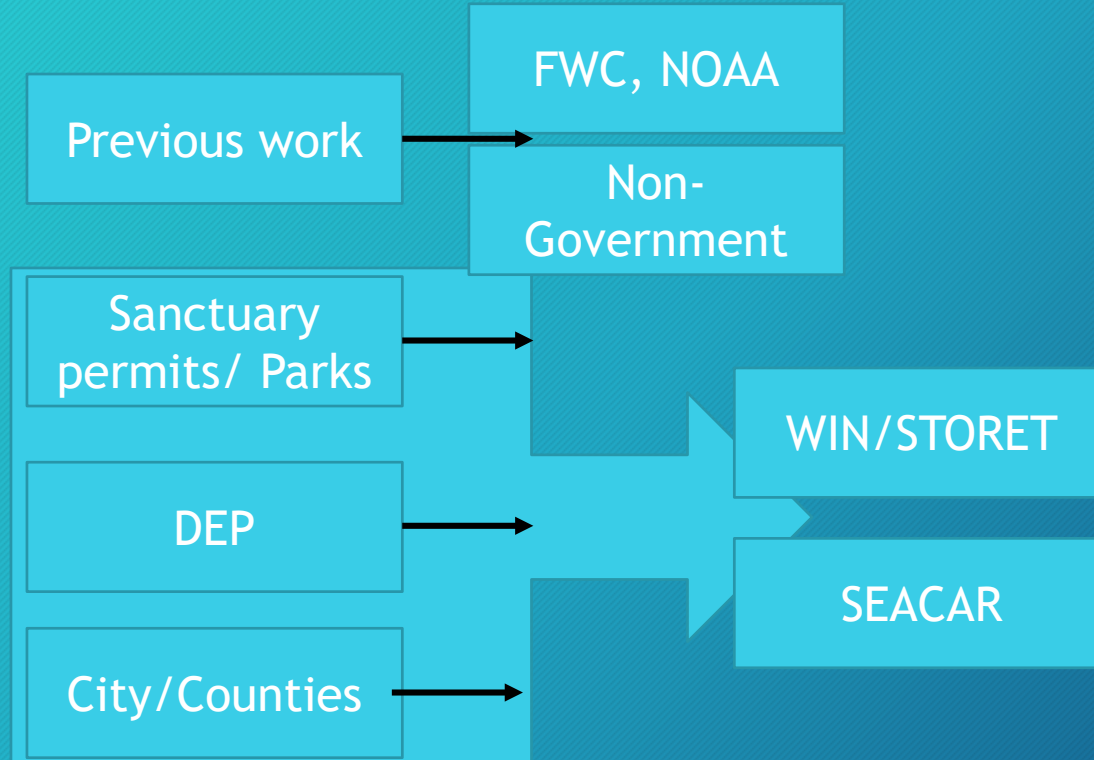
Aggregate, crosswalk, and map water quality data

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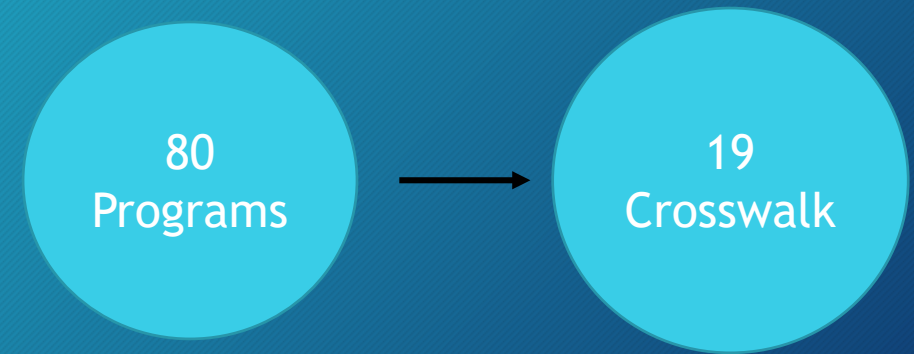


Aggregate, crosswalk, and map water quality data

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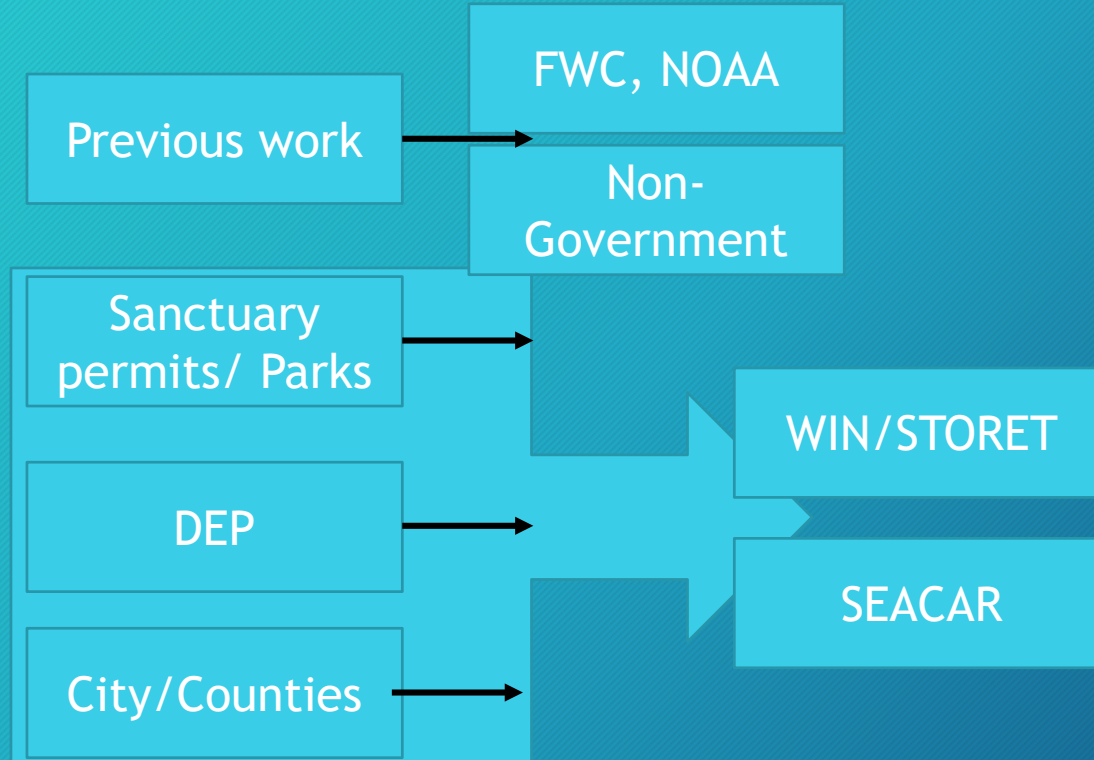


Outcomes:

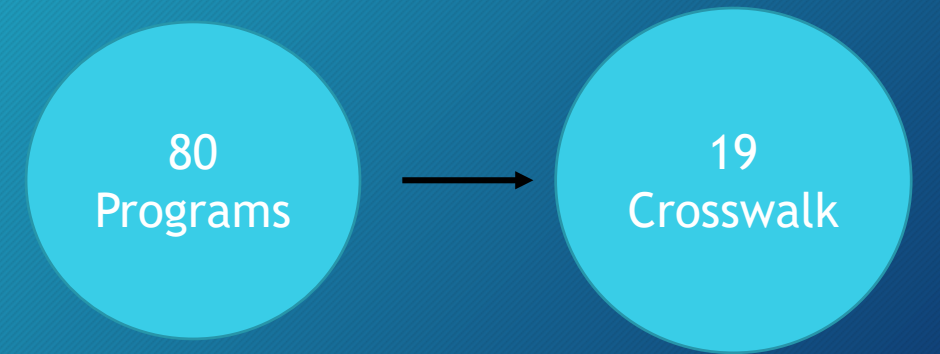


Aggregate, crosswalk, and map water quality data

Sources To Date:



Outcomes:



- 15 from WIN or SEACAR
- 4 Direct from Provider

Aggregate, crosswalk, and map water quality data

Two Questions:

- 1) Are there any established water quality monitoring programs that we would have missed in our process?
 - 5 to 10 years of sampling
 - Martin to Monroe County
 - Biscayne Bay, Florida Bay
 - Chlorophyll *a*, Temperature, Salinity, Nitrate+Nitrite (NO_x), Soluble Reactive Phosphorus (PO₄), Silica (Si), Turbidity, Total Nitrogen (TN), and Total Phosphorus (TP)
- 2) Is there a community preference for a long-term database solution?

Contact Information

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- 1) Are there any established water quality monitoring programs that we would have missed in our process?
- 2) Is there a community preference for a long-term database solution?