

Summary of Coastal Watershed Challenges and Needs in Northwest Florida

The tables below provide an initial representation of the challenges facing coastal watersheds in northwest Florida. General strategies appropriate for addressing these challenges are also indicated. The information presented is not necessarily comprehensive and it has not been reviewed by external agencies. Many of the challenges and strategies listed could be applied generically to most if not all coastal systems. The information provided below, however, is intended summarize the major challenges and associated strategies specific to each watershed listed.

Apalachicola River and Bay System

Inclusive of Apalachicola Bay, St. Vincent Sound, East Bay, St. George Sound, Alligator Harbor, and tributary rivers and streams

Plans:

- (1) *Apalachicola River and Bay Management Plan*
- (2) *Tates Hell State Forest Hydrologic Restoration Plan*
- (3) Local Stormwater Master Plans – City of Apalachicola

Watershed Challenges	Corresponding Strategies
Estuarine freshwater needs	Apalachicola Bay freshwater needs assessment; interstate coordination
Fisheries management	Oyster bed management; FFWC and DACS fisheries and shellfish programs
Stormwater runoff and nonpoint source pollution	Urban stormwater retrofit projects; stormwater best management practices; agricultural best management practices; riparian buffer zone protection
Loss of shoreline and littoral habitat due to shoreline alteration and erosion	Shoreline protection and restoration (e.g., riparian buffer zones and shoreline habitat restoration)
Inadequate coastal community and rural wastewater management	Sewer line extensions and connection of residences and businesses currently served by septic systems; sewer pit replacements; funding for advanced septic systems and responsible management entities
Local outreach and stakeholder coordination	Funding assistance for local watershed initiatives
Wetland hydrologic impacts	Tates Hell Swamp hydrologic restoration
Coastal and tributary floodplain alteration and habitat loss	Floodplain restoration projects

Pensacola Bay System

Inclusive of Pensacola, Escambia, Blackwater, and East bays; western Santa Rosa Sound; Big Lagoon; and tributary rivers and streams

Plans:

(1) *Pensacola Bay System SWIM Plan*

(2) Local Stormwater Master Plans – Escambia County, City of Pensacola, Gulf Breeze, possibly more

Watershed Challenges	Corresponding Strategies
Stormwater runoff and nonpoint source pollution	Urban stormwater retrofit projects; stormwater best management practices; agricultural best management practices; riparian buffer zone protection
Loss of shoreline and littoral habitat due to shoreline alteration and erosion	Shoreline protection and restoration (e.g., riparian buffer zones and shoreline habitat restoration)
Degraded seagrass habitats, Escambia, Pensacola, and East bays; possibly Santa Rosa Sound and Big Lagoon (per DEP report)	Seagrass assessments; water quality improvement projects; urban stormwater retrofit projects; stormwater best management practices; riparian buffer protection, and shoreline restoration
Local outreach and stakeholder coordination	Funding assistance for local watershed initiatives
Discharge of treated wastewater into surface waters and sprayfields	Advanced wastewater treatment; Reuse of reclaimed water
Degraded urban bayou habitats, including littoral habitat loss and sediment degradation and toxicity	Bayou basin plans; best management practices; stormwater retrofits; habitat restoration and sediment remediation
Potential marine invasive species	Assessment of the potential for marine invasive species problems, including related to biofouling, commercial vessel ballast, and the adequacy of management practices. Lead agencies anticipated to include FFWC, DACS, federal agencies, and commercial ports.

Choctawhatchee River and Bay Watershed

Inclusive of Choctawhatchee Bay, eastern Santa Rosa Sound, the Choctawhatchee River, contributing tributary streams, and the coastal dune lakes

Plans:

(1) *Choctawhatchee River and Bay System SWIM Plan*

(2) Local Stormwater Master Plans – Fort Walton Beach, Destin, Niceville, Okaloosa County, Walton County, possibly more

Watershed Challenges	Corresponding Project Strategies
Stormwater runoff and nonpoint source pollution	Urban stormwater retrofit projects; stormwater best management practices; agricultural best management practices; riparian buffer zone protection
Loss of shoreline and littoral habitat due to shoreline alteration and erosion	Shoreline protection and restoration (e.g., riparian buffer zones and shoreline habitat restoration)
Potentially degraded seagrass habitats	Seagrass assessments; water quality improvement projects; urban stormwater retrofit projects; stormwater best management practices; riparian buffer protection, and shoreline restoration
Degraded urban bayou habitats, including littoral habitat loss and sediment degradation and toxicity	Bayou basin plans; best management practices; stormwater retrofits; habitat restoration and sediment remediation
Untreated discharges via mosquito control ditches	Wetland and stormwater treatment systems
Local outreach and stakeholder coordination	Funding assistance for local watershed initiatives
Discharge of treated wastewater into surface waters and sprayfields	Advanced wastewater treatment; Reuse of reclaimed water
Degradation of coastal dune lake water and habitat quality	Stormwater treatment systems, riparian buffer zones, and other best management practices

St. Andrew Bay Watershed

Inclusive of West Bay, St. Andrew Bay, North Bay, East Bay, St. Joseph Bay, Lake Powell, and tributary streams

Plans:

(1) *St. Andrew Bay Watershed SWIM Plan*

(2) Local Stormwater Master Plans – St. Andrew Bay Watershed Stormwater Plan (CDM)

Watershed Challenges	Corresponding Project Strategies
Stormwater runoff and nonpoint source pollution	Urban stormwater retrofit projects; stormwater best management practices; agricultural best management practices; riparian buffer zone protection
Loss of shoreline and littoral habitat due to shoreline alteration and erosion	Shoreline protection and restoration (e.g., riparian buffer zones and shoreline habitat restoration)
Degraded and lost seagrass habitats	Seagrass assessments; water quality improvement projects; urban stormwater retrofit projects; stormwater best management practices; riparian buffer protection, and shoreline restoration
Degraded urban bayou habitats, including littoral habitat loss and sediment degradation and toxicity; includes multiple bayous and Grand Lagoon	Bayou basin plans; best management practices; stormwater retrofits; habitat restoration and sediment remediation
Untreated discharges via forestry drainage ditches	Wetland and stormwater treatment systems
Local outreach and stakeholder coordination	Funding assistance for local watershed initiatives
Direct wastewater discharges into the St. Andrew Bay Estuary	Reuse of reclaimed water
Degradation of coastal dune lake water and habitat quality (Lake Powell)	Implementation of stormwater treatment systems, riparian buffer zones, and other best management practices
Potential marine invasive species	Assessment of the potential for marine invasive species problems, including related to biofouling, commercial vessel ballast, and the adequacy of management practices. Lead agencies anticipated to include FFWC, DACS, federal agencies, and commercial ports.

Ochlockonee River and Bay Watershed

Including Ochlockonee Bay, the Ochlockonee River, and tributary streams

Plans:

(1) *Lake Jackson SWIM Plan*(2) *Draft Ochlockonee River and Bay SWIM Plan*

(3) Local Stormwater Master Plans – Leon County, City of Tallahassee, City of Quincy

Watershed Challenges	Corresponding Project Strategies
Stormwater runoff and nonpoint source pollution	Urban stormwater retrofit projects; stormwater best management practices; agricultural best management practices; riparian buffer zones
Inadequate coastal community and rural wastewater management	Sewer line extensions and connection of residences and businesses currently served by septic systems; sewer pit replacements; funding for advanced septic systems and responsible management entities
Wetland hydrologic impacts	Tates Hell Swamp hydrologic restoration

St. Marks River and Apalachee Bay Watershed

Including Apalachee Bay, the St. Marks and Wakulla rivers, and tributary streams

Plans:

(1) *St. Marks River Watershed SWIM Plan*

(2) Local Stormwater Master Plans – Leon County, City of Tallahassee, Wakulla County

Watershed Challenges	Corresponding Project Strategies
Stormwater runoff and nonpoint source pollution	Urban stormwater retrofit projects; stormwater best management practices; agricultural best management practices; riparian buffer zone protection
Karst region nutrient enrichment affecting Apalachee Bay and its tributaries	Karst effective stormwater and wastewater systems to reduce nutrient and other pollutant loading – research, demonstration projects, and implementation and retrofit projects
Disposal of treated wastewater within the Wakulla Karst Plain	Advanced wastewater treatment upgrades for domestic wastewater treatment plants; reuse of reclaimed water

Inadequate rural wastewater management	Advanced onsite sewage treatment and disposal systems, connection fee assistance, monitoring, and establishment and funding of responsible management entities
High bacteria and nutrient levels in Apalachee Bay	Funding for advanced onsite sewage treatment and disposal systems and karst-effective stormwater and wastewater treatment systems

Perdido River and Bay Watershed

Plans:

(1) *Draft Perdido River and Bay Watershed SWIM Plan*

(2) Local Stormwater Master Plans – Escambia County, City of Pensacola

Watershed Challenges	Corresponding Project Strategies
Stormwater runoff and nonpoint source pollution	Urban stormwater retrofit projects; stormwater best management practices
Needs for protection and restoration of estuarine embayments, including Bayou Garcon, Tarkiln Bay, and others	Bayou basin plans; best management practices; stormwater retrofits; habitat restoration and sediment remediation
Loss of shoreline and littoral habitat due to shoreline alteration and erosion	Shoreline protection and restoration (e.g., riparian buffer zones and shoreline habitat restoration)
Degraded urban stream systems, resulting in habitat loss, sedimentation, and discharge of poor quality water into Perdido Bay	Stream restoration using natural channel design techniques
Discharge of treated wastewater into surface waters and sprayfields	Advanced wastewater treatment; reuse of reclaimed water
Overall diminished bay water quality and habitat quality	Reduction of industrial and domestic wastewater discharges; advanced treatment systems; construction of urban stormwater retrofits

NFWMD Plan Links

SWIM Plans – <http://www.nfwmd.state.fl.us/rmd/swim/swimdesc.htm>

Tates Hell State Forest Hydrologic Restoration Plan – <http://nfwmdwetlands.com/index.php?Page=30>