



NATURAL SYSTEMS ADAPTATION

SUBCOMMITTEE FOCAL AREAS

GOAL

Broward County shall support the Comprehensive Everglades Restoration Program (CERP) and other environmental restoration and mitigation initiatives in Broward County.

ACTIONS

- Broward County will support the restoration efforts of the US Army Corps of Engineers, Florida Department of Environmental Protection, the US Fish and Wildlife Service, United States Geological Survey, the National Park Service and the South Florida Water Management District to restore the Florida Everglades.
- Broward County will coordinate with other state, regional and national strategic planning efforts to prepare for climate variability and change, including MUSIC (US Geological Survey-Massachusetts Institute of Technology), UF-IFAS Climate Change Extension, Southeast Climate Consortium, NOAA US Global Climate Change Research Program, USDA Risk Management Agency, US Fish & Wildlife Service Climate Change Program, US National Park Service, and Florida State Agricultural Response Team (SART).
- In the near-term, Broward County will follow the progress of restoration efforts and continue to support state and federal funding proposals.
- In the long-term, Broward County will review the impacts of climate change and sea level rise on the Everglades ecosystem and support adaptive management efforts to mitigate impacts.
- Broward County will continue to support local environmental restoration and mitigation initiatives.

GOAL

Broward County shall identify environmental resources/natural systems and evaluate and implement management strategies related to tolerance, mitigation and adaptation.

ACTIONS

- County will determine the values of natural systems through a comprehensive analysis of the environmental health of our natural lands which may include relative maturity and vitality of canopy trees, percent coverage by invasive exotic plants, and extent of natural

recruitment of desirable species, listed and locally rare species, economic and social values, and other ancillary benefits and uses.

- Complete a vulnerability or risk assessment to identify specific species, habitats, landscapes, ecosystem functions, and cultural resources that may be sensitive to climate change.
- Conduct a review of required management plans for public parks, forests, and wildlife areas every 10 years (or appropriate review cycle and/or in response to newly available, peer-reviewed protocols) and conduct a climate change risk assessment for each area.
- Identify land- and water-based environmental resources, natural systems and tolerance of those resources. Identify potential forest “refugia” that may be viable during climate disturbances and may be capable of sustaining at-risk species.
- Evaluate existing programs for terrestrial, freshwater and marine exotic and nuisance species management. Develop strategies to respond to potential increases in undesirable exotic and invasive species, including triage strategies and rapid response to emerging circumstances to assist preserved natural areas in becoming more resilient to the impacts of climate change.
- Support the continuation and adaptive management of the Land Stewardship Program’s “Partners in Preservation” grant program for the restoration of publicly-owned natural lands.

GOAL

Sustainable urban forest landscape practices will provide additional diversity through native landscape species, allow natural migration of plant and animal species, and promote green areas for carbon sequestration and storage.

ACTIONS

- Provide for connectivity of natural areas to the degree possible and maintain sustainable Florida-Friendly Landscaping™ and Green Industry Best Management Practices mandated by Florida statutes which conserve water, protect water quality, and provide habitat for native and migratory wildlife.
- Among the built and managed urban systems, encourage the use of a greater diversity of seed-grown native and non-invasive, subtropical, and rare native plants in the urban landscape that are adaptable to a broad range of environmental tolerances (drought-tolerant, salt-tolerant, wind-resistant) to avoid creating monocultures and to provide for better adaptability to the changing climate. Promote NatureScape Broward, Florida-Friendly Landscaping™ and University of Florida-IFAS Florida Yards & Neighborhoods

along with national and international programs with appropriate non-governmental organizations such as National Wildlife Federation and Flyway Cities Initiative, National Audubon Society, The °Climate Group, American Farm Bureau Federation, and others.

- Encourage Green Urban Areas to reduce heat islands, provide for carbon sequestration and storage, and improve energy efficiency of adjacent structures.
- Develop grant program to help with replanting appropriate trees/plants after storms with an objective of improving our current 13% canopy as funds permit, toward the American Society of Foresters' goal of 40% average across an urban county.
- Encourage extension activities to educate residents and commercial interests of existing rules, ordinances, etc. particularly with reference to statutory Florida-Friendly Landscaping™ and Green Industry Best Management Practices
- Implement an active communication and education strategy to help ensure the general public understands the nature of the natural system responses to climate change, the potential for decline in health of a habitat and the rationale for decisions made to tolerate or adapt to those changes. Public support is needed for successful implementation of adaptation strategies.

GOAL

Broward County shall evaluate stormwater management operation strategies to lessen negative impacts to open areas, wetland mitigation areas, natural systems and to improve the ability of these systems to adapt to changes associated with climate change.

ACTIONS

- Evaluate impacts to natural systems from saltwater intrusion -- including habitat system and nutrient cycling changes, degradation of habitats, and colonization by invasive plant species -- and make recommendations to lessen (mitigate) these impacts or accept (tolerate) the resultant habitat change and adapt current management protocols to deal with the modified ecosystem.
- Evaluate impacts to natural systems from changes in the groundwater table -- including habitat system and nutrient cycling changes, degradation of habitats, and colonization by invasive plant species -- and make recommendations to lessen (mitigate) these impacts or accept (tolerate) the resultant habitat change and adapt current management protocols to deal with the modified ecosystem.
- Evaluate impacts to natural systems from changes in annual precipitation amounts and patterns (timing and distribution) -- including habitat system and nutrient cycling changes, degradation of habitats, and colonization by invasive plant species -- and make

recommendations to lessen (mitigate) these impacts or accept (tolerate) the resultant habitat change and adapt current management protocols to deal with the modified ecosystem.

- Develop mitigation strategies to ensure sufficient freshwater is available for critical natural systems.
- Develop criteria for stormwater management decision matrices with regard to potential impacts on natural areas.
- Evaluate opportunities to use potential increased water levels for consumption to reduce potential impacts to above.

GOAL

Broward County shall develop a monitoring program, similar to “Vital Signs” following the National Park Service, to serve as a multi-parameter ecosystem monitoring program that will help track climate change effects. Expand current ongoing monitoring efforts, such as those within the Comprehensive Everglades Restoration Plan (CERP), to include specific areas of Broward County to provide a better view of how natural areas are changing over time and what forces are responsible. Dedicate a source of funds to collect information and establish and maintain a long-term data management system that will permit periodic adaptation in management protocols to deal with perceived changes.

ACTIONS

- Inventory and evaluate existing monitoring systems (state, local and federal) to determine what is currently being monitored and at what scales. Based on this monitoring inventory, modify monitoring protocols to ensure maximum congruence and predictive ability among related elements.
- Develop a comprehensive adaptive status and trends monitoring program of the biotic and abiotic environment. Key parameters may include: rate of sea level rise; saltwater intrusion boundary and monitoring wells; landscape level vegetation patterns; percent coral cover in offshore reef zones; water temperature and pH in areas; and occurrence and range of invasive exotic plant and animal species; relative benthic cover and species diversity; size class structure of stony corals; recruitment patterns of dominant epibenthose; disease and stress status of stony corals, octocorals and sponges; and fish population dynamics. Abiotic elements shall include sedimentation on hard bottom communities and water quality.

- Establish an integrated network of early warning signs at sites on protected lands to track long-term changes in biological communities and processes.
- Develop a centralized data repository and associated protocols.
- Work with others to evaluate existing monitoring programs.
- Examine and evaluate funding opportunities and sources.
- If funding opportunities exist, develop a strategic approach to pursue funding partnerships.