



CLIMATE CHANGE RESILIENCE VISION

Southeast Florida is one of the most vulnerable regions in the United States to the impacts of climate change. Critical action to adapt to the consequences of climate change must occur at the local level through regionally coordinated planning and investments. Broward County has been active in prioritizing efforts to investigate vulnerabilities, improve climate preparedness and identify strategies to increase resilience to extreme weather. Working with the 4-County Southeast Florida Climate Change Compact, Broward County has contributed to the development of a Regional Climate Action Plan, a unified regional sea level rise projection, and vulnerability assessments focused on infrastructure, public health, and natural systems. Independently, the County has developed its own Climate Change Action Plan, and convenes both a countywide Climate Change Task Force and a Government Operations Work Group to assist in implementing priority actions necessary for climate change preparedness and emissions reductions needed to mitigate future warming and the potential for severe climate disruptions. As a community, we need to be aware of the local impacts of climate change, to understand the vulnerabilities of social systems, natural resources and infrastructure, and to work to develop and implement strategies to adapt and increase our resilience with the goal of reducing risk, avoiding economic losses, and improving community livability and the quality of our natural systems.

➔ STRATEGY CCR-1: Mitigate the effects of climate change by reducing greenhouse gas emissions by 2% per year.

Reduction of heat-trapping greenhouse gas (GHG) emissions which cause global temperature rise is necessary to slow and limit the effects of climate change. According to the 2012 Broward County GHG Emissions Inventory, the main source of GHG emissions in Broward County is burning fossil fuels for electricity and transportation. In order to reduce emissions, energy sources must be diversified to include clean renewable energy for electricity and alternative fuels for transportation and the amount of energy consumed in buildings and for transportation must be reduced. The County must pursue regional strategies and participate in and support local efforts to increase energy efficiency and the use of renewables in order to reduce GHG emissions and mitigate the effects of climate change.

Broward County shall promote sustainable energy consumption through efficiency and conservation efforts, expand renewable and alternative energy accessibility, and create incentive programs to encourage the behavioral and operational transition to cleaner energy sources.

Implementation strategies include:

- Implementing strategies from the Renewable Energy Action Plan, Community Energy Action Plan and the Climate Change Action Plan.
- Implementing the Electric Vehicle Infrastructure Strategy which includes pursuing municipal and public-private partnerships in order to develop an infrastructure network that provides public access to alternative fuels and EV charging.
- Reducing energy intensity of county buildings by at least 20% by 2025 through the Better Buildings Challenge and energy retrofits.
- Integrating transportation and land use decisions with emphasis on multi-modal transportation.
- Increasing the abundance of renewable energy projects, investments, and infrastructure across the County consistent with the County's support for a 20% renewable energy portfolio by 2030 through public-private partnerships, encouraging financing options and County investment in solar projects.

- Decreasing fuel consumption by 10% by 2020 by improving and integrating multi-modal transportation and land uses that encourage a reduction in single occupancy vehicle trips and GHG emissions, encourage an increase in walking, bicycling and transit trips and provide affordable housing proximate to urban work centers and transit.

➔ STRATEGY CCR-2: Increase the resilience of our community to the effects of climate change.

Climate change, including sea level rise and severe storms, has the potential to fundamentally impact Broward County's beaches, coastal and inland communities, water supplies, natural systems, critical infrastructure and its economic core. An increase of 3 to 5 inches of sea level rise is expected locally by 2030 and up to 3.3 feet by 2070. As a community we need to plan and prepare for the impacts of sea level rise and other climate impacts and invest in resilient critical infrastructure, to sustain commerce, services, and natural resources vital to the health of our community and economy. Broward County shall consider and prepare for the following impacts in the planning and design of projects and operations of community services: severe tropical storms, temperature extremes, severe wet and dry seasons, sea level rise along the coast leading to coastal and inland flooding and rising groundwater levels, increased coastal erosion and increased stress and pressure on natural systems.

Implementation strategies include:

- Requiring all land use and planning decisions within the Priority Planning Areas to consider and effectively address future climate predictions for a 50-year planning horizon.
- Designating Adaptation Action Areas to identify areas vulnerable to coastal flooding, implement adaptation policies, and enhance and prioritize the funding of infrastructure adaptation projects.
- Applying the unified sea level rise projection for Southeast Florida when considering land use (including areas of potential population growth, natural system restoration, and infrastructure adaptation) and long-term functionality of appurtenant infrastructure, especially water management, drainage, water supply and water treatment systems, both coastal and inland.

- Delineating anticipated habitat transition zones from climate impacted areas and expand zones through land use changes to protect environmentally-sensitive greenways and reserves for migrating species.
- Furthering the integration of green infrastructure and natural systems into the urban environment to increase resilience to future climate change impacts.
- Preserving and protecting the County's natural shoreline with an emphasis on the expansion and preservation of sand dunes, protection of beaches from armoring and the encroachment of development, and conservation of our coral reefs.
- In coordination with municipalities, adopting land use regulations to limit development and redevelopment in areas particularly vulnerable to flooding due to sea level rise, stormwater inundation, and other impacts of climate change.
- Using a green infrastructure map series to achieve community equity in the integrated use of green infrastructure as part of community resiliency strategies, including tree canopy coverage, presence of solar projects infrastructure, access to fresh food, etc.

⇒ STRATEGY CCR-3: Maintain adequate water supply through efficiency and conservation efforts and increase resilience of natural systems through water resource management.

Saltwater intrusion has contaminated the coastal edge of the Biscayne Aquifer that is the primary source of drinking water in Broward County. While a number of factors have contributed to the inland migration of the saltwater front, sea level rise has accelerated the rate of intrusion and is predicted to drive the front further inland in the coming decades. Saltwater intrusion is anticipated to reduce coastal wellfield capacity 40% by 2060. Broward County shall preserve, protect and enhance the sustainability of County water resources.

Implementation strategies include:

- Ensuring existing water resources are protected and remain available through conservation and sustainable management, especially improved surface water storage, redistribution and aquifer recharge.

- Preserving capacity by diversifying source alternatives, with an emphasis on the expansion of reclaimed water projects, systems, and infrastructure.
- Preserving green space and consideration of land use in areas of potential regionalization and relocation of wellfields.
- Balancing the water needs of public consumers and natural systems. Affording space for surface water storage to accommodate projected rainfall, tidal flooding and sea level and groundwater level rise.
- Supporting regional water supply and conservation projects such as the C-51 reservoir project and the expansion of a countywide water reuse network.

Supporting policy and implementation guidelines for the outlined strategies are included in Sections 2 and/or 3 of the Broward County Land Use Plan, and, as may be appropriate, the County's Comprehensive Plan.



WORLD-CLASS NATURAL RESOURCE PROTECTION & ENHANCEMENT VISION

Broward County recognizes its unique natural resources, including its exceptional water bodies, coastlines, open spaces, flora and fauna, and historical, archaeological and paleontological resources. In appreciation of these assets and recognition of their sensitivity, the County continues to be committed to the protection, enhancement and wise use of the environment. Broward County has long maintained its priority to preserve and conserve the environment, understanding it is essential for maintaining community sustainability, as well as being an important economic generator and enhancing the safety, enjoyment and education of residents and visitors alike. As Broward County anticipates approximately 235,000 new residents by the year 2040, it is vital for the County to continue to persevere in its commitment to protect and enhance its natural resources. In this light, Broward County strives, in partnership with its municipalities and other stakeholders, to be at the fore of natural resource protection and enhancement best practices, remaining dedicated to strengthening its policies and commitments in the region to protect and conserve natural resources, including the emerging importance of food systems planning.

➔ STRATEGY EP-1: Protect and enhance the shoreline and natural waterways of Broward County.

Tourism is vital to Broward County's economy and Broward's beaches and waterway systems lure millions of visitors here year after year. Beaches also protect public and private property and provide marine habitats on and along the barrier island. However, these beautiful beaches can be compromised by tropical storms and hurricanes, as well as by tides, wave action and natural sand flow. Broward County must protect and maintain this critical environmental and economic resource through beach re-nourishment projects, the creation and enhancement of shoreline vegetation and dunes and sediment management plans.

Implementation strategies include:

- Protect and restore beaches through the use of dunes and vegetation, elevated walkways and conservation easements.
- Require public access to beaches and waterways.
- Designate "Adaptation Action Areas" to identify areas vulnerable to sea level rise, flooding and storm surge and create mitigation strategies to reduce these risks and increase community resiliency.
- Protect and enhance sea turtle nesting areas and require the installation of sea turtle-friendly lighting in such areas.
- Protect and restore the County's natural ocean reef system.

➔ STRATEGY EP-2: Create a countywide water management/flood protection plan.

Broward County is in a unique location of the country, with the Atlantic Ocean along its entire eastern border and over 790 square miles of water conservation and recharge areas within its western limits. This unique location presents both problems and opportunities in regards to water supply and management. Broward County must protect, manage and enhance its water recharge areas, surface waters, groundwater and potable water wellfields and zones of influence, while also preparing for seasonal flooding and sea level rise. In this regard, wetlands can play a vital role in improving the County's water quality and in providing natural areas for storing floodwaters and maintaining surface water flow.

Wetlands function as natural sponges which trap and slowly release water. Wetlands also function as primary fish and wildlife habitats by providing food, water and shelter for a wide variety of plant and animal species.

Implementation strategies include:

- Implement a countywide water management plan, in coordination with local water management plans, which includes both groundwater and surface water.
- Preserve, enhance and create surface waters and minimize direct discharge into such bodies of water through innovative pre-treatment methods.
- Preserve the County's groundwater quality through the provision of drainage and stormwater management systems, minimization of surface water run-off, minimization of soil erosion and prevention of salt water intrusion.
- Consider minimum floor elevations for structures and minimum crown elevations for roads based on projected conditions from sea level rise.
- Protect the functional value of wetlands, hydric soils and vegetative communities within Broward County.

➔ STRATEGY EP-3: Preserve and protect Broward County's natural environment through County and local environmental regulatory programs and well-planned patterns of growth and development.

At the foundation of a healthy environment is an ecosystem with uncontaminated soil and pure air. Because of the clear connection between a healthy environment and the preservation of public health, safety and general welfare, Broward County established regulatory programs to protect the purity of our natural resources and to protect humans, plants and wildlife. Human activities associated with the County's tremendous growth carries the potential for the contamination of our natural environment, making the reasonable control and regulation of the activities that could threaten the quality and purity of these resources of paramount importance.

Implementation strategies include:

- Continue to utilize the County's Environmental Assessment and Remediation Program to ensure that contaminated sites are properly remediated and maintained.
- Continue to implement the County's Hazardous Materials Licensing and Compliance Assistance Program to prevent discharges of regulated hazardous materials into soil, groundwater and surface waters.
- Continue to fulfill the goals of the County's Air Monitoring and Air Quality Program to prevent and control emissions from commercial and industrial air pollution sources through regulation and compliance assistance.
- Promote the use of alternative modes of transportation and alternative fuels to reduce the negative impacts of exhaust fumes on air quality.
- Acquire, protect, preserve and enhance Local Areas of Particular Concern.
- Preserve and enhance Broward County's tree canopy and encourage the use of native vegetation for all new development.
- Continue to eliminate invasive exotic vegetation.

➔ **STRATEGY EP-4:** Provide recreation and open space areas which serve the diverse interests of both residents and visitors and that are compatible with the tropical and resort character of Broward County.

Recreation and open space areas are a critical part of the high quality of life Broward County wants to offer to its residents. These areas not only provide places for sports and activities, which help to promote healthy lifestyles for all age groups, but also provide places for people to relax and enjoy nature, which improves their mental health as well. Open space areas also promote a sustainable environment by providing natural habitats for various species of wildlife and vegetation. The County's recreation and open space system builds a sense of place, making our community a more attractive place to live and work, thereby increasing the County's economic health. Broward County should protect and enhance its remaining recreation, open space and conservation areas to promote healthy residents, a robust economy and a sustainable environment.

Implementation strategies include:

- Continue to require a minimum of three (3) acres of local parks and three (3) acres of regional parks for every 1,000 existing and projected permanent residents.
- Encourage the preservation of existing public and private open space areas, including golf courses.
- Provide for an interconnected, countywide system of greenways, bikeways, blueways and equestrian and nature trails.
- Identify, conserve and protect all water conservation and natural reservation areas within Broward County.

➔ STRATEGY EP-5: Protect Broward County's historical, archaeological and paleontological resources.

It is vitally important to realize that the protection, enhancement, and perpetuation of historic, archaeological, and paleontological resources represent distinctive elements of Broward County's unique history. Broward County promotes and supports historic preservation through the enforcement of its historic preservation ordinance, which mandates that the County seek Certified Local Government (CLG) status, including: establishing a historic preservation board; maintaining and updating the historic site surveys; enforcing the state and local preservation laws; and providing opportunities for public participation in historic preservation activities. The County will also pursue actions to educate and advocate for the preservation of the County's cultural resources.

Implementation strategies Include:

- Enhance the County's programs to designate and protect historic, archaeological and paleontological resources.
- Promote intergovernmental coordination and cooperation between the County, its municipalities, other CLGs and state and federal agencies.
- Promote adaptive reuse and conservation of historic, archaeological, and paleontological resources as a means for economic revitalization, redevelopment, and sustainable growth.

➔ STRATEGY EP-6: Prioritize and support the food system planning efforts of Broward County and its municipalities.

Food system planning is the collaborative planning process of developing and implementing local and regional land use, economic development, public health and environmental goals, programs and policies to promote: sustainable agriculture and food production practices, community food security, physical and economic access to healthy food and reduction of food-related waste. It is considered an important part of sustainable and resilient development by communities around the world, and Broward County seeks to advocate food system planning throughout the region. Understanding that our population will continue to grow, it is important for Broward County and its local governments to advocate food system planning for the overall health and well-being of our communities.

Implementation strategies include:

- Support and encourage municipalities to provide farm-to-table opportunities throughout Broward County.
- Permit urban agriculture activities in all land use categories of the BCLUP, while also ensuring that protection and promotion of rural agriculture activities remain a priority.
- Update the Best Practices for Food System Planning at least bi-annually to ensure the information is reflective of current practices and technology.

Supporting policy and implementation guidelines for the outlined strategies are included in Sections 2 and/or 3 of the Broward County Land Use Plan, and, as may be appropriate, the County's Comprehensive Plan.

An aerial photograph of a hurricane, showing a dark, well-defined eye surrounded by a dense, swirling ring of white and grey clouds. The surrounding clouds are more diffuse and spread out over the ocean surface. The sky above the clouds is a clear, pale blue.

DISASTER PLANNING AND POST-DISASTER REDEVELOPMENT VISION

Hurricanes, tornadoes, extreme heat, floods, fires, storm surge and other natural or man-made disasters may threaten the safety of Broward County's residents, visitors and property. South Florida is most vulnerable to the threat of hurricanes and storm surge. Hurricane season begins on June 1 and ends on November 30, but planning and preparation are year-round activities. Broward County must work to protect over 1.8 million permanent residents, 14.3 million annual visitors, billions of dollars in tangible properties, 23 miles of beaches, as well as over 150,000 coastal residents and mobile home occupants living in mandatory evacuation zones. Accommodations should also be made to ensure the protection of Broward's vulnerable population groups such as the homeless, the elderly and the physically challenged. Broward County's goal is to reduce or eliminate the long-term risk to life and property from hazardous events. Broward County and its municipalities, in coordination with partner agencies, should put in place a post-disaster recovery and redevelopment strategy to ease the rebuilding process and remove potential obstacles that would support a sustainable community after a major disaster. Further, the county should evaluate properties that have a history of repetitive loss for possible purchase and conversion to open space. In addition, a dune and shoreline vegetation management plan should be investigated to help break the destructive waves and storm surge that accompany a hurricane.

➡ STRATEGY DP-1: Develop and implement a Countywide Long-Term Recovery and Redevelopment Strategy.

Broward County must establish an orderly and efficient process for reviewing private and public redevelopment proposals to restore the economic and social viability of the community after a natural or man-made disaster. Broward County currently implements its Enhanced Local Mitigation Strategy (ELMS), which is a framework for integrating the County's hazard mitigation efforts into the core civic business processes by forming partnerships with agencies in emergency and risk management, insurance, government, climate change and the business community before, during and after a disaster. The County's Long-Term Recovery and Redevelopment Strategy will focus on re-building after a disaster in a manner that will strengthen properties and infrastructure to withstand any future storm occurrences.

Implementation strategies include:

- Develop a Long-Term Recovery and Redevelopment Strategy.
- Continue to update the County's Enhanced Local Mitigation Strategy (ELMS).
- Replace the Coastal High-Hazard Area with a "Coastal Storm Area" on Broward County's Floodplains, Flood Prone Areas and Coastal High-Hazard Area Map of the Natural Resource Map Series.
- Protect the County's shoreline through enhanced shoreline vegetation and beach re-nourishment projects in partnership with adjoining municipalities.

➡ STRATEGY DP-5: Residential densities within the mandatory hurricane evacuation zones shall not negatively impact the hurricane evacuation clearance standards.

A key to keeping residents and visitors safe during a natural disaster is to evacuate people most at-risk and locate them to a safer place to "ride out the storm" such as a relative or friends house or a designated hurricane shelter. Mandatory evacuation zones for Category 1 and 2 hurricanes are all areas located east of the Intracoastal Waterway. All areas east of Federal Highway/U.S. 1 must be evacuated for a Category 3 storm or higher. In addition, all mobile homes, regardless of their location, must be evacuated. Broward County maintains hurricane evacuation clearance times and shelter capacities, which should not be reduced due to additional residential development within the mandatory evacuation areas.

Implementation strategies include:

- Discourage land use plan amendments which propose residential or hotel uses within hurricane evacuation zones that negatively impact hurricane evacuation clearance times and emergency shelter capacities.
- Establish a methodology to estimate the short- and long-range planning horizon impacts of proposed residential uses within hurricane evacuation zones on hurricane evacuation clearance times and emergency shelter capacities.
- Update Broward County's Coastal Hurricane Evacuation Plan (CHEP) to reflect new techniques or programs which have improved evacuation times.
- Update the South Florida Regional Planning Council's Regional Hurricane Evacuation Model Traffic Study.

Supporting policy and implementation guidelines for the outlined strategies are included in Sections 2 and/or 3 of the Broward County Land Use Plan, and, as may be appropriate, the County's Comprehensive Plan.

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SECTION 2: POLICIES

PARKS/CONSERVATION

POLICY 2.5.1 Local governments shall provide for a minimum of three (3) acres of Community level parks for every 1,000 existing and projected permanent residents. The acreage that may be used to meet this requirement is listed in the “Community and Regional Parks” subsection of the Plan Implementation Requirements section of the Broward County Land Use Plan.

POLICY 2.5.2 The Broward County Board of County Commissioners shall provide for a minimum of three (3) acres of Regional level parks for every 1,000 existing and projected permanent Broward County residents. The acreage that may be used to meet this requirement is listed in the “Community and Regional Parks” subsection of the Plan Implementation Requirements section of the Broward County Land Use Plan.

POLICY 2.5.4 Broward County shall strongly encourage the preservation of open space areas. Amendments to the Broward County Land Use Plan which would result in the loss of open space shall be strongly discouraged and be required to address how open space and recreation needs of the existing and projected residents of the community will be met, including how the negative impacts of the loss of open space on surrounding neighborhoods will be minimized or mitigated.

POLICY 2.5.5 Amendments to the Broward County Land Use Plan containing golf courses, including closed golf courses, shall address the following:

- a. The impact of the loss of open space on the surrounding residential areas. The loss of open space must be mitigated through provision of parks and open space to serve the surrounding neighborhood.
- b. Management of storm water retention taking into account the extent to which the golf course provided storm water retention for the surrounding development and how this will be mitigated, along with any additional storm water impacts created by the new development.
- c. Minimization of the impact on natural resources including wetlands, lakes, aquifer recharge areas and the tree canopy, including any historic trees on the site.
- d. Mitigation of environmental contamination. The level of environmental contamination must be determined by conducting a Phase 1 environmental assessment. A Phase 2 environmental assessment may be required based upon the findings of the Phase 1 assessment.
- e. Integration of the proposed development with the surrounding areas including how the development will tie into the existing neighborhoods through roads, sidewalks, parks/open space and greenways.

POLICY 2.5.6 No new solid-fill transportation facilities or similar structures shall be permitted within Broward County’s identified water conservation areas without provisions for maintaining the freshwater sheet flow.

POLICY 2.5.7 Natural reservations identified in the Conservation Permitted Uses of the Broward County Land Use Plan shall be designated for conservation use on the Broward County Land Use Plan Map for the purpose of protecting publicly owned sanctuaries, preserves, archaeological or historic sites, open space, natural areas, ecological communities and designated wildlife management areas.

URBAN AGRICULTURE

POLICY 2.6.2 The Broward County Land Use Plan shall encourage local governments to permit appropriate and compatible urban agriculture activities in all land use categories of the Broward County Land Use Plan, except “Conservation” and “Recreation and Open Space,” while also ensuring that protection and promotion of rural agriculture activities remain a priority.

PORT

POLICY 2.7.1 Port Everglades shall be developed in a manner which is sensitive to marine and other natural resources, consistent with the goals, objectives and policies of the Port Everglades Master Plan.

MINING

POLICY 2.9.3 Broward County continues to oppose and prohibit in any land use category the use of hydraulic fracturing, acid fracturing, and any form of extreme well stimulation for the purposes of resource extraction.

PUBLIC FACILITIES AND SERVICES

POLICY 2.11.3 Broward County, in coordination with its municipalities, shall pursue the establishment of mandatory reuse zones in order to require the use of reclaimed water for irrigation, when source water is available, with the goal of reducing demands on the Biscayne Aquifer.

POLICY 2.11.9 Broward County shall encourage power generation facilities and power transmission infrastructure be sited and designed in a manner which takes into consideration impacts from climate change, including increasing winds, storm surge, ambient temperatures and sea level rise.

DISASTER PLANNING AND POST-DISASTER REDEVELOPMENT

POLICY 2.12.1 Develop and implement post-disaster redevelopment and hazard mitigation land use controls and development regulations including strong preventive measures, to protect the health, safety and welfare of Broward County’s current and future residents.

POLICY 2.12.4 Broward County shall, by December 31, 2017, work with municipalities and affected parties to identify and designate a “Coastal Storm Area” on the County’s Natural Resource Map Series which shall depict the Coastal High Hazard Area, as defined by state

statutes, all properties directly connected to the mainland by bridges and all low-lying properties that have restricted evacuation and emergency access.

POLICY 2.12.5 Broward County shall limit public funding within the identified “Coastal Storm Area,” unless infrastructure improvements are necessary to repair or update existing infrastructure or enhance hurricane evacuation clearance times or emergency shelter capacities, or to mitigate the effects of storm surge flooding or sea level rise.

TRANSPORTATION CONCURRENCY AND IMPACT FEES

POLICY 2.14.10 Broward County shall continue to support and link local and state infrastructure investments to better coordinate multi-modal transportation and mixed land uses, which encourage a reduction in vehicle miles traveled and in greenhouse gas emissions, improved energy efficiency, affordable housing proximate to urban work centers, and progress toward other sustainability and quality of life measures.

SMART GROWTH

POLICY 2.20.1 Adopt, implement and encourage land use provisions which promote the principles of the “Smart Growth” initiative seeking to maintain and create desirable and efficient communities for Broward County residents, visitors and economic interests including quality housing for all, integrated with excellent and sufficient public facilities and services, recreational opportunities and open space areas, and which maximizes preservation and conservation of natural resources.

POLICY 2.20.3 Broward County shall promote and encourage, and shall implement to the maximum extent feasible for those (re)development projects and lands owned by the County or within unincorporated areas, an increased efficiency of utilizing water and energy resources to reduce the consumption of water and fossil fuel energy and the production of waste materials via techniques such as efficient design, renewable energy, efficient equipment and green infrastructure management systems.

POLICY 2.20.4 Broward County shall promote and encourage, and shall implement to the maximum extent feasible where appropriate for those (re)development projects and lands owned by the County or within unincorporated areas, the preservation and creation of open space, areas of natural beauty, community gardens and similar uses, designed on an urban scale and suitable for an urban mixed use neighborhood, for perpetual public use.

POLICY 2.20.13 Adopt, implement and encourage provisions, incentives and methods to reduce future per capita use of natural and non-renewable resources such as water and fossil-fuel energy, and reduce the production of potentially harmful waste materials.

POLICY 2.20.14 Broward County shall promote and encourage, and shall implement to the maximum extent feasible for those (re)development projects and lands owned by the County or within unincorporated areas, the use of the “NatureScape Broward” program, and “Florida Friendly” landscaping, to create, and maintain attractive, low maintenance, low impact, healthy landscapes that reflect and help protect Broward’s natural resources.

POLICY 2.20.15 Broward County shall continue to promote and encourage, and shall implement to the maximum extent feasible for the operation of County government and those (re)development projects and lands owned by the County or within unincorporated areas, the utilization of environmentally friendly and energy efficient principles and methods consistent with programs such as the United States Green Building Council Leadership in Energy and Environmental Design (LEED) and Florida Green Building Coalition...

POLICY 2.20.16 Broward County shall pursue strategies to diversify energy sources in order to reduce greenhouse gas emissions within Florida.

POLICY 2.20.17 Broward County shall develop and adopt regulations to eliminate invasive exotic vegetation while encouraging the use of native vegetation, including maintaining a list of plant species which require minimal watering and fertilization.

CLIMATE RESILIENCY, ADAPTATION ACTION AREAS AND PRIORITY PLANNING AREAS

POLICY 2.21.1 Broward County shall evaluate plan amendments within Priority Planning Areas for Sea Level Rise and strongly discourage those amendments which would place additional residential and non-residential development at risk of flooding from sea level rise. In review of such amendments, the County shall consider: a. Sea level rise/flood protection mitigation strategies and requirements included within local comprehensive plans and/or development regulations; or b. Flood protection improvements committed to by amendment applicants, which would mitigate or enhance flood protection and adaptation from rising sea levels.

POLICY 2.21.2 Broward County shall, in coordination with its local municipalities and other affected agencies, designate Adaptation Action Areas (AAAs), per Florida State Law, in order to: a. Identify areas of regional significance that are vulnerable to the impacts of rising sea level; b. Identify and implement adaptation policies to increase community resilience; and c. Enhance the funding potential of infrastructure adaptation projects.

POLICY 2.21.3 Broward County shall update climate related policies and maps, including the Priority Planning Areas for Sea Level Rise Map, in the Land Use Plan with best available data, every 5 years or as available, including findings of the Broward County and USGS Joint Climate Change Inundation Modeling effort, which seeks to achieve a better understanding of the impacts of climate change and rising sea level on the County's water supplies, drainage and flood control systems.

POLICY 2.21.4 Broward County shall work cooperatively with local governments and transportation agencies to identify and evaluate transportation infrastructure at risk and help coordinate adaptation efforts for infrastructure immediately landward of coastal high hazard areas, in order to ensure functional access to emergency evacuation routes for coastal populations.

POLICY 2.21.5 Broward County shall, prior to approving land use plan amendments in the areas prone to flooding and/or the impacts of sea level rise, as identified on the Flood Plains, Flood Prone Areas, and Coastal High Hazard Areas Map and the Priority Planning Areas for Sea Level Rise Map, respectively, determine that the subsequent development will be served by adequate

storm water management and drainage facilities, not adversely affect groundwater quality or environmentally sensitive lands and not increase saltwater intrusion or area-wide flooding.

POLICY 2.21.6 Broward County shall support the goals and will, to the maximum extent feasible, implement, in coordination with affected stakeholders, the recommended actions of the Broward County Climate Change Action Plan and the Southeast Florida Regional Climate Action Plan as approved by the Broward County Climate Change Task Force and the Broward County Board of County Commissioners.

POLICY 2.21.7 In order to ensure coordination, consistency and maximum effectiveness of improvements necessary to mitigate high tide flooding associated with realized and additional sea level rise through the year 2070, tidally-influenced municipalities shall adopt within 24-months of the effective date of this Policy (February 13, 2020), regionally consistent top elevations for seawalls, banks and berms, and other appurtenant infrastructure (e.g., boat ramps) consistent with the findings and recommendations of the United States Army Corps of Engineers/Broward County Flood Risk Management Study for Tidally Influenced Coastal Areas. These standards shall be consistent with Chapter 39, Article XXV – Resiliency Standards for Flood Protection - of the Broward County Code of Ordinances, which shall serve as the model ordinance, and shall not be applicable to oceanfront beaches or shorelines seaward of the Coastal Construction Control Line.

WETLANDS

POLICY 2.22.1 The Broward County Environmental Protection and Growth Management Department shall protect the functional values of wetlands within Broward County through mechanisms such as its Environmental Resource License requirements.

POLICY 2.22.2 Broward County and its local governments shall consider the impacts of land use plan amendments on wetland resources and minimize those impacts to the maximum extent practicable.

ENVIRONMENTALLY SENSITIVE LANDS

POLICY 2.23.1 Natural resources that have been found to comply with the definition of Local Areas of Particular Concern have been identified on a Map of Local Areas of Particular Concern within the Future Broward County Land Use Map Series.

POLICY 2.23.2 Local Areas of Particular Concern are declared to be environmentally sensitive lands and upon adoption of this plan shall be subject to the provisions of the Broward County Land Development Code regarding environmentally sensitive lands.

POLICY 2.23.3 Broward County shall implement strategies for the protection of Local Areas of Particular Concern and other environmentally sensitive lands such as: acquisition by public or private organizations; establishment of a County trust fund for acquisition; adoption of innovative land development regulations; conservation easements; transfer of development rights; deed restrictions; and restrictive covenants.

POLICY 2.23.4 By 2019, Broward County shall work with Broward’s municipalities and interested stakeholders to study and recommend incentives to preserve designated environmentally sensitive lands that are privately controlled.

WATER RESOURCES MANAGEMENT

POLICY 2.24.1 Local land development codes and regulations shall provide for the protection and creation of surface waters in conformance with State and South Florida Water Management District policies.

POLICY 2.24.2 New development adjacent to or in the vicinity of surface waters shall be designed so as to minimize the direct discharge of stormwater runoff into such bodies of water.

POLICY 2.24.3 Designate and protect Broward County west of Levees 33, 35A, 36, L-37 and L-35 for Conservation Use in order to promote groundwater recharge and prevent salt water intrusion.

POLICY 2.24.4 To minimize soil erosion on new construction sites, the land development codes and regulations of all local government entities shall require treatments and other measures consistent with Chapter 27 of the Broward County Code.

POLICY 2.24.5 In order to enhance water management and community resiliency, Broward County shall support the integration of “green infrastructure” into the built urban environment.

POLICY 2.24.6 Broward County shall participate in and support regional water supply and conservation projects, including the C-51 reservoir project in Palm Beach County.

AIR QUALITY

POLICY 2.25.1 Broward County and its local governments shall review all proposed development with respect to the potential for related impacts to the regional air quality, negative impacts eliminated or effectively mitigated.

WELLFIELDS

POLICY 2.26.1 Broward County shall maintain and protect the functions of the County’s ground water recharge of the surficial aquifer system to improve and protect water supply, abate saltwater intrusion, and preserve or enhance environmental systems. This will be accomplished through water resource modeling and planning, and the implementation of existing regulations concerning wellfield protection, surface water permitting, water resource management, and hazardous materials facilities licensing and through regulations and policies developed as the result of water resource management studies, including but not limited to the South Florida Water Management District Lower East Coast Water Supply Plan and the U.S. Army Corps of Engineers Restudy of the Central Southern Florida Flood Control Project.

POLICY 2.26.2 In order to protect its existing and future potable water supply, Broward County shall continue to implement its Potable Water Supply Wellfield Protection Ordinance, as amended.

BEACHES AND RIVERS

POLICY 2.27.1 Land development codes and regulations shall require the protection and/or restoration of beaches, particularly dunes and vegetation, including dune construction, through techniques such as conservation easements, vegetation, elevated walkways, and clustering of development.

POLICY 2.27.3 The Broward County Land Use Plan and local land use plans shall give priority to protecting public beach access sites.

POLICY 2.27.4 Broward County and its local governments shall provide for the protection of marine habitat and water quality of Broward County's coastal waters, including the protection of natural and artificial reefs.

POLICY 2.27.5 Broward County, in cooperation with its coastal municipalities, shall develop a comprehensive beach management and maintenance plan to address activities including dune and vegetation management, beach nourishment, and sand by-passing. The plan shall include consideration of climate change impacts on these efforts.

SEA TURTLE LIGHTING

POLICY 2.28.1 In order to protect and enhance sea turtle nesting, coastal municipalities, in coordination with the Sea Turtle Conservation Program of the Broward County Environmental Protection and Growth Management Department, shall prepare and adopt land development regulations consistent with state and federal guidelines. Each coastal municipality shall also, through ordinance, adopt regulations to control beachfront lighting. Those regulations shall be consistent with Chapter 62B-55 (FAC) Model Ordinance for Marine Turtle Protection and they shall additionally be in compliance with Lighting/Development Categories as outlined in the Broward County Technical Report 97-06 Broward County Beach Lighting Management Plan.

GREENWAYS AND TRAILS

POLICY 2.29.2 Broward County's greenways and trails shall link neighborhoods with park and recreation facilities, beaches, conservation areas, schools and other public buildings, cultural and historic sites, business areas and multi-modal transportation facilities, in a manner generally consistent with the Broward Complete Streets Guidelines, or equivalent principles.

POLICY 2.29.3 Broward County's greenways and trails shall be designed to include restoration and enhancement of native ecological systems, including enhancement of the tree canopy, and provide opportunities for environmental education.

TRANSFER OF DEVELOPMENT RIGHTS

POLICY 2.34.1 Municipalities may adopt “Transfer of Development Rights” (TDR) programs within their jurisdictions, or, with other Broward County local governments pursuant to a legally binding agreement, and in accordance with this Plan. A TDR “sending area” must further a public purpose, such as, but not limited to, enabling the creation of significant public or private open space areas or corridors, protect environmentally sensitive lands, historical/archaeological resources, or areas identified as appropriate for climate resiliency strategies (e.g. repetitive loss properties, Priority Planning Areas, or Adaptation Action Areas).

ENVIRONMENTAL JUSTICE

POLICY 2.36.1 For local and regional land use policy and public infrastructure and services decisions, local governments and agencies should ensure environmental justice when considering the impacts to vulnerable populations, including but not limited to, the economically disadvantaged, racial and ethnic minorities, the uninsured, low-income children, the elderly, the homeless and those with chronic health conditions, including severe mental illness.

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SECTION 3: RECOMMENDED PRACTICES

ENVIRONMENTAL

POLICY 3.3.1 The preservation and proper maintenance of all significant tree groupings, and specific incentives for the reestablishment or creation of tree canopy should be a primary consideration of infill and redevelopment projects.

POLICY 3.3.4 Natural watercourses and their tributaries should be protected from alteration and preserved in their natural state.

POLICY 3.3.5 Encourage the restoration of Broward County's vegetative communities and hydrologic connections including those hydrologic connections to the Everglades and Big Cypress Swamp.

POLICY 3.3.6 Promote the acquisition, retention and management of unique natural areas in order to preserve their environmental, recreational and other public benefits.

POLICY 3.3.7 Support land acquisition and management practices which provide a sufficient fresh potable water supply, protect wildlife and natural resources, and provide public access to natural areas.

POLICY 3.3.8 The use of former landfill sites for public recreational purposes should be encouraged but not permitted until properly reclaimed and environmentally sound.

POLICY 3.3.9 Discourage activities in the vicinity of Local Areas of Particular Concern which would have a detrimental impact upon such areas.

POLICY 3.3.10 Encourage local governments to protect natural resources through the implementation of land development regulations and procedures that promote the acquisition, retention and management of such areas.

POLICY 3.3.12 Local land development regulations should protect Broward County's remnant natural rivers by prohibiting new construction, not including the repair or replacement, of bulkheads, revetments and seawalls in such areas, by promoting softened shorelines, riprap and other natural methods to prevent erosion, by requiring the restoration of historic vegetative cover to the areas being restored, and by ensuring that the construction of new docks is compatible with the growth of submerged and littoral vegetation and communities of bottom dwelling organisms.

POLICY 3.3.13 The Broward County Environmental Protection and Growth Management Department and local governments should mitigate the impacts of beach renourishment projects on near shore hard bottom areas through the creation of similar near shore habitat.

PUBLIC FACILITIES AND SERVICES

POLICY 3.4.1 Private septic tanks and wells in Broward County should be phased out and replaced with centralized water and wastewater systems, where necessary, to protect the health, safety, and welfare of Broward County's residents.

POLICY 3.4.3 The disposal of solid wastes by sanitary landfill should be environmentally sound and state of the art.

SMART GROWTH/COMPLETE STREETS

POLICY 3.6.8 Local land use elements and development codes should include design guidelines to promote use of light only where needed thereby limiting excess light and reducing glare and to create a safe and pedestrian scaled lit environment, utilizing Night Friendly Lighting or Dark Sky principles outlined in the Model Lighting Ordinance by International Dark-Sky Association and the Illuminating Engineering Society of North America, or other local resources, for the purpose of creating appropriate outdoor lighting standards that reduce energy use, increase public safety, and protect human health and wildlife.

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SECTION 2: IMPLEMENTATION REQUIREMENTS AND PROCEDURES

IMPLEMENTATION REGULATIONS AND PROCEDURES

8. CRITERIA AND PROCEDURES FOR ENVIRONMENTALLY SENSITIVE LANDS AND LOCAL AREAS OF PARTICULAR CONCERN

Broward County will conduct a review of all Natural Resources as defined in the text and depicted on the Natural Resource Map Series of the Broward County Land Use Plan. The review will determine whether such lands are environmentally sensitive and shall provide the basis for the regulation of those lands found to be environmentally sensitive as is required by Section 163.3202, Florida Statutes.

The Broward County Commission shall conduct a review of the following maps and, utilizing the criteria enumerated herein or utilizing additional alternative criteria reviewed and approved by the County Commission, make a determination as to whether the designation and regulation of additional Environmentally Sensitive Lands is appropriate:

- a. Existing and Planned Potable Water Wells and Zones of Influence
- b. Wetlands
- c. Flood Plains, Flood Prone Areas and Coastal Storm Area
- d. Mineral Resources
- e. Beaches and Shores, including, Rivers, Bays, Harbors, Primary Drainage, Canals, Lakes, Estuarine Systems and Dredge Spoil Disposal Sites
- f. Soils
- g. Local Areas of Particular Concern

Local Areas of Particular Concern (LAPCs) may be designated in six (6) categories according to the types of resources present. Unless otherwise indicated, LAPCs must have one (1) or more of the characteristics for the respective category.

1. Marine Resource Category

Coastal areas of unique, scarce, fragile, or vulnerable natural habitat, physical features and scenic importance; coastal areas of high natural productivity or essential habitat for fish, wildlife, and the various trophic levels in the food web critical to their well-being; coastal areas of substantial recreational value and/or potential, or; areas needed to protect, maintain, or replenish coastal flood plains, coral and other reefs, beaches, offshore sand deposits and mangrove stands.

2. Natural Landforms and Features Category

A geological, hydrological, or physiographical feature confined to a small area of Broward County and considered quite rare locally or regionally, or a representative natural ecosystem and/or its units existing in a few isolated locations, but extirpated from most of the County.

3. Native Vegetative Communities Category
 - (a) A Local Area of Particular Concern (Native Vegetative Communities Category) is an area which shows a predominance of native vegetation associated with one or more of the following ecological communities: Beach and Dune Community; Coastal Strand Forest Community; Mangrove Community (Saltwater Swamp); Scrub Community; Pine Flatwoods Community; High Hammock Community; Low Hammock Community; Cypress Wetland Community (Freshwater Swamp); or Everglades Community (Freshwater Marsh).
 - (b) In addition, a Local Area of Particular Concern (Native Vegetative Communities Category) must satisfy at least three (3) of the following criteria:
 - i. Uniqueness - The site contains a significant sample of rare or endangered species, or, the site is among a small number of sites in Broward County representing a particular ecological community.
 - ii. Diversity - A significant sample of two (2) or more ecological communities are contained within the site.
 - iii. Low Level of Exotic Invasion - The degree and nature of exotic invasion on the site is such that it can be easily managed or mitigated.
 - iv. Potential for Protection -Ownership patterns, development status and other factors make the resources of a site likely to be successfully protected.
 - v. Geography - The site has proximity to other resources which would heighten its value as a LAPC (e.g., other ESLs, public parks, waterfront).
4. Wildlife Category
Existing wildlife refuges, reserves, and sanctuaries; known habitats of rare, threatened, or endangered species or species of special concern; major wildlife intensive use areas such as well-developed hammock communities, highly productive coastal tidelands, and mangroves; or areas used for scientific study and research on wildlife.
5. Economic Resource Category
Existing ports, marinas, piers, energy resources, and artificial reefs or areas noted for specific study and research concerning economic development.
6. Cultural Resource Category
Sites designated on the National Register of Historic Places or on the Florida Master Site File; sites related to the general development of the local area, region, or State; buildings which are significant examples of the architectural design of their period, or; sites associated with the life/lives of important person(s) or social, political, cultural, or economic movements or with historical events; or archaeological or paleontological sites which have yielded useful information on the area's past.

9. CRITERIA FOR DESIGNATING ADAPTATION ACTION AREAS OF REGIONAL SIGNIFICANCE

As consistent with the Broward County Land Use Plan, Adaptation Action Areas (AAAs) may be designated by a local government in order to identify areas vulnerable to sea level rise, enhance the funding potential of infrastructure adaptation projects and implement policies for adaptation.

To be eligible for an AAA of Regional Significance designation, the applicant must clearly detail how vulnerabilities identified in the proposed AAA will be exacerbated by climate change or sea level rise within a 50-year planning horizon. In addition, the proposed AAA must meet at least one (1) of the following criteria:

- a. Areas which experience tidal or coastal flooding;
- b. Areas which have a hydrologic connection to coastal waters;
- c. Locations which are within areas designated as evacuation zones for storm surge;
- d. Areas vulnerable to flash floods and severe storm water runoff or coastal erosion; or
- e. Areas vulnerable to other predicted impacts of climate change and sea level rise where management strategies, infrastructure investments, and planning decisions can help to mitigate the magnitude or severity of future climate impacts.

Local governments may apply for County designation of an AAA of Regional Significance within the Broward County Land Use Plan if the identified problem(s) conform(s) with one (1) or more of the criteria identified above, or additional demonstration of climate vulnerability is provided. In addition, proposed adaptation strategies for the designated area should demonstrate investments and benefits of regional significance. The Unified Sea Level Rise Projection for Southeast Florida and the Broward County Priority Planning Area Map may serve as reference materials in review of the request. Notice submitted to the Planning Council should include:

- a. The geographical area under consideration;
- b. Documentation of the issue(s) or vulnerability of the area;
- c. A description of strategies, policy and/or infrastructure improvements proposed; and
- d. Explanation of how these solutions will reduce risk and increase the area's resilience to climate impacts.

County staff will review and issue a joint recommendation pertaining to the requested AAA of Regional Significance designation. A fee will not be charged for review of the proposed AAA designations. The Broward County Commission or the Broward County Planning Council may also initiate an application for AAA designation. If the Broward County Commission or the Broward County Planning Council will be the applicant for an AAA designation, the County

or Planning Council staff, as applicable, shall notify, in writing, any municipality in which the proposed AAA is located. Such written notification shall be sent at least thirty-five (35) days before the first County Commission or Planning Council meeting to consider the AAA designation and will solicit comment from the municipality. Municipal comments received will be included as part of the AAA report reviewed by the County Commission and Planning Council. Applications may also be submitted for de-designation by the original applicant or property owner, the Broward County Planning Council or the Broward County Commission, based on adaptation investments, reduction of vulnerability, changes in community priorities, cost-benefit considerations, changes in land use, or other environmental, economic or social considerations which support de-designation.

Areas designated by the County as AAAs of Regional Significance will be added to the Broward County Priority Planning Areas for Sea Level Rise Map as part of the Broward County Land Use Plan.

Ref No. on SLR Map	AAA Name	Applicant	Qualifying Criteria Met	Strategies Proposed	Expected Benefits
1	Port Everglades Sand Bypass Project Area	Broward County	c) Storm Surge d) Coastal Erosion e) Sea Level Rise	-Sand bypass at Port Everglades -Beach renourishment -Shoreline management	-Protection of critical infrastructure -Protection of public and private property -Preservation of habitat for threatened and endangered species -Reduced shoaling in the navigation channel -Maintenance of recreational opportunities at John U. Lloyd Beach State Park -increased potential of Federal permitting and funding support