Southern Coastal Systems ecosystem health workshop

Developing a report card for the Everglades

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The Comprehensive Everglades Restoration Plan (CERP) focuses on restoring pre-drainage characteristics to the hydrology of south Florida's remaining undeveloped wetlands and coastal waters. In short, the strategy is "get the water right" and the ecology will follow. The Southern Coastal Systems encompasses a large ecologically and economically important area surrounding the Greater Everglades region. For the Southern Coastal Systems, getting the water right means restoring freshwater flows into coastal waters. Re-establishing more natural flows will restore estuarine salinity conditions, resulting in improved habitat for fish and wildlife resources, and this is important for building resilience in the face of climate change and other stressors.

Progress has been made toward restoration goals. The C-111 Western Spreader Canal Project provides measurable estuarine benefits in Florida Bay, as documented in CERP reports. The Biscayne Bay Coastal Wetlands and Picayune Strand Restoration Projects provide measurable benefits in wetlands upstream from the coast. However, critical components remain to be completed. Consequently, these projects have yet to show benefits in Biscayne Bay and downstream estuarine areas of the southwest coast.







Map: Restored freshwater flow to Southern Coastal Systems.

Left: Research in Shark River, in northwestern Southern Coastal Systems, includes studying fish population responses to hydrologic disturbances.

Right: Mangroves in the Ten Thousand Islands area protect the coast from natural disasters like hurricanes and provide habitat for important species like oysters and fish.

Top photo: The Southern Coastal Systems encompasses a wide range of diverse habitats, Jennifer Rehage.

Freshwater flows affect the health of the Southern Coastal Systems

Participants in the Southern Coastal Systems regional workshop on August 3-4, 2017 discussed key environmental drivers and pressures and created illustrations to describe impacts on the ecosystem. The main pressures are reduced freshwater inflows, accelerated sea level rise, and the replacement of mangroves with stabilized shorelines. By creating illustrations, groups described impacts on water quality, primary production in marshes and seagrass beds, and upper trophic-level interactions. A key idea that came out of this activity was that it is important to understand the differences between the current state of the coastal systems versus the desired, restored state.

Current



Restored



Currently, the region suffers from lack of freshwater flows subject to water control structures and limited water budgets. This, coupled with sea level rise, causes high salinities (NaC) and peat collapse (In a restored system, increases in flow of freshwater (Intersection) dilutes seawater so that salinity (NaC) ranges from 5 to 35. This supports the growth of mangroves (Intersection), oyster reefs (Intersection), and seagrasses (Intersection) that serve as nursery and feeding areas for fish (Intersection), and shellfish (Intersection), and seagrasses (Intersection), such as osprey (Intersection), wading birds (Intersection), and crocodiles (Intersection).

Combining new and existing indicators of ecosystem health

During the workshop, Southern Coastal Systems regional coordinators and scientists identified potential indicators of ecosystem health. Some of the indicators have been used previously, while others were newly identified as being important to understand the region. All the potential indicators will be considered for use in the 2019 System Status Report (SSR) and Everglades Report Card.



What does the status of Southern Coastal Systems tell us about the Everglades?

The sustained health of the Southern Coastal Systems will demonstrate if restoration of the Everglades as a whole has been successful. People visit south Florida to experience the amenities and recreational opportunities afforded by its unique coastal ecosystems. The Southern Coastal Systems depend on maintaining a balance between the competing influences of the ocean and the inflow of freshwater from the Everglades.



The Shark River landscape is an important part of the Southern Coastal Systems.

Southern Coastal Systems scientists identify SSR themes and topics

Early in August 2017, the scientists and regional coordinators of the Southern Coastal Systems region of the Everglades met with the IAN team in Davie, FL. The goal was to identify important topics for the 2019 SSR, key attributes of the ecosystem, and desired conditions for the ecology and hydrology of Southern Coastal Systems. Participants of the workshop used illustration techniques to create ecological illustrations of the region, identified potential indicators for their region, and developed a timeline for completing the first draft of the 2019 SSR. Participants discussed roles and responsibilities for creating the Southern Coastal Systems chapter of the 2019 SSR. Discussions focused on the pressures that impact valued components of the Southern Coastal Systems ecosystems.

IAN will work with the Southern Coastal Systems team to develop and score a set of report card indicators based on data collected on the valued ecosystem components and goals and targets set for hydrologic and ecological restoration in the region. This information will be used to help RECOVER inform government officials, regional managers, and the general public about progress toward restoring the Everglades.



This word cloud captures topics that Southern Coastal Systems team members identified as important to include in the 2019 SSR.

Synthesis and Production

In upcoming months, the Southern Coastal Systems and other regional teams will be planning and organizing work to compile the first draft of the 2019 System Status Report.





regional teams

Participants of the August 2017 Southern Coastal Systems workshop, Davie, FL.

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