

Landscape-Level Minimum Flows Development Methods in the Southwest Florida Water Management District

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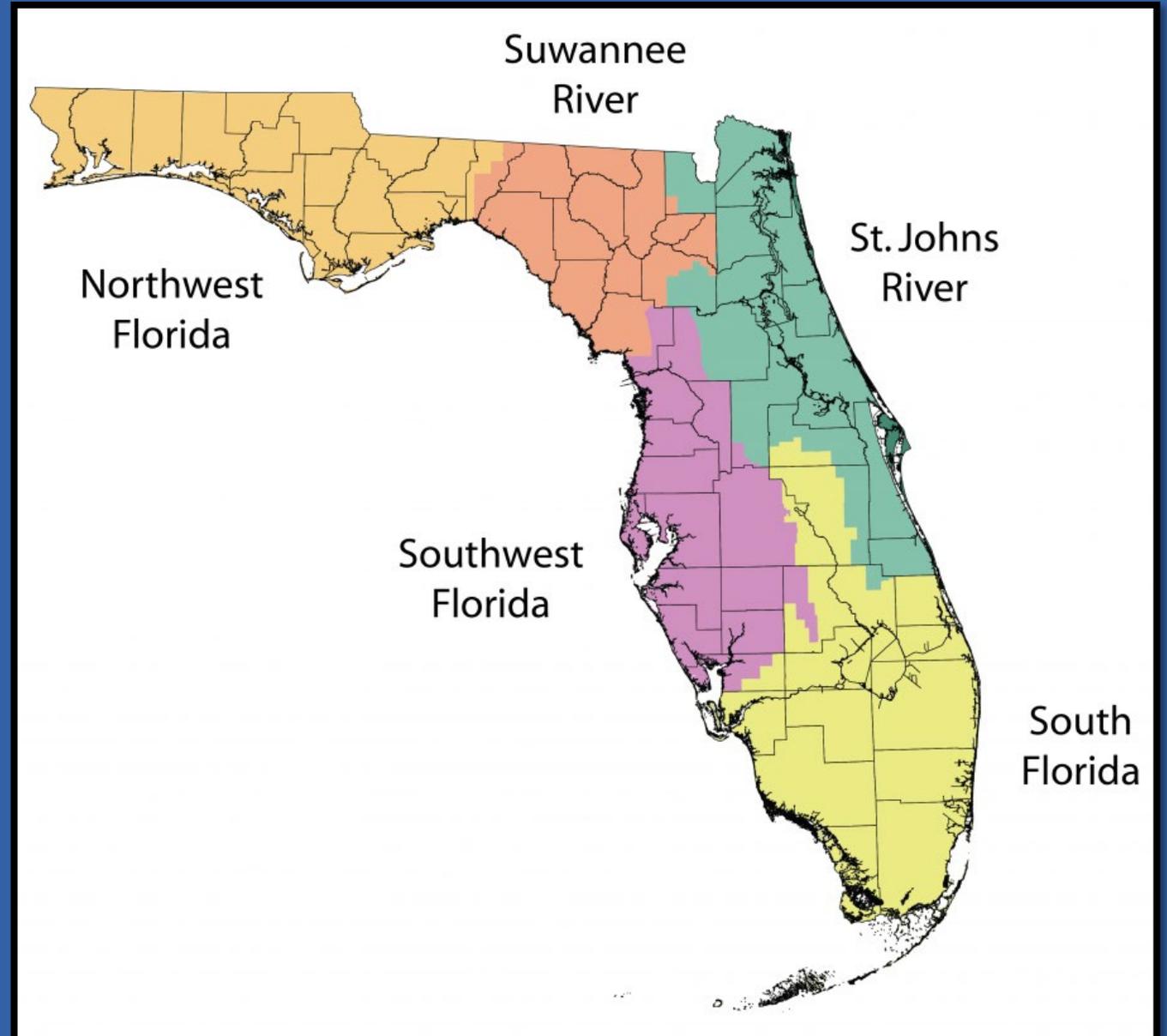


- **Mission:**

- Protect water resources
- Minimize flood risks
- Ensure public's water needs are met

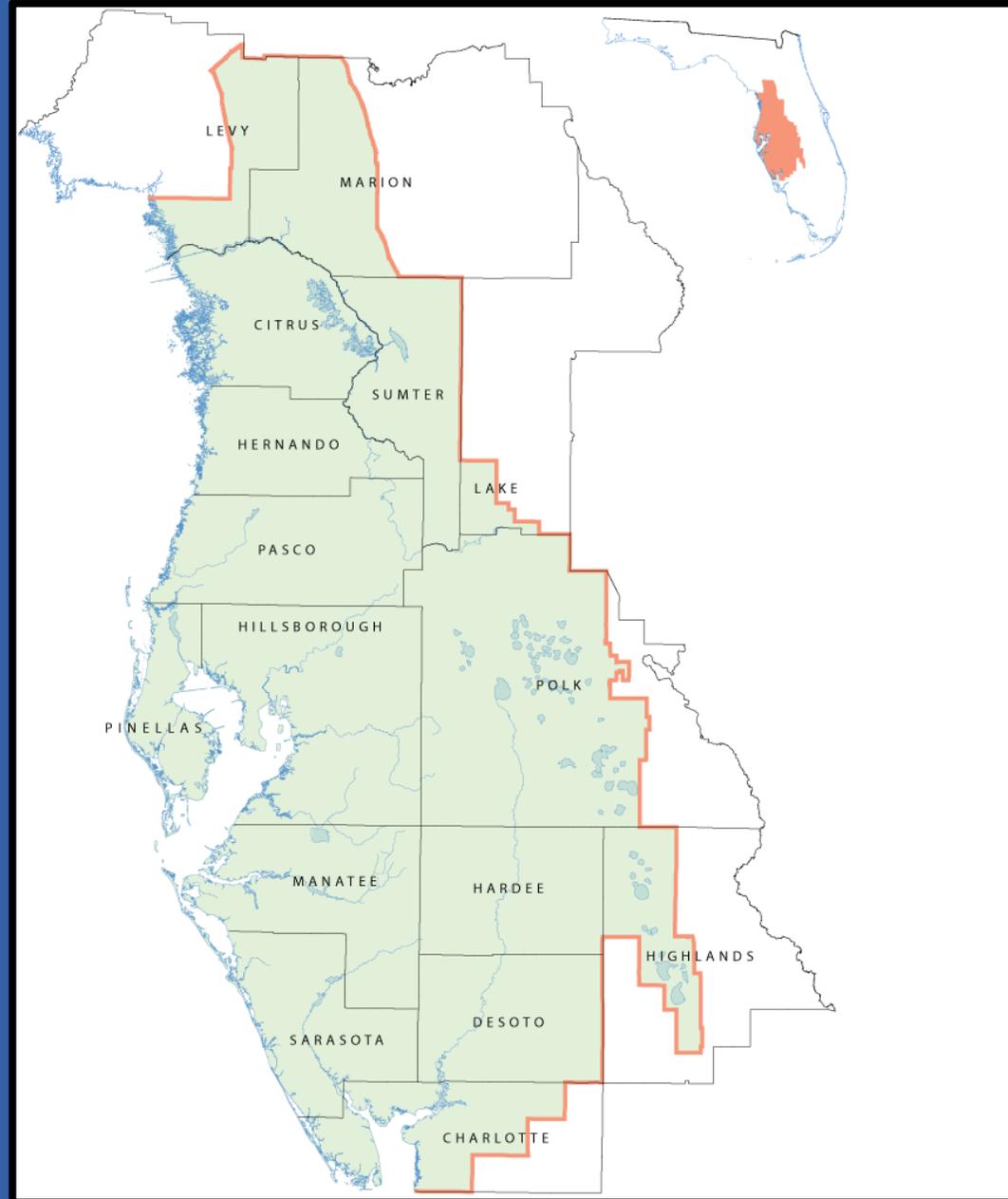
- **Activities:**

- Water supply
- Water quality
- Natural systems
- Flood protection



Why Establish Minimum Flows?

- Required by state law for flowing waters (Section 373.042, F.S.)

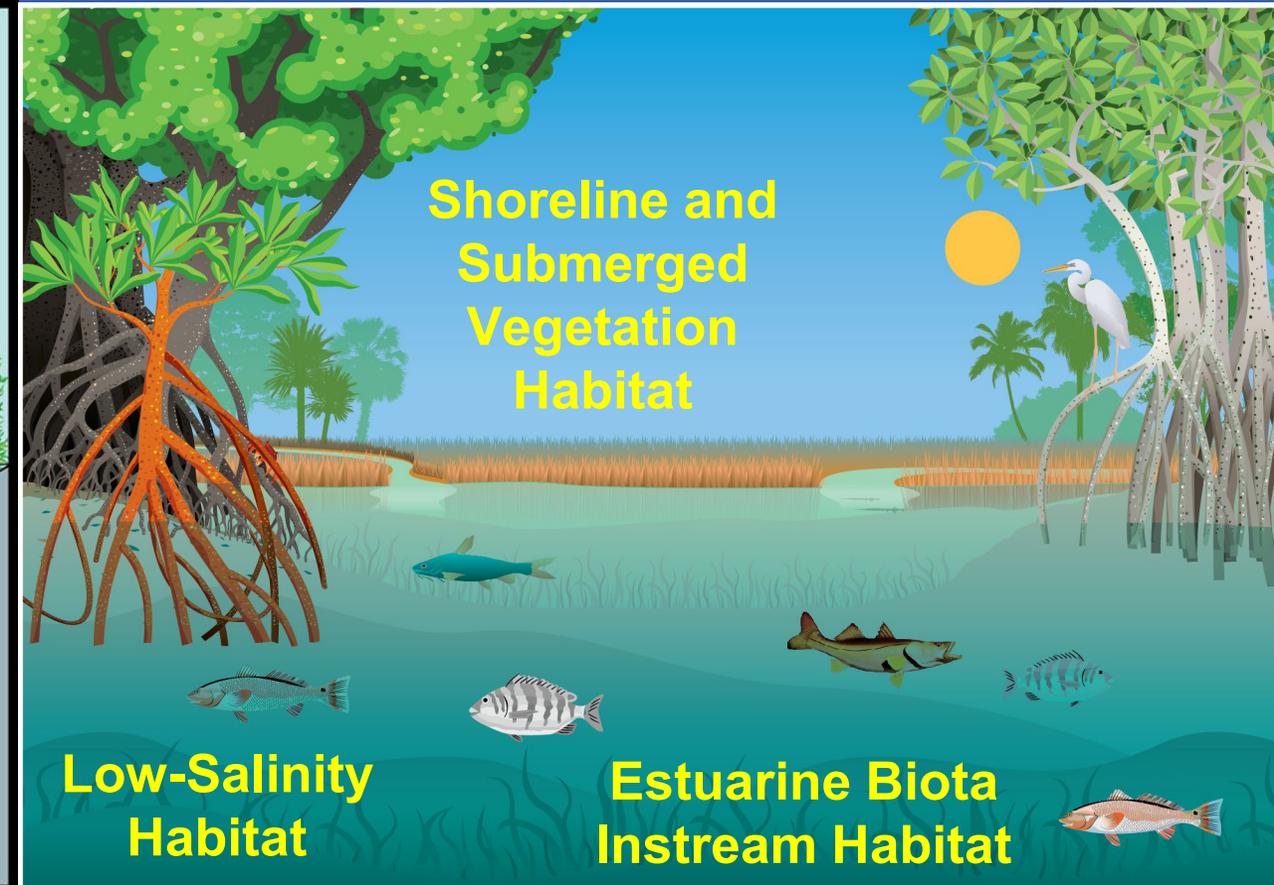
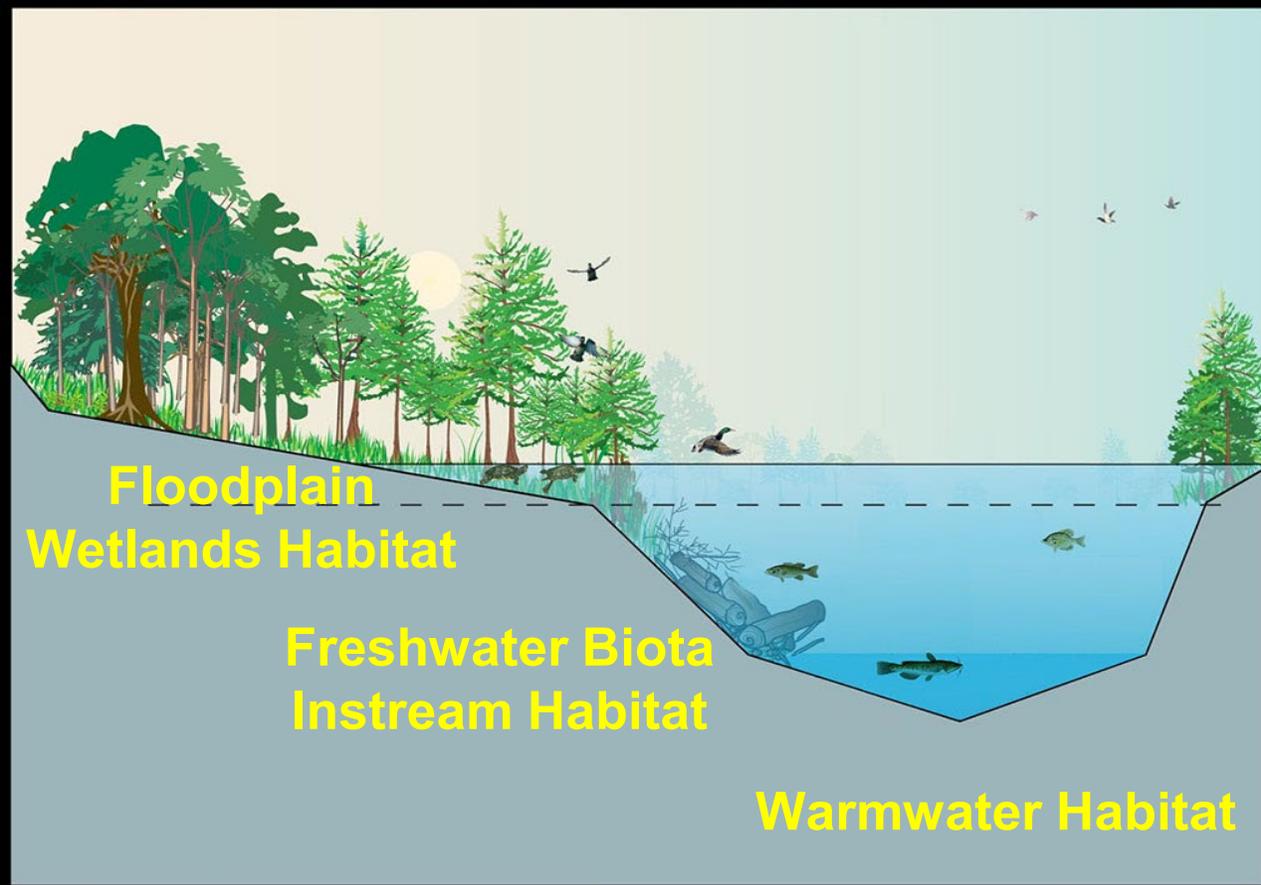


What are Minimum Flows?

- Limit at which further withdrawals would be significantly harmful to the water resources or ecology of the area
- Established to protect flowing systems from impacts due to ground and surface water withdrawals
- Used by the District to:
 - Protect water resources
 - Supports water use permitting
 - Supports water supply planning

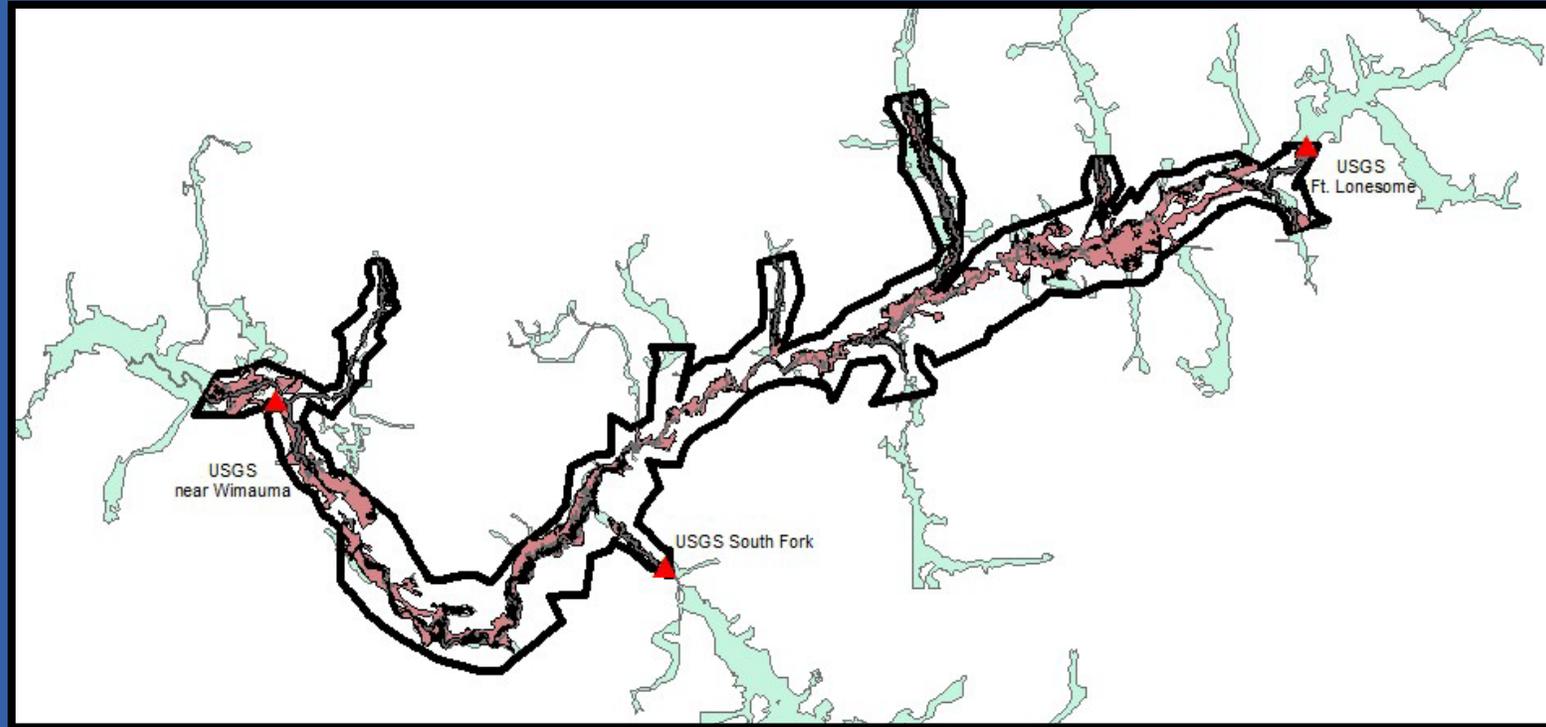


Minimum Flows Development: Landscape-Level Habitat-Based Approaches



How Do Changes in Flow From Withdrawals Affect Habitat?

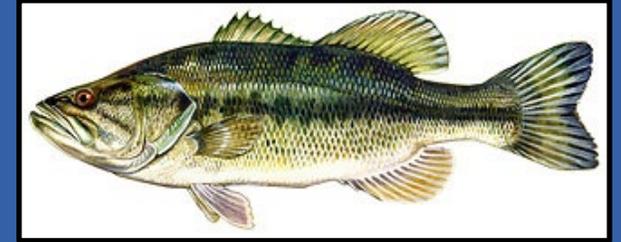
Evaluation of Floodplain Wetlands Habitat



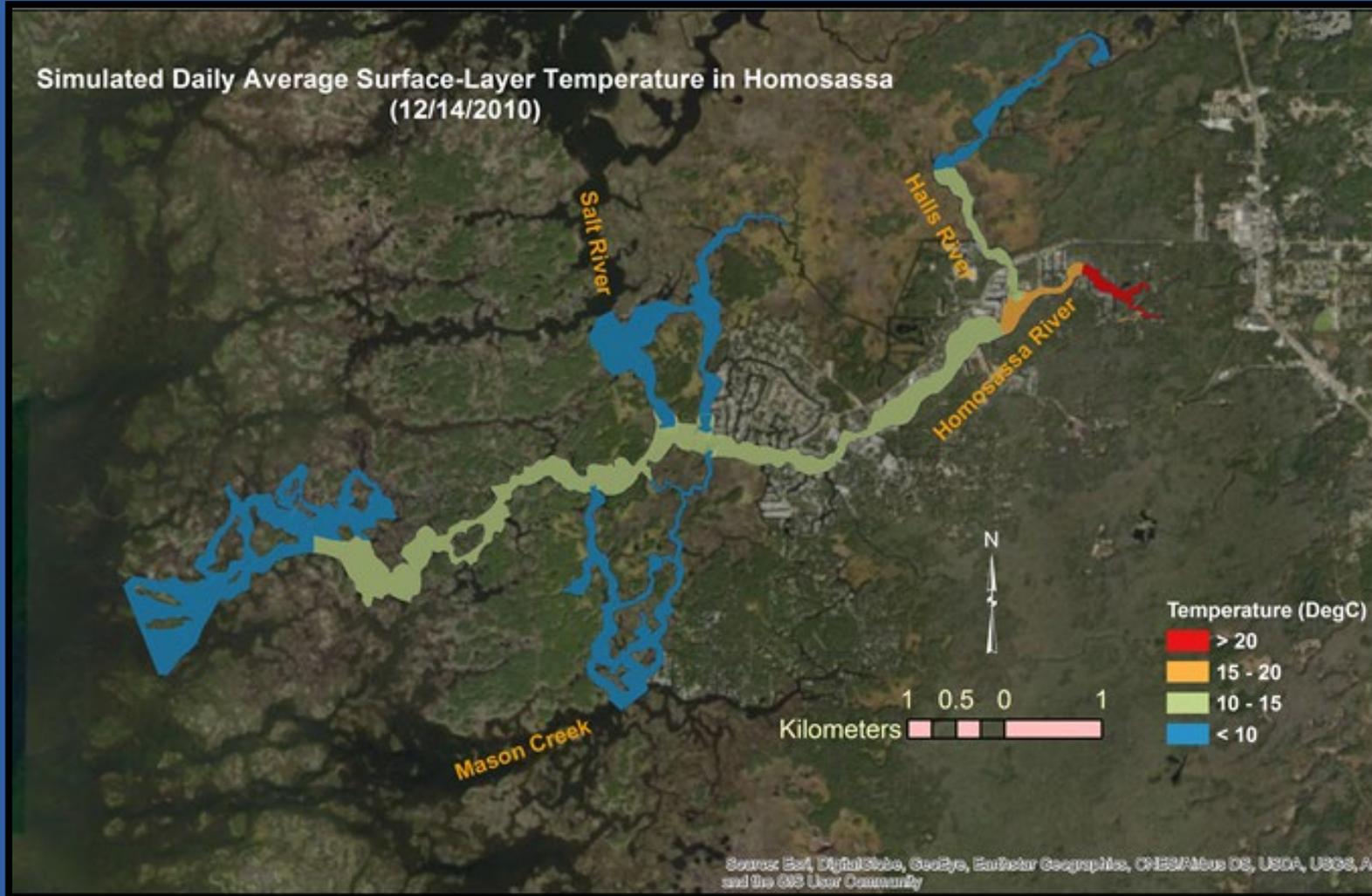
- Landscape-level changes in inundated wetlands habitat
- Field work, GIS data, physical model, spatial analysis

Evaluation of Freshwater Instream Habitat

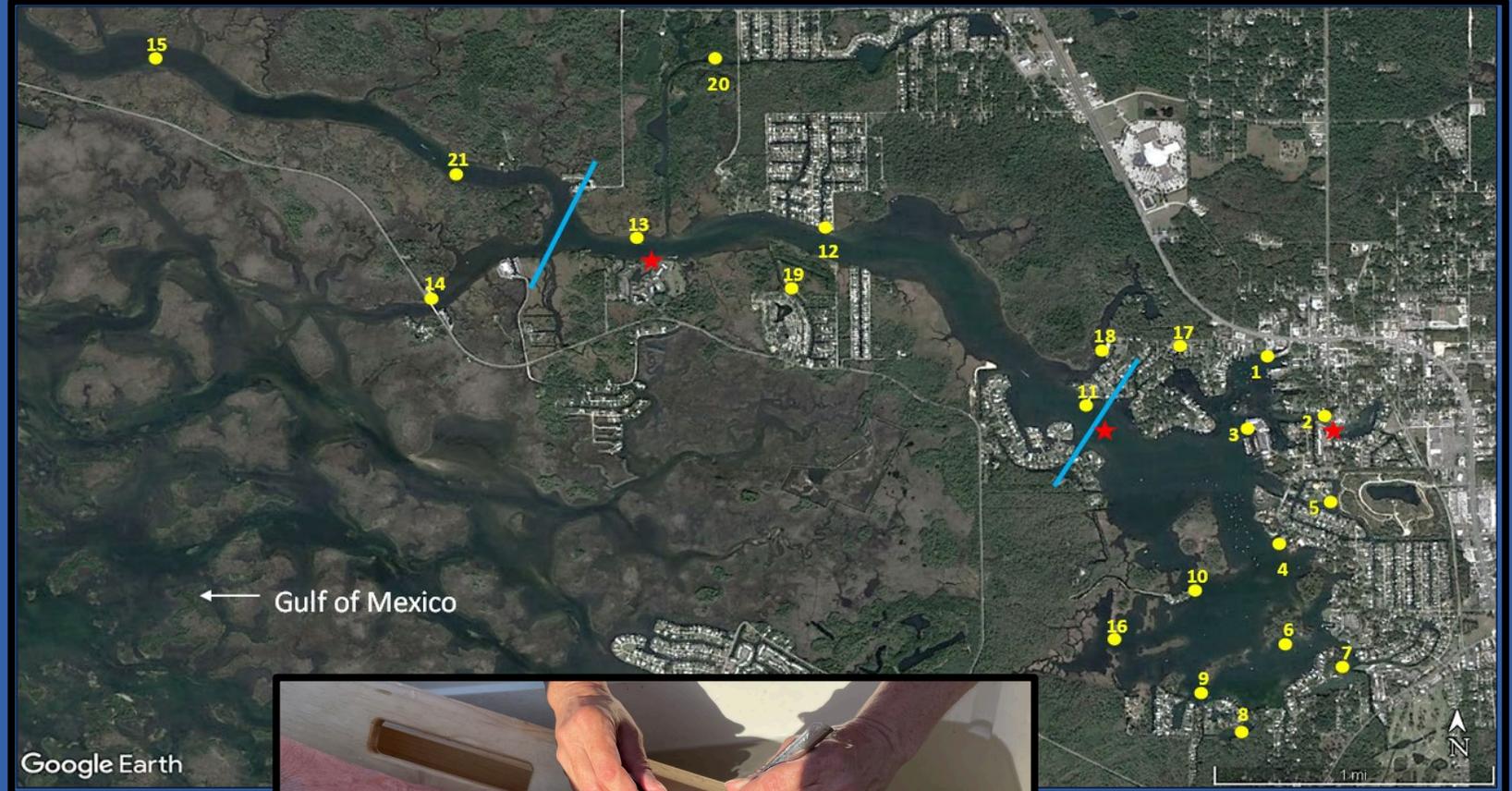
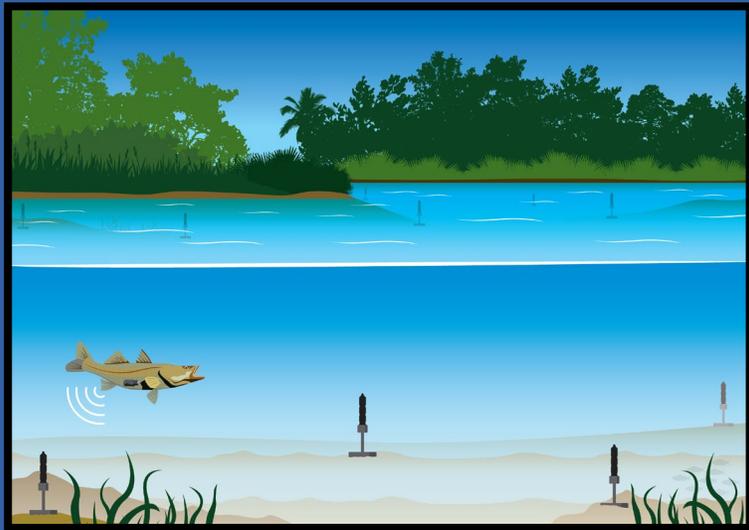
- Substrate/cover data from numerous field locations
- Depth and velocity from physical model
- System for Environmental Flow Analysis (SEFA)
- 40 functional/taxonomic groups
- Florida Handbook of Habitat Suitability Indices (<https://doi.org/10.6095/GJ9W-5H42>)



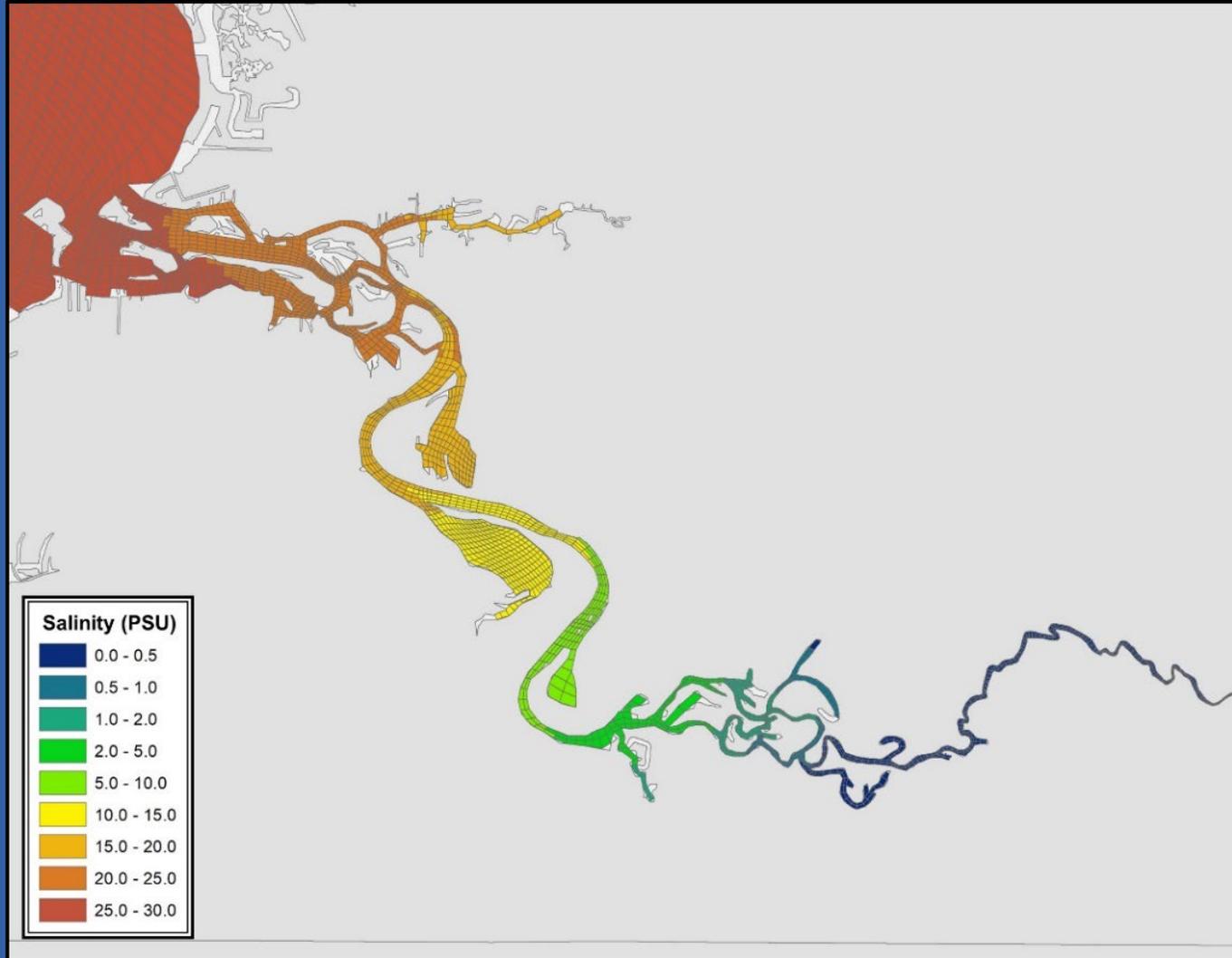
Evaluation of Warmwater Habitat



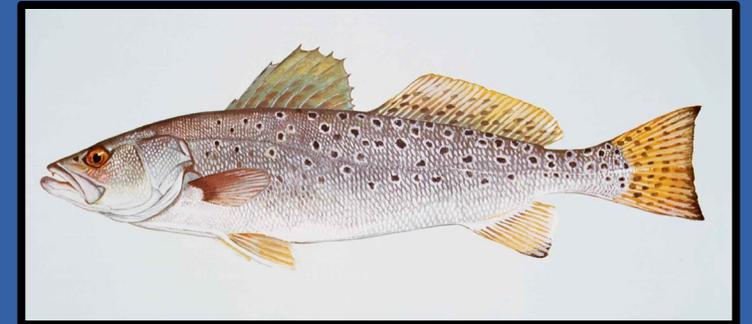
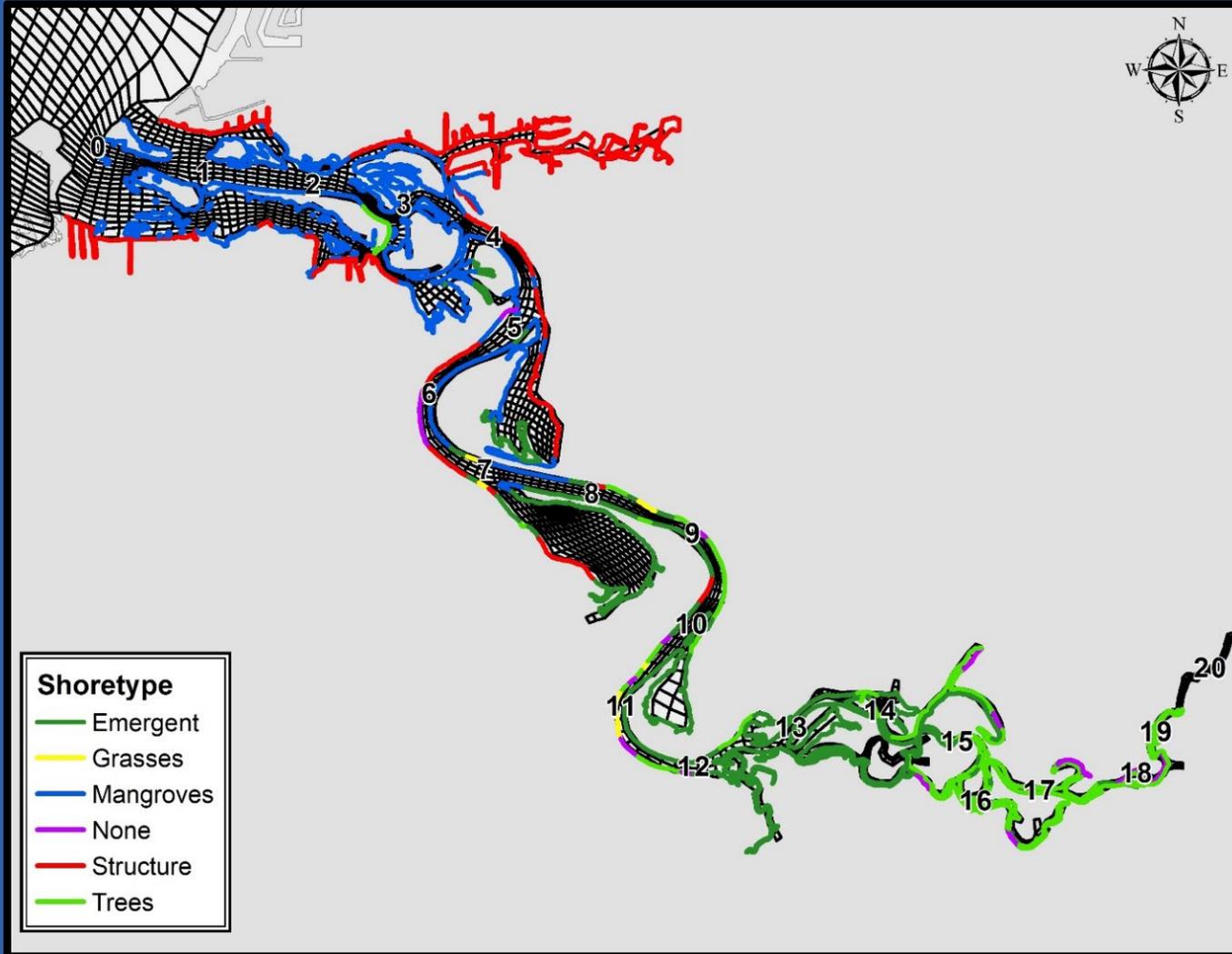
Evaluation of Warmwater Habitat



Evaluation of Low-Salinity Habitat



Evaluation of Estuarine Instream Habitat

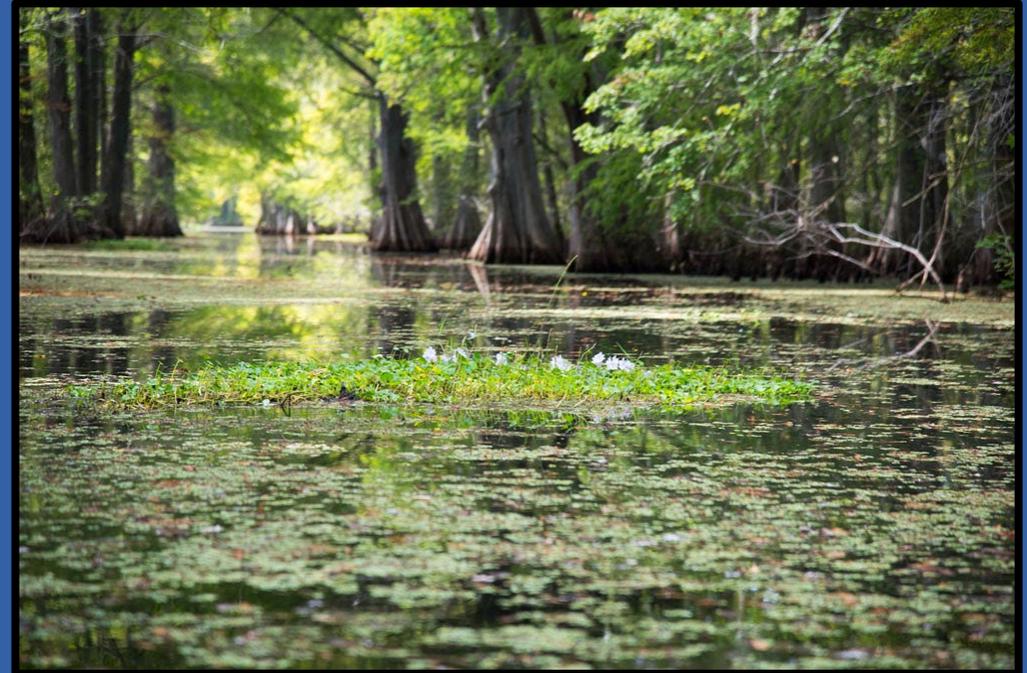


Evaluation of Shoreline/Submerged Aquatic Vegetation Habitat



Summary

- Minimum flows development methods:
 - Continually being developed and improved
 - Landscape-level habitat approach
 - Collaborative effort



Questions?

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