Chapter 10: Environmental Mitigation

The Moving Martin Forward 2040 LRTP addresses potential environmental mitigation activities as required by federal regulations.

23 Code of Federal Regulations (CFR) 450.322:

(f) The metropolitan transportation plan shall, at a minimum, include:

(7) A discussion of types of potential environmental mitigation activities and potential areas to carry out these activities, including activities that may have the greatest potential to restore and maintain the environmental functions affected by the metropolitan transportation plan. The discussion may focus on policies, programs, or strategies, rather than at the project level. The discussion shall be developed in consultation with Federal, State, and Tribal land management, wildlife, and regulatory agencies. The MPO may establish reasonable timeframes for performing this consultation.

Transportation projects can significantly impact many aspects of the environment including wildlife and their habitats, wetlands, and groundwater resources. In situations where impacts cannot be completely avoided, mitigation or conservation efforts are required. Environmental mitigation is the process of addressing damage to the environment caused by transportation projects or programs. The process of mitigation is best accomplished through enhancement, restoration, creation and/or preservation projects that serve to offset unavoidable environmental impacts.

The Martin MPO is committed to minimizing and mitigating the negative impacts of transportation projects on the natural and built environment in order to preserve and enhance quality of life. Martin County has enacted wetland and upland protection measures to preserve wetlands and native upland habitats and maintain their ecological functions. All wetlands in unincorporated Martin County are protected. A 50 feet buffer zone (75 feet if the wetland is connected to waters of the State) is required around wetlands to provide an upland transition area which can protect the wetland from negative impacts. Where possible, these buffers contain native upland habitat. Upland protection measures have been implemented in Martin County to prevent the loss of native upland habitats to development or to the spread of exotic invasive plant species. In addition, Martin County is already addressing the negative effects of sea level rise and climate change through the flood plain process. Martin County recently updated all flood plain maps for sea level rise and adopted the modified maps on March 16, 2015.

In the State of Florida, environmental mitigation for transportation projects is completed through a partnership between the MPO, FDOT, and state and federal environmental resource and
regulatory agencies, such as the Water Management Districts (WMDs) and the Florida Department of Environmental Protection (FDEP). These activities are directed through Section 373 Florida Statutes (F.S.), which establishes the requirements for mitigation planning as well as the requirements for permitting, mitigation banking, and mitigation requirements for habitat impacts. Under this statute, FDOT must identify projects requiring mitigation, determine a cost associated with the mitigation, and place funds into an escrow account within the Florida Transportation Trust Fund. State transportation trust funds are programmed in the FDOT work program for use by the WMDs to provide mitigation for the impacts identified in the annual inventory.

Section 373.4137, F.S., establishes the FDOT mitigation program that is administered by the state's WMDs, which are responsible for developing an annual mitigation plan with input from Federal and State regulatory and resource agencies, including representatives from public and private mitigation banks. Each mitigation plan must focus on land acquisition and restoration or enhancement activities that offer the best mitigation opportunity for that specific region. The mitigation plans are required to be updated annually to reflect the most current FDOT work program and project list of a transportation authority. The FDOT Mitigation Program is a great benefit to MPOs because it offers them an additional method to mitigate for impacts produced by transportation projects and it promotes coordination between federal and state regulatory agencies, MPOs, and local agencies.

When addressing mitigation, there is a general rule to avoid all impacts, minimize impacts, and mitigate impacts when impacts are unavoidable. This rule can be applied at the planning level, when MPOs are identifying areas of potential environmental concern due to the development of a transportation project. A typical approach to mitigation that MPOs can follow is to:

- avoid impacts altogether;
- minimize a proposed activity/project size or its involvement;
- rectify the impact by repairing, rehabilitating, or restoring the affected environment;
- reduce or eliminate the impact over time by preservation and maintenance operations during the life of the action; and
- compensate for environmental impacts by providing appropriate or alternate environmental resources of equivalent or greater value, on or off-site.
Sections 373.47137 and 373.4139, F.S. require that impacts to habitat be mitigated for through a variety of mitigation options, which include mitigation banks and mitigation through the Water Management District(s) and the DEP. Potential environmental mitigation opportunities that could be considered when addressing environmental impacts from future projects proposed by MPOs may include, but are not limited to, the items presented in Table 10-1.

**Table 10-1. Environmental Mitigation**

<table>
<thead>
<tr>
<th>Resource/Impacts</th>
<th>Potential Mitigation Strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wetlands and Water Resources</td>
<td>▪ Restore degraded wetlands</td>
</tr>
<tr>
<td></td>
<td>▪ Create new wetland habitats</td>
</tr>
<tr>
<td></td>
<td>▪ Enhance or preserve existing wetlands</td>
</tr>
<tr>
<td></td>
<td>▪ Improve storm water management</td>
</tr>
<tr>
<td></td>
<td>▪ Purchase credits from a mitigation bank</td>
</tr>
<tr>
<td>Forested and other natural areas</td>
<td>▪ Use selective cutting and clearing</td>
</tr>
<tr>
<td></td>
<td>▪ Replace or restore forested areas</td>
</tr>
<tr>
<td></td>
<td>▪ Preserve existing vegetation</td>
</tr>
<tr>
<td>Habitats</td>
<td>▪ Construct underpasses, such as culverts</td>
</tr>
<tr>
<td></td>
<td>▪ Other design measures to minimize potential fragmenting of animal habitats</td>
</tr>
<tr>
<td>Streams</td>
<td>▪ Stream restoration</td>
</tr>
<tr>
<td></td>
<td>▪ Vegetative buffer zones</td>
</tr>
<tr>
<td></td>
<td>▪ Strict erosion and sedimentation control measures</td>
</tr>
<tr>
<td>Threatened or Endangered Species</td>
<td>▪ Preservation</td>
</tr>
<tr>
<td></td>
<td>▪ Enhancement or restoration of degraded habitat</td>
</tr>
<tr>
<td></td>
<td>▪ Creation of new habitats</td>
</tr>
<tr>
<td></td>
<td>▪ Establish buff areas around existing habitat</td>
</tr>
</tbody>
</table>

Planning for specific environmental mitigation strategies over the life of the long range transportation plan can be challenging. Potential mitigation challenges include lack of funding for mitigation projects and programs, lack of available wetland mitigation bank credits, improperly assessing cumulative impacts of projects, and permitting issues with the county, local, state and federal regulatory agencies. These challenges can be lessened when MPOs engage their stakeholders, including regulatory agencies, the public and other interested parties, through the public involvement process. The public involvement process provides MPOs an efficient method to gain input and address concerns about potential mitigation strategies and individual projects.

In addition to the process outlined in the Florida Statutes and implemented by the MPO and its partner agencies, the Efficient Transportation Decision Making (ETDM) process is used for seeking input on individual qualifying long range transportation projects allowing for more specific
commentary. This provides assurance that mitigation opportunities are identified, considered and available as the plan is developed and projects are advanced. Through these approaches, the State of Florida along with its MPO partners ensures that mitigation will occur to offset the adverse effects of proposed transportation projects.

Figure 10-1 depicts the approximate ownership of conservation lands in Martin County. Although it is appropriate to provide a general idea of the location and extent of conservation lands in Martin County, there may be discrepancies with legal descriptions. Roughly one-quarter of land in Martin County is in conservation.

The following is a list of plans and data sources reviewed specific to the development of the environmental mitigation documentation.

**Allapattah Flats Management Area Ten-Year General Management Plan 2014-2024**

The Allapattah Flats Management Area Ten-Year General Management Plan describes the historical, ecological, and managerial aspects of the area as a means to coordinate effective management programs. The plan guides District land management personnel toward ecological beneficial and cost-effective land management practices. Land has been purchased with funding from the Save our Everglades Trust Fund, Martin County, the Natural Resources Conservation Service Wetlands Reserve Program, and the District’s Everglades ad valorem tax. The primary drainage for Allapattah Flats was the C-23 canal that was constructed along the Martin County/St. Lucie County Line in 1942. A significant portion of the Allapattah Flats property in Martin County, known as the Allapattah Ranch, and its surrounding properties were evaluated in 1996 as a potential acquisition under the Conservation and Recreational Lands and Save Our Rivers programs.

**The Central and Southern Florida Project Comprehensive Review Study: Restoring the Everglades, 2000**

The lead agency for this study, Army Corps of Engineers, collaborated with scientists to create an innovative and experimental restoration plan for the Florida Everglades. The study embodies a paradigm for agency management of natural resources and ecosystem management. It focuses management on entire ecosystems rather than individual resources or distinct goals such as flood control and water quality.
Comprehensive Everglades Restoration Plan Central and Southern Florida Project

Biscayne Bay Coastal Wetlands, Phase I, 2011

As the first step in the restoration of the southeastern portion of the Everglades ecosystem, the Biscayne Bay Coastal Wetlands Project will modify the flow of freshwater to Biscayne Bay. In addition, it is a component of the Comprehensive Everglades Restoration Plan (CERP). The CERP is a framework for preserving and protecting the South Florida ecosystem while providing for other water-related needs of the region, including water supply and flood protection. The project intends to redistribute freshwater runoff and will be accomplished through a series of pumps, culverts, spreader canals, and mosquito ditch plugs throughout the project area.


The goal of the Florida Coastal Management Program is to promote the effective protection and use of the land and water resources of the coastal zone. It is based on a network of agencies implementing 24 statutes that protect and enhance the state’s natural, cultural, and economic coastal resources. One of the state’s aquatic preserves is located in Martin County from Jensen Beach to Jupiter Inlet.

Land Management Plan Amendment Savannas Preserve State Park, 2011

Savannas Preserve State Park is a public outdoor recreation and conservation area located in St. Lucie and Martin Counties. The southern portion of the park is in Martin County. Martin County and the Division of Recreation and Parks are working together to integrate the County’s development of enhanced bicycle and pedestrian trail facilities related to the East Coast Greenway. The East Coast Greenway (ECG) is a combined greenway and trail system and 600 miles of trail are planned to be developed along the east coast of Florida. Providing new opportunities for non-vehicular access to the state parks and enhancing the recreational experiences of the parks’ visitors will further the County’s goals.

Atlantic Ridge Preserve State Park Unit Management Plan, 2005

Atlantic Ridge Preserve State Park consists of two distinct sections, both sites of which are located in Martin County; Atlantic Ridge and the Medalist. An agreement in 2004 was reached with Martin County and an adjacent land developer to construct a shared entrance off Cove Road to the Atlantic Ridge. The Medalist does not have public access due to deed restrictions. The Medalist
property is separated from the Atlantic Ridge property by agriculture and private hunting lands. The plan consists of two interrelated components, resource management and land use. The resource management component provides a detailed inventory and assessment of the natural and cultural resources of the park. The land use component is the recreational resource allocation plan for the unit.

Jonathan Dickinson State Park Unit Management Plan, 2012

Jonathan Dickinson State Park is located in Martin County and Palm Beach County. Access to the park’s main entry is from Federal Highway, U.S. 1. The park continues to provide Florida’s residents and visitors with a high-quality resource-based outdoor recreation experience. The purpose for acquiring the park was to protect, develop, operate, and maintain the property for public outdoor recreation, conservation, historic, and related purposes. The components of larger ecosystems are often parks because of their proper management can be affected by conditions and events that occur beyond park boundaries.

Loxahatchee River Science Plan, 2010

The development of a science plan for the Loxahatchee River to monitor effects of restoration efforts to support adaptive management of the system and fill knowledge gaps critical to ecosystem restoration success. It serves as a guide for scientific data collection and analysis to be conducted over the next five years and for the efficient application of resources to prioritize and implement the needed science to protect and restore the Loxahatchee River. The watershed ecosystem has experienced adverse environmental impacts due to alterations in watershed and hydrology and the opening of Jupiter Inlet. Implementation of the science plan requires a collaborative effort among the interagency team and Martin County Division of Environmental Quality was recognized as one.

Hobe Sound National Wildlife Refuge, 2006

The Hobe Sound National Wildlife Refuge is an asset of Martin County, which helps maintain its image and expands local support for conservation efforts. The future of this is dependent upon a public constituency that is knowledgeable of refuge resources and mandates, as well as environmental issues, and that is willing to work toward resolving them. This plan provides actions to protect, restore, and conserve wildlife habitat. In addition, this plan expands education and
appropriate, compatible, wildlife-dependent recreational opportunities. This plan will be reviewed every five years to determine the need for change if significant information becomes available.

**Conclusion**

Martin MPO assessed the cost feasible plan to determine each project’s proximity to natural or sociocultural resources in an effort to evaluate potential environmental mitigation. In conclusion, Martin County and its municipalities have shown a commitment to and will continue to avoid impacts to environmentally sensitive lands by implementing environmental mitigation strategies such as those listed in Table 10-1.
This Geographic Information System Map Product, received from Martin County ("COUNTY") is not intended to be used for legal, survey, engineering, planning, or any other purposes for which accurate measurements or distance calculations are required. This map is for general reference only. The COUNTY does not warrant, guarantee, or make any representation regarding the use, or the results of the use, of the information provided to you by the COUNTY in terms of correctness, accuracy, reliability, timeliness or otherwise. The entire risk as to the results and performance of any information obtained from the COUNTY is entirely assumed by the recipient. This is not a survey.