

2.3 LITERATURE REVIEW



“Floridians have spent most of the 20th Century trying to destroy the Everglades, and much of it trying to save the Everglades, often at the same time.”

– Governor Chiles, 1991



Influencing Document Samples

Introduction

The purpose of this section is to document the extensive literature base that exists as a result of years of evaluations and studies in the region, provide a summary of a portion of this literature for reports and studies particularly relevant to ROGG, and assess the planning implications for the feasibility and master plan of the ROGG stemming from this literature base. This section begins with an overview of the various types of documents that are potentially relevant to the current conditions, proposed restored conditions, and/or regulatory setting for the ROGG. The remainder of this section consists of brief summaries of the contents of representative documents and an assessment of the relevance for the regulatory requirements, design considerations, physical setting, or other factors relevant to the feasibility assessment and master plan for ROGG. Each document summary provides the timeframe of issuance, responsible agency, the purpose of the document, and items identified in the document that would need to be addressed through design considerations and ends with an assessment of potential implications for planning efforts.

2.3.1 Guiding Documents

The ROGG occurs within an area that has been the subject of a number of planning and implementation studies associated with the roadway corridor or the greater Everglades systems. In an effort to build upon the works of previous adopted plans and studies and to ensure coordination with other official documents that could influence the development of ROGG, multiple sources of information were reviewed. These sources identify designated improvements, regional studies, and regulations that could influence the development of or feasibility assessment for ROGG. They can be classified into five broad categories:

Guiding Document Categories:

- Governing Codes and Ordinances,
- Master Plans and Management Plans,
- Transportation Studies and Plans,
- Environmental and Cultural Recourse Documents,
- Design Guidelines and Methodologies.

An overview of each of these categories is provided:

Governing Codes and Ordinances

Future improvements required for ROGG are subject to regulations consisting of statutes, codes, and ordinances promulgated and enforced by local, state, and federal agencies. These regulations identify requirements that need to be met for projects to be implemented. They also identify activities or actions that are prohibited from occurring for a spectrum of issues, including potential impacts to natural or cultural resources, incompatible land uses, and unauthorized construction activities. Federal codes and ordinances include acts passed by the U.S. Congress, such as the ESA and the National Historic Preservation Act, as well as Executive Orders and regulatory guidance criteria established by federal agencies. State codes and ordinances consist primarily of the Florida Statutes and FAC. Guidance documents of state regulatory agencies, such as the Environmental Resource Permitting Manual for ERPs, also provide insight on implementation for the codes. Local regulations such as the Miami-Dade County Land Development Regulations and the Collier County Land Development Code provide the requirements for planning, constructing, and operating systems within the respective counties. Regulatory agencies typically review projects as part of the permit application process for each of these different categories of codes and ordinances. Future improvements for ROGG will be required to comply with these regulations and with the permit processes associated with the regulations.

Master Plans and Management Plans

This category of influencing documents consists of master plans and management plans that guide the use of public lands and/or recreational open space within the ROGG Study Area. The NPS has established master plans and/or management plans for the ENP and Big Cypress National Preserve that guide resource management and long-term improvements for these parks. Supplemental plans such as the Big Cypress National Preserve Long-Range Interpretive Plan and/or NPS ENP Superintendent's Compendium provide additional details and guidance on implementation for specific components of the overall master/management plans. Similarly, the state of Florida requires management plans for all public lands owned by the state to guide resource management and long-term improvements. Required to be updated every 10 years or when substantial changes are anticipated to occur to the subject property, these management plans address a variety of components associated with the management of the public land. These include documentation of existing conditions and uses, master plans for proposed improvements, and management requirements. Management plans are in place for all state-owned lands within the ROGG Study Area.

Miami-Dade County and Collier County have also prepared master plans for the system of parks, recreation and open space within each county. These plans identify

parks and recreation needs as well as proposed system improvements for each county. All of these plans provide guidance on existing and future destinations for ROGG as well as management and requirements for the properties that need to be addressed or maintained by future ROGG facilities. Improvements for ROGG that are determined to be feasible may require updates to the management plans for some or all of the facilities, which requires an extensive public review process for each plan.

Transportation Studies

The transportation system within the ROGG Study Area includes pedestrian, bicycle, and motorized vehicular modes that have been subject to planning and evaluation studies since the Tamiami Trail was originally established. The FHWA and FTA are federal agencies that provide funding, planning support, and review of transportation projects and have jointly assessed needs for transportation requirements for federal lands in recent years. FDOT owns and manages the U.S. 41 ROW, including monitoring traffic conditions and use of the roadway, and is the lead agency for conducting reviews for most improvements occurring within the ROW. FDOT has conducted several NEPA-compliant Project Development and Environment (PD&E) studies in recent years for improvements to portions of U.S. 41 within the ROGG Study Area for lane and shoulder improvements. FDOT also administers the ETDM process

to review potential environmental effects during the planning phase of qualifying transportation projects and has conducted several ETDM screenings for the ROGG in recent years.

Miami-Dade County and Collier County have developed non-motorized bicycle/ pedestrian plans that include assessments for pathways, greenways, and bicycle and pedestrian use within the counties. Transportation studies provide design criteria, assessment and review of environmental issues, and other considerations for the design and construction of facilities on and adjacent to U.S. 41 as well as regional systems to connect with and/or enhance as part of the ROGG.

Environmental and Cultural Resource Documents

The natural and cultural resources of the ROGG Study Area are some of the most intensively studied in the region and subject to extensive regulatory requirements, all of which have resulted in a diverse array of completed documents. The USACE together with the SFWMD and other partners are implementing the restoration of the Everglades system consistent with plans and projects identified in CERP and through more detailed PIRs. The NPS has prepared EA/EIS documents for various improvements within the ENP and Big Cypress National Preserve as well as the EIS for the bridging improvements on U.S. 41 in the eastern portion of the ROGG Study Area. As part of the EA/EIS/PIR

Governing Codes and Ordinances

- Clean Air Act of 1970, as amended,
- Clean Water Act of 1972, as amended,
- Coastal Zone Management Act of 1972, as amended,
- Collier County Growth Management Plan,
- Collier County Land Development Code,
- Endangered Species Act of 1973,
- Energy Independence and Security Act of 2007,
- EO 11593: Protection and Enhancement of the Cultural Environment,
- EO 11988: Floodplain Management,
- EO 11990: Protection of Wetlands,
- EO 13443: Facilitation of Hunting Heritage and Wildlife Conservation,
- Florida Administrative Code,
- Florida Coastal Management Zone,
- Florida Statutes,
- Miami-Dade County Comprehensive Development Master Plan,
- Magnuson-Stevens Fishery and Conservation Management Act
- Miami-Dade County Land Development Regulations,
- Miami-Dade County Zoning Codes and Ordinance,
- National Environmental Policy Act of 1969, as amended,
- National Historic Preservation Act of 1966, as amended,
- National Parks Omnibus Management Act of 1998,
- Noise Control Act of 1972,
- NPS Organic Act,
- Section 106 of the National Historic Preservation Act of 1966,
- SFWMD Basis of Review for Environmental Resource Permit Applications,
- SFWMD Public Use Rule,
- Water Resources Development Act of 1992.

Master Plans and Management Plans

- Everglades National Park / Master Plan (1979),
- NPS Everglades National Park – East Everglades Addition Land Protection Plan (1991),
- NPS Big Cypress National Preserve General Management Plan and Final Environmental Impact Statement (1991),
- NPS Big Cypress National Preserve Water Resources Management Plan (1996),
- FDEP Fakahatchee Strand Preserve State Park Unit Management Plan (2000),
- NPS Big Cypress National Preserve Long-Range Interpretive Plan (2002),
- FFWCC – A Conceptual Management Plan for The Everglades Complex of Wildlife Management Areas (Everglades/Francis S. Taylor, Holey Land and Rotenberger Wildlife Management Areas) (2002),
- FDEP Collier – Seminole State Park Unit Management Plan (2004),
- Miami-Dade County Aesthetics Master Plan (2008),
- Miami-Dade County Parks and Open Space System Master Plan (2008),
- NPS Everglades National Park Visitor Study (2008),
- USACE Regional Draft Report for the Conceptual Recreation Plans for the Master Plan of the Comprehensive Everglades Restoration Program (2008),
- Florida Division of Forestry Ten-Year Resource Management Plan for the Picayune Strand State Forest (2008),
- NPS Big Cypress National Preserve Addition Final General Management Plan/Wilderness Study/Off-Road Vehicle Management Plan/Environmental Impact Statement (2010),
- SFWMD Recreation Management and Partnership Plan: Land Stewardship Division (2011),
- Collier County Parks and Recreation Master Plan (2011),
- NPS Everglades National Park Superintendent's Compendium (2012),
- NPS Big Cypress National Preserve Superintendent's Compendium (2012),
- NPS Everglades National Park Draft General Management Plan / East Everglades Wilderness Study / Environmental Impact Statement (GMP) (2013).

reviews, cultural resource assessments for significant areas and/or cultures within the corridor have been completed. The USFWS has issued Biological Opinions that address potential impacts, mitigation, and protection measures for listed species for a number of projects within the ROGG Study Area. These documents provide information about design criteria, future improvements within the ROGG Study Area that need to be accommodated by ROGG facilities, environmental and cultural resource conditions and issues, and the regulatory considerations that would influence the feasibility assessment and master plan for ROGG.

Design Guidelines and Methodologies

Federal, state, and local regulatory and resource management agencies have prepared design guidelines and project evaluation methodologies for planning and design, environmental assessments, and operation of new facilities, including greenways like ROGG. Implementation guidelines and manuals have been developed by regulatory agencies for implementing national, state, or local standards in the development of an improvement, such as the Americans with Disabilities Act Accessible Guidelines. Other design

guidelines provide best practices for planning, design, and development of facilities like those that would be needed for ROGG. These documents identify minimum standards and/or evaluation criteria for planning or design elements for the feasibility assessment and master plan for ROGG.

A second set of documents in this category consist of evaluation methodologies for potential impacts to natural and cultural resources that would result from a proposed improvement, such as the USFWS Panther Habitat Assessment Methodology. These methodologies

typically include minimum requirements for maintaining the resource, thresholds for determining permit requirements, documentation and survey requirements to provide to reviewing agencies, and/or criteria that establish the degree of impact and/or mitigation that would be required for a given improvement.

Transportation Studies

- North Dade Greenways Master Plan (1997),
- Miami-Dade MPO Bicycle Facilities Plan (2001),
- FHWA / FTA Federal Lands Alternative Transportation Systems Study (2001),
- FDOT US 41 PD&E Study from CR 951 to CR 92 (2008)
- Miami-Dade MPO Bicycle and Pedestrian Plan Update (2009),
- Florida Scenic Highways Project Evaluation Report (2009)
- FDOT De-Designation of the Tamiami Trail National Scenic Byway (2009),
- ETDM Summary Report for Project #12596 – River of Grass Greenway; Programming Screen (Published January 2010, April 2010, March 2011),
- Automated Bicycle Rental System and Parking Plan Study (2011),
- FDOT Environmental Determination for Tamiami Trail PD&E (2011),
- FDOT AADT Report (2011 and 2012),
- Collier MPO Comprehensive Pathways Plan (2012).

Environmental and Cultural Resource Documents

- Central and Southern Florida Project Comprehensive Review Study Final Integrated Feasibility Report and Programmatic Environmental Impact Statement (1999),
- USFWS Biological Opinion for the Modified Water Deliveries to Everglades National Park Project, Experimental Water Deliveries Program, and the C-111 Project (1999),
- USFWS Biological Opinion for the Final Recreational Off-Road Vehicle Management Plan Supplemental Environmental Impact Statement for the Big Cypress National Preserve (2000),
- NPS Final Recreational Off-Road Vehicle Management Plan Supplemental Environmental Impact Statement for Big Cypress National Preserve (2000),
- NPS Scenic Corridor Visitor Safety Highway Improvements Environmental Assessment (2001),
- Big Cypress ,
- USFWS Biological Opinion for the Tamiami Trail Portion of the Modified Water Deliveries to Everglades National Park Project (2006, 2008 modification, 2010 modification),
- URS Corporation (for FDOT) Cultural Resource Assessment Study for US-41 PD&E from Collier Boulevard to San Marco Drive (2007),
- NPS Pilot Spreader Swale Project Environmental Assessment (2008),
- Tamiami Trail Modifications Final Integrated Limited Reevaluation Report and Environmental Assessment (2008),
- Documentation and Evaluation of Coopertown (8DA6767) and the Airboat Association of Florida (8DA6768) and an Assessment of Effects of Modifications to Tamiami Trail (2009),
- NPS Big Cypress National Preserve Commercial Services Plan & Environmental Assessment (2009),
- USFWS Final Fish and Wildlife Coordination Act Report for the Decentralization Physical Model Project (2009),
- USFWS Biological Opinion for the Picayune Strand Restoration Project (2009) ,
- USFWS Final Fish and Wildlife Coordination Act Report for the L-30 Seepage Management Pilot Project (2009),
- Collier County Guide to Historic Sites in Collier county (2010) ,
- NPS Environmental Assessment for the Loop Road Improvements, Big Cypress National Preserve (2010),
- USFWS Biological Opinion for the Draft Final General Management Plan for the Big Cypress National Preserve – Addition (2010),
- USFWS Biological Opinion for the Everglades Restoration Transition Plan, Phase 1 (2010, 2012 modification),
- USFWS Biological Opinion for the Tamiami Trail Modifications: Next Steps Project (2010),
- USFWS Coordination Letter for the Roadside Animal Detection System (RADS) Project at US Highway 41 – Turner River (2010),
- NPS Tamiami Trail Modifications: Next Steps / Final Environmental Impact Statement (2011),
- USACE Ethnographic Study and Evaluation of Traditional Cultural Properties of the Modern Gladesmen Culture (2011),
- USFWS Biological Opinion for the Krome Avenue Widening from US 27 to US 41 (2011),
- USACE / SFWMD Central Everglades Planning Project Proposed Final Array (2012),
- NPS Environmental Assessment for the Designated ORV Trail Heads and Turn Lanes, Big Cypress National Preserve (2012),
- Comprehensive Everglades Planning Project (CEPP): Proposed Final Array (PDT #18) (2012),
- USFWS Biological Opinion for the Big Cypress National Preserve ORV Trail Heads and US 41 Turn Lanes Construction (2012),
- Central Everglades Planning (CEPP) Project Draft Integrated Project Implementation Report (PIR) and Environmental Impact Statement (EIS) (2013),
- Copeland Prairie Mitigation Plan (2013).

Design Guidelines and Methodologies

- DO 87A: NPS Transportation Guidebook and Park Road Standards (1984),
- USFWS Habitat Management Guidelines for Wood Stork in the Southeast Region (1990),
- NPS Guidelines for Evaluating and Documenting Rural Historic Landscapes (1999),
- AASHTO Guide for the Development of Bicycle Facilities (1999),
- Florida Department of Transportation: Bicycle Facilities Planning and Design Handbook (2000),
- USFWS Cape Sable Seaside Sparrow Species Conservation Guidelines (2003),
- Manual on Uniform Traffic Control Devices for Streets and Highways (2003 ed. And 2009 ed.),
- AASHTO Guide for the Planning, Design and Operation of Pedestrian Facilities (2004),
- Americans with Disabilities Act Accessible Guidelines (2004 ed. and 2009 ed.),
- USACE / SFWMD Central and Southern Florida Project Comprehensive Everglades Restoration Plan Program Management Plan Master Recreation Plan (2004),
- USFWS Draft Species Conservation Guidelines for American Crocodile (2004),
- USFWS Draft Snail Kite Management Guidelines (2006),
- USFWS National Bald Eagle Management Guidelines (2007),
- USFWS Florida Panther (*Puma concolor coryi*) Recovery Plan (2008),
- Miami-Dade County Trail Design Guidelines and Standards: Ludlam Trail Case Study (2011),
- USFWS Wood Stork Core Foraging Analysis Methodology (2010),
- Miami-Dade County Trail Benefits Study: Ludlam Case Study (2011),
- AASHTO Guide for the Development of Bicycle Facilities (2012),
- USFWS Panther Habitat Assessment Methodology (2012),
- FDOT Project Traffic Forecasting Handbook (2012),
- FDOT Plans Preparation Manual (PPM) and Standard Indexes (2013).

2.3.2 Significant Guiding Document Summaries

More than 100 guiding documents across the five categories identified above were reviewed as part of the feasibility study and master plan for ROGG. Although all have some relevance to the planning, design, and future operation of ROGG, several documents have particular relevance to specific aspects of ROGG. This section provides a summary of the 26 of the most relevant documents, the vast majority of which are from the categories of master/management plans, transportation studies, and environmental and cultural resource documents. These summarized are arranged chronologically by category with the oldest articles summarized first to provide the foundation upon which later reports and studies were based. Although the governing codes and ordinances and design guidelines and methodologies are significant for the project, the studies summarized below have particular relevance to specific components or segments of ROGG. Some of the governing codes and ordinances for environmental issues are addressed in Section 2.1 – Context. These summaries are comprised of the name and date of publication of the document, a brief overview of the content and key elements, and an assessment of the relevance of the document to the feasibility assessment and master plan for ROGG.

Governing Codes and Ordinances

South Florida Water Management District (SFWMD) Public Use Rule; 2006

SFWMD has established regulations governing public access to certain District lands with permitted outdoor recreation uses, including those of the WCAs in the ROGG Study Area. The intent of the regulations is to protect water resources, native plant communities, fish and wildlife populations and other natural features along with any historic and cultural improvements. As part of the original C&SF Project, these WCAs included vast swaths of wet prairie, marsh, and tree island landscapes. Adjacent to approximately 20 miles of the ROGG Study Area is the Francis S. Taylor Wildlife Management Area (WCA-3A and WCA-3B). Ownership is a mix of easements and fee by the State of Florida, SFWMD and private ownership, while the FFWCC provides public use management of the area. The following rules pertinent to the feasibility assessment and master plan for ROGG regulate the public use of this area:

40E-7.520 Scope and Applicability

(4) Consistent with the environmental sensitivity of these areas and the purposes for which the lands were acquired, and all rights, privileges, and protections afforded by the provisions of Section 373.1395, F.S., all District lands are hereby deemed open and available to the public for outdoor recreational purposes and access unless otherwise limited, restricted, or prohibited by special provision in this rule. Nothing in this rule shall prevent other federal, state, or local agencies, including but not limited to those with management contracts with the District, from requiring compliance with their own rules, permits, regulations, ordinances, or laws to the fullest extent of their lawful authority.

40E-7.521 Definitions

(16) “Outdoor recreational purposes” means natural resource based outdoor recreational activities including, but not limited to, fishing, hunting, horseback riding, bicycling, swimming, camping, hiking, canoeing, boating, airboating, scuba diving, birding, sailing, jogging, picnicking, nature study, water skiing, and visiting historical, archaeological, scenic or scientific sites.

(23) “Recreational trail” means saddle animal riding, hiking, canoeing, bicycling, or jogging trails for use by the public.

40E-7.528 Bicycling

Bicycling is allowed on vacant undesignated lands and on Right of Way on existing canal maintenance berms and levee tops. On all other District lands, bicycling is allowed on designated trails and established roads except where restricted by signs. Lands requiring a Specific Use License for bicycling are identified in Rules 40E-7.538, 40E-7.5381, 40E-7.5382, 40E-7.5383 and 40E-7.5384, F.A.C.

40E-7.532 Operating Hours

District lands shall be open to public use twenty-four (24) hours a day seven (7) days a week except during authorized closures as set forth in subsection 40E-7.523(3), F.A.C., above or unless otherwise specified in Rules 40E-7.538, 40E-7.5381, 40E-7.5382, 40E-7.5383 and 40E-7.5384, F.A.C.

40E-7.5381 Special Provisions for Right of Way of the District

The following shall be prohibited on all Right of Way of the District; which include rights-of-way, canals, levees, maintenance berms, and spoil mounds:

(9) Pets, with the exception of service animals, leashed animals and animals otherwise under the effective control of the owner.

Relevance to ROGG: Elements of this Public Use Rule with particular relevance to the feasibility assessment and master plan for ROGG include:

- **Public Access** – SFWMD allows for public access and use of many lands adjacent to the ROGG Study Area for outdoor recreation activities. Regulations defined by SFWMD include use of bicycles within levee right-of-ways, along maintenance berms and on levee tops. Direct implications for ROGG include the potential use of SFWMD levees, levee berms and/or levee right-of-ways for the use of hiking, biking or other outdoor recreation uses. In addition, the pedestrian and bicycle access that could occur on levees would also connect to blueway connections for the canals in the system. These canals may be used for canoeing, kayaking or other water related outdoor recreation activities. Coordination with the SFWMD and other regulatory agencies in the region is needed to address public access on private lands with SFWMD easements as well as potential issues associated with using the levees relative to regional hydrological restoration goals. The feasibility assessment and master plan for ROGG included evaluations for the use of the levees and other infrastructure for use as permanent or temporary trail facilities as well as for potential connection points to other regional greenway systems.

Master/Management Plans

Everglades National Park/Master Plan; 1979

The current Master Plan, approved in 1979, has been used to guide management decisions for the ENP for more than 30 years. The plan established the highest priority of the ENP to protect the wilderness habitats and wildlife species within the park. It emphasized the regional context as it was recognized that planning solely for management inside the park would not take into consideration major external forces such as changes in hydrology, natural environment, and population growth. This regional focus included a call for pursuing partnerships with other similar interests as well as the need to develop a regional master plan for land and water use. The ENP Master Plan identified a general development plan to guide improvements to balance the need to address increasing numbers of visitors with the protection of the park’s resources.

The ENP Master Plan included an assessment of critical issues and the identification of management goals and objectives for long-term management of the park. Critical issues identified in the plan included the sustainability of water quality and volume of water entering the park

from the north; the encroachment of continued urban, suburban, and agricultural sprawl; the accommodation of an increasing number of visitors; the control of boat access and commercial and sport fishing; adequate environmental research and education; and regional planning and monitoring. Management goals identified in an appendix to the plan included a variety of measures, including the preservation of water flow and the natural environment within the park, collaboration with federal, state, and local agencies to protect park resources; and enhanced measures for visitor access control and environmental education.

Relevance to ROGG: Aspects of the ENP Master Plan with particular relevance to the feasibility assessment and master plan for ROGG include:

- **Regional Cooperation** – The ENP Master Plan provides a clarion call for participation on regional solutions to resource management issues, which has been built upon for the formation and implementation of CERP and other regional restoration activities. The park relies on regional solutions for hydrological inputs to sustain the environmental quality that is part of the aesthetic and character visitors to the park experience. The plan was a catalyst for regional cooperation efforts now being realized through the bridge construction for U.S. 41, CEPP improvements, and other hydrological restoration activities. For ROGG, this regional cooperation provides both an example of methods to successfully address problems and opportunities between human use and resource protection and a setting of public engagement and long-term changes in infrastructure that require accommodation for any potential ROGG facilities.
- **Destination** – The Shark Valley Visitor Use Area of the ENP is a primary destination within the eastern portion of the ROGG Study Area. The ENP Master Plan confirmed this area as a significant visitor contact point in the northern portion of the park due to access from U.S. 41 and called for the continuation of uses still in place today. These include protection of the natural setting, hiking and biking on the Shark Valley Loop Road, concessions for bicycles, and the guided tram service. The recent construction and improvements to the visitor center at Shark Valley were also identified as a need and future improvement within the Master Plan. The feasibility assessment and master plan for ROGG included evaluations for connection points to this destination to both provide additional pedestrian access to the site and a secondary outlet and experience for park visitors. Options to provide or connect to trailhead amenities including restrooms at the visitor center at the existing facilities were also evaluated.

- **Parking** – The ENP Master Plan identified the need for additional parking facilities at the Shark Valley Visitor Use Area to meet the needs of the increasing visitor base, which is an issue that continues to affect visitor use and resource management at this entrance to the park. However, management objectives to minimize impacts on natural areas and the limited upland areas available at the facility limit the options for additional on-site parking facilities. For ROGG, this limits potential options for establishing Shark Valley as a primary trailhead facility with available parking for ROGG users. However, for those able to park at Shark Valley, the existing bicycle rental concession provides options for future expansion to use ROGG facilities as long as visitors can use the Shark Valley parking areas as a starting location. Opportunities to provide alternative parking facilities either as part of future ROGG facilities or to connect additional parking facilities outside of Shark Valley to the visitor use area using ROGG were evaluated as part of the feasibility assessment and master plan.
- **Resource Protection** – The ENP Master Plan provides a strong management mandate for protection of the park's natural and cultural resources. Expansion of existing facilities or construction of new facilities in or near the ENP that would require impacts to natural resources in the area are subject to extensive public scrutiny and regulatory review. Any new or expanded facilities within the ENP would require NPS approval and would need to address both local impacts to resources as well as potential effects on regional restoration efforts. Opportunities to use existing infrastructure and/or provide additional suitable connections to ENP facilities while being consistent with the resource protection requirements of the plan were evaluated as part of the feasibility assessment and master plan for ROGG.



Entrance drive to ENP Shark Valley Visitor Use Area, looking north towards U.S.41

General Management Plan (GMP) and Final Environmental Impact Statement (FEIS); Big Cypress National Preserve; Collier, Monroe, and Dade Counties, Florida; 1991

The NPS prepared the 1991 GMP/FEIS to guide management activities and decisions for managing natural and cultural resources, guiding visitor use, and development of new or enhanced improvements within the Preserve. The GMP/EIS covers the original boundaries of the Preserve, which comprises the majority of the acreage of the current Preserve. The GMP/FEIS compared four alternatives to determine the best approach for the general management of the Big Cypress National Preserve for a period of 10 to 15 years. The GMP/FEIS identified specific actions for establishing an interpretive program for the Preserve, the types and extent of hunting regulations, ORV access, natural and cultural resource management activities, coordination with native Americans residing in and using the Preserve, and oil and gas exploration. Except for some relatively small privately held in-holdings especially around Ochopee, the central portion of the ROGG Study Area is almost wholly contained within the Big Cypress National Preserve.

Within the ROGG Study Area, the preferred alternative included the enhancements to visitor use and education, requirements for hunting access, establishment of ORV access points and trails, improvements for other recreational activities, restrictions for oil and gas exploration, natural and cultural resource management, and general development improvements. Visitor use benefits of the management plan included a new interpretive program that incorporates expanded educational and visitor orientation materials at trails and wayside parks along U.S. 41, a defined canoe trail at Turner River, improvements and formalization of campgrounds and backcountry shelters, and concessionaire visitor services. Hunting regulations for different management units were established, although hunting was maintained throughout most of the Preserve, including walk-in hunting in the vicinity of U.S. 41. The GMP identified 37 ORV access points throughout the Preserve as well as general ORV regulations, but identified the need for a separate ORV management plan.

Natural resource benefits included hydrologic restoration of wetlands, the specified use of prescribed fire, and special listed species management actions. Prehistoric and archeological sites were mandated to be protected if found to be eligible for listing on the National Register of Historic Places, while NPS would work closely with resident Miccosukee and Seminole tribes to address historical and

current cultural uses of the Preserve. The GMP restricted oil and gas exploration to 10 percent of the Preserve at any one time. General development activities within the ROGG Study Area included enhancements for the headquarters facilities at Ochopee, improvements to the Oasis Visitor Center, and improvements to Loop Road.

Relevance to ROGG: Aspects of the Big Cypress National Preserve GMP with particular relevance to the feasibility assessment and master plan for ROGG include:

- **Resource Protection** – The Preserve GMP provides a strong management mandate for protection of natural and cultural resources as a primary component of Preserve operation. The GMP provides objectives to minimize impacts to natural and cultural resources as part of the expansion to existing facilities or new facilities in or near the Preserve. As such, potential impacts to these resources for improvement projects are subject to extensive public scrutiny and regulatory review. Any new or expanded facilities within the Preserve for ROGG would require NPS approval and would need to address local impacts to resources, including wetlands, hydrology, and listed species. For future ROGG facilities determined to be feasible that would require impacts to wetlands or listed species within or near the Preserve, mitigation options that enhance hydrological or habitat management goals specified in the GMP and other Preserve documents could support initiatives undertaken in the Preserve. The GMP identifies the need for restrictions on human use of portions of the Preserve used extensively by Florida panthers, which could further limit the types and opportunities for improvements in those areas. Opportunities to use existing infrastructure and/or provide additional suitable connections to Preserve facilities consistent with the resource protection requirements of the GMP were evaluated as part of the feasibility assessment and master plan for ROGG.
- **Destinations** – Facilities identified in the GMP, including the Ochopee Headquarters and visitor center facilities and the Oasis Visitor Center, would provide significant destination locations for ROGG users. Additional facilities such as Kirby Storter Roadside Park and other wayside parks would provide additional rest stops or minor destinations for ROGG trail users. The majority of these areas include parking facilities sufficient for supporting new trailhead facilities for ROGG users. These facilities also provide interpretive and orientation materials and information for Preserve visitors. These materials could be incorporated into ROGG interpretive and wayfinding requirements or be

expanded upon by the interpretive program for ROGG. Segments of ROGG would also assist in appropriately distributing visitor use around the destination locations.

- **Cultural Uses** – The GMP includes management criteria for cultural uses within the Preserve, including protection measures for culturally significant sites and the usual and customary uses for Miccosukee and Seminole Tribes of Florida. Two ceremonial sites are noted as occurring within the Preserve: Corn Dance site 216 and Corn Dance Island 116. The NPS is working with the tribes to protect the privacy and sanctity of these areas. As part of the Superintendent's Compendium that provides specific regulations within the Preserve, a ½-mile buffer around the two is required. These buffers are closed to the public and no new uses will be allowed. In addition, the NPS also coordinates with members of the tribes to allow usual and customary uses such as hunting, fishing and trapping, as well as to accommodate residences for tribal members within the Preserve. Routing options for ROGG included assessments for consistency with the ceremonial site buffers. Future ROGG facilities would need to incorporate design criteria that maintain access for cultural uses as well as access control for trail users in and near cultural use and/or tribal member residences.
- **Hunting and ORV Access** – Hunting is a continuing use within the Preserve with active public participation. The GMP recognized ORV use as a transportation and recreation activity appropriate for the Preserve subject to certain regulations and controls that are more fully evaluated in the ORV Management Plan (see summary on next page). The GMP identified the ORV access points that occurred or would be developed within the ROGG Study Area; pedestrian access by hunters is more widely distributed. Within the ROGG Study Area, hunters and ORV users often park on the shoulders of roads in the Preserve and then walk in to hunting zones or drive their ORVs onto established trails. Future ROGG facilities would need to accommodate the parking needs for hunters and ORV users as well as design considerations for allowing access to the Preserve across ROGG trails. Portions of the ROGG that can feasibly occur outside of existing roadway ROWs within habitats used for hunting may require seasonal closure during hunting season or require coordination and/or changes to hunting permit regulations within the vicinity of the facility to limit potential conflicts between hunters and trail users. Portions of ROGG trails that cross ORV trails will require design considerations to allow for continued ORV access as well as notification for trail users of

the overlapping uses. Design options or alignments of ROGG that limit hunting or ORV access will likely receive extensive public scrutiny.

- **Trail and Campgrounds Connections** – A number of hiking trails, a canoe trail, and campgrounds are identified within the GMP and provide potential connection opportunities and/or minor destinations for ROGG. The approximately 1,300 mile long Florida National Scenic Trail begins in the Preserve at an intersection with U.S. 41 near the Oasis Visitor Center and provides hiking access within the Preserve. Other variably sized trails, including ORV trails, extend from wayside parks, the Oasis and Headquarters properties, and other locations and would provide additional experiences for ROGG users. The Turner River canoe trail can be accessed from a small park on U.S. 41 within the ROGG Study Area. This park provides a limited number of parking spaces and restroom that could be incorporated into a minor trail facility for ROGG users. The GMP formalized several campgrounds, including the Midway, Monument Lake, and Burns Lake campgrounds that occur along U.S. 41 in the ROGG Study Area. All three of these campgrounds include open, previously altered lands that could be used for trailhead facilities for ROGG as well as locations that could be a beginning point for users to access ROGG. The feasibility assessment of ROGG included evaluations of potential connections to existing trail and campground facilities.
- **Oil and Gas Exploration** – Oil and gas exploration and extraction are ongoing activities within the Preserve, but subject to requirements of the GMP. The GMP places limitations on the amount of the Preserve that would be subject to mineral exploration at any one time as well as limitations on exploration in important resource areas. Operations for oil and gas exploration include large truck use on U.S. 41 and north/south roads in the Preserve to well fields. Future ROGG facilities that would cross roadways used by oil and gas exploration/extraction vehicles will require design criteria and user notifications to minimize potential conflicts between trail users and truck traffic. In addition, visitor access control from the ROGG would need to be considered to limit encroachment of trail users into active exploration areas. An EA is in process to evaluate improvements to the power line service along U.S. 41 for active extraction facilities. Improvements such as poles and/or pads that would be required for this EA were evaluated for consistency and/or accommodation for potential ROGG facilities.

- **Fire Management** – The GMP specifies fire management as a significant management tool for vegetation communities, including those in the ROGG Study Area. Prescribed fires would be used to reduce fuel loads and manage wildlife habitat, while wildfire protection measures would be used for non-prescribed fires. Options to incorporate structural fire resistant materials in the design for ROGG facilities as well as design and routing options that accommodate access for Preserve managers to conduct prescribed fires and fight wildfires was considered as part of the ROGG feasibility assessment and master plan.

Big Cypress National Preserve – Addition: Final General Management Plan/Wilderness Study/Offroad Vehicle Management Plan/ Environmental Impact Statement (EIS); 2010

The NPS added the 147,000 acre “Addition” to the Preserve in 1988, but the Addition was not included in the planning process for the 1991 General Management Plan. The NPS began the development of the GMP for the Addition in 1999 and gathered extensive public input over the planning period for the GMP. The Final GMP for the Addition established a preferred alternative that incorporated the extensive civic engagement to protect natural and cultural resources while providing a diversity of recreational opportunities consistent with the intent of the enabling legislation for the Preserve. In addition to general management guidance, the GMP included an assessment of areas within the Addition that would qualify for wilderness status and an ORV management plan for the Addition. The GMP provides a framework for decisions by the NPS relative to the protection of Addition resources, visitor access and facilities, and long-term management of the Preserve. The ROGG Study Area includes a portion of the Addition, including areas that were subject to management recommendations in the GMP along U.S. 41 and S.R. 29.

The preferred alternative for management of the Addition included a diverse array of front and back country recreational opportunities, interpretive opportunities along road corridors, ORV access opportunities, and passive recreational facilities and opportunities, although most of these were to occur outside of the ROGG Study Area. The majority of the planned facilities, including ORV trails, wilderness areas, and primitive backcountry options were designated near I-75 in the northeast portion of the Preserve. Within the ROGG Study Area, no additional ORV trails or

access points were identified in the preferred alternative. The GMP identified the need to amend the Preserve’s Commercial Services Plan to include the Addition, including options to provide a range of commercial services, including boat tours south of U.S. 41, within portions of the Addition in the ROGG Study Area. Existing facilities within the Addition at the intersection of U.S. 41 and S.R. 29 would continue to support commercial services and/or partner organizations such as the Sheriff’s Office that would operate at this location, including enhancements that would support visitor service needs. The NPS Fire Operations Center would be maintained at the Copeland (S.R. 29) location and expanded as necessary for other NPS operational needs.

Relevance to ROGG: Aspects of the Big Cypress National Preserve Addition Plan with particular relevance to the feasibility assessment and master plan for ROGG include:

- **Commercial Facilities** – The commercial facilities at the intersection of U.S. 41 and S.R./C.R. 29 provide a destination for future ROGG users as well as developed lands potentially suitable for trailhead facilities. The commercial facilities include the Everglades Area Chamber of Commerce Welcome Center that has a small store and restrooms open to the public as well as parking areas for visitors to the Welcome Center. Coupled with the availability of potable water and parking facilities, the broad lawn between the building and U.S. 41 provides an opportunity for a future ROGG trailhead as it occurs on a filled area with limited to no wetlands or other natural or cultural resource restrictions. This area also provides opportunities for future trail connections along C.R. 29 south to Everglades City. Opportunities to utilize the developed parcel in the Addition at this intersection for a trailhead, connections to potential future trail facilities along S.R./C.R. 29, and the previously altered conditions of the area were considered as part of the feasibility assessment and master plan for ROGG.
- **Security** – The commercial facilities include a station for the Collier County Sheriff. This station provides an enhanced security presence at the intersection as well as a response area for security along nearby future portions of ROGG. Facilities for ROGG that would be determined to be feasible within the parcel would need to allow access for the Sheriff to the station.

Miami-Dade County Parks and Open Space System Master Plan – A 50-Year, Unifying Vision for A Livable, Sustainable Miami-Dade County; 2007

The Miami-Dade County Parks and Open Space System Master Plan is a 50-year unifying vision for a livable, sustainable Miami-Dade County. An integral part of that vision is the development of a seamless system of greenways, shared-use trails and water trails or blueways. This vision builds upon the corridors described in the North Dade Greenways Master Plan and South Dade Greenway Network Master Plan and further links these into a holistic, seamless system. The identified system weaves through new parks, ties into bike lanes, and channels people into natural resource areas. The Master Plan envisions an interconnected system that provides transportation alternatives and reduces traffic congestion; creates new recreational opportunities; increases property values; protects natural resources; encourages tourism and business development; and strengthens connections to adjacent counties.

Significant elements of the “Great Greenways, Trails and Water Trails Vision” include:

- Consistent, upgraded trail connections throughout the entire System
- Water Access points that are conducive to small craft launching with parking and neighborhood access
- A Greenways and Water Trails wayfinding system that includes Signage/Graphics/Marker System that establishes an identity for the System; informs users and passers-by about trail names, access points, locations and distances; and reduces conflicts by informing both trail users and motorists about trail crossings
- Providing opportunities for users to have shelter from the sun
- Safe, well-marked roadway crossings throughout the System to ensure connectivity across major roads
- Picnic shelters, rest areas, drinking water stations, map kiosks and other amenities throughout the System to enhance the quality of users’ experiences
- Increased levels of trail maintenance and law enforcement to help ensure the quality of the greenways and water trails user experience
- Increased user participation and volunteerism in trail improvements and maintenance and security through citizen courtesy patrols or Friends of the Trail groups.

Relevance to ROGG: Aspects of the Miami-Dade County Parks and Open Space System Master Plan with particular relevance to the feasibility assessment and master plan for ROGG include:

- **Greenway Vision** – This Master Plan establishes a vision for connections between and among parks, natural areas, and open spaces to enhance public access, user experience, and educational opportunities for the resources and recreation system within the County. This vision includes goals to establish seamless integration of a network of trail systems to connect neighborhoods, parks and destinations as well as to incorporate multi-modal connections ranging from transit to bicycle trails to pedestrian walking trails in the County greenway system. This vision included a potential trail within the general ROGG Study Area as well as connections from this trail along U.S. 41 to the Western Greenway at Krome Avenue. The feasibility assessment and master plan for ROGG included considerations for consistency with the vision outlined in the plan as well as potential connection points to facilitate the envisioned County-wide network.

South Florida Water Management District (SFWMD) Recreation Management And Partnership Plan: Land Stewardship Division; 2011

SFWMD's Recreation Management Partnership Plan provides guidance for managing lands in the 16 county region that extends from Orlando to Key West, FL under its jurisdiction. The plan highlights state statutes that mandate SFWMD to provide compatible public access and use of SFWMD lands, which is directly supported by the SFWMD's Public Recreation Access and Use Policy. Florida Statutes Section 373.1391(1)(a), states that lands titled to the water management districts shall be managed and maintained to the extent practicable to ensure a balance between public access, general public recreational purposes, and restoration and protection of their natural state and condition. SFWMD policy allows for compatible nature-based recreation activities, including hiking, birding, wildlife viewing, biking, canoeing, hunting, fishing, equestrian use, boating, and camping. Most of the 1,800 miles of canals, levees and right-of-ways with the jurisdiction of the SFWMD are available for public recreational use consistent with the description above. The Recreation Management and Partnership Plan establishes a series of objectives for SFWMD, including working with

the state Office of Greenways and Trails on regional trails designated by that office.

Relevance to ROGG: Aspects of the SFWMD Recreation Management and Partnership Plan with particular relevance to the feasibility assessment and master plan for ROGG include:

- **Recreation Access** – Recreation management of SFWMD lands seeks to balance access to consumptive and non-consumptive activities as well as provide connectivity to other public lands through greenway partnerships. Since the Office of Greenway and Trails has identified ROGG as a priority greenway route since 2004, options to facilitate ROGG through coordination with and use of lands managed by the SFWMD may provide opportunities to enhance regional greenway networks through the implementation of ROGG. Direct implications for ROGG includes the use of ROGG facilities to meet the plan objectives for SFWMD to provide outdoor recreation activities for both hiking and biking (non-consumptive use) and fishing and hunting (consumptive uses).

Everglades National Park – Draft General Management Plan (DGMP) / East Everglades Wilderness Study / Environmental Impact Statement (EIS); 2013

The last comprehensive planning effort for ENP consisted of a GMP completed in 1979, but the NPS is now in the process of preparing a new GMP for the ENP. Since the time of the original GMP, the context for the use and protection of the ENP has changed due to the initiation of regional restoration efforts associated with the CERP, the approval and acquisition of the East Everglades Addition that expanded the park boundary by more than 109,000 acres, and changes in the recreation needs of surrounding populations and visitors to the parks. In addition, the Draft GMP identifies management activities to address projected sea level rise of one to two feet over the next 50 years. The Draft GMP presents and analyzes four alternatives plans to managing ENP for the next twenty years and beyond. The NPS Preferred Alternative proposes consolidation of commercial airboat concessions in the park and designates approximately 90,000 acres of the East Everglades Addition as either wilderness or potential wilderness.

The Draft GMP documents that annual visitor numbers to the ENP have averaged slightly more than one million for

the last twenty years with an unreported use in the range of 300,000 to 450,000 annually. Annually, more than 85,000 visitors come for backcountry camping within the ENP. Shark Valley and the Royal Palm entrances have exhibited the fastest increases in the number of visitors, while other entrances have seen declines in the number of visitors. There are large fluctuations in the number of visitors on a monthly basis with as many as 150,000 in February and March and only 30,000 in September. Visits have declined by about 25% in the aftermath of tropical storms Katrina and Wilma. Seventy-five percent of visitors are from outside Florida or the United States (20% international) or are seasonal residents. Canadians, Germans, French, Dutch and British nationals account for approximately 80% of the international visitors to ENP. Twenty-five percent of visitors stay a day or longer in the ENP area, while 11% stay three days or longer. Twenty percent of visitors said visiting ENP was their primary reason for their trip to south Florida.

The standards identified by the ENP for recreational experiences include encountering no more than four groups per day (when more than one mile from a trailhead) in the backcountry of the park during peak season (winter months). At Shark Valley, the standard identified by the ENP is 400 to 500 people within the facility at one time at peak times, including those along the loop road and in the parking/restroom areas. Strategies outlined by the GMP to achieve these standards and goals include:

- Establish new trail opportunities to better distribute use
- Provide alternative recreation opportunities and direct visitors to those locations
- Initiate alternative transit and/or shuttle to Shark Valley option (at least during peak season)
- Implement slower speed zone near roosts
- Educate about low impact practices
- Add appropriate education/regulations signs
- Provide real-time parking and access opportunities information

Relevance to ROGG: Details of the NPS Preferred Alternative in the Draft GMP with particular relevance to the feasibility assessment and master plan for ROGG include:

- **Destination** – The Shark Valley Visitor Use Area is a destination for potential ROGG users for environmental education and outdoor passive recreation opportunities. Currently, most visitors access this area by car via U.S. 41 as alternative access options are limited. The GMP identifies establishing new trail opportunities and

alternative access options, such as transit or shuttles, to better distribute visitor use and accommodate seasonal visitation rates and assist in meeting the strategies outlined in the GMP for new trail opportunities to better distribute visitor use in non-wilderness areas. Although outside of the main ROGG Study Area, the Draft GMP identifies improvements at the Everglades City entrance to the ENP, including a new modest-sized visitor center (Marjory Stoneman Douglas Visitor Center) and canoe/kayak ramp and launch, which would potentially be a long-term destination for a spur from ROGG. Opportunities to use ROGG facilities to expand the trail options and provide more distributed access to the facility were evaluated as part of the feasibility assessment and master plan study. Similarly, options for transit service accommodated or facilitated by ROGG facilities were evaluated.

- **Seasonal Visitation Rates** - Visitation for the park is significantly variable over the course of each year. During peak periods, the high traffic loads and parking requirements can overwhelm the existing parking facilities, resulting in parking in non-designated areas and limited access for later arriving visitors, especially at the Shark Valley Visitor Use Area. Crowded facilities and limited access can compromise visitor experience and decrease opportunities for environmental education for those wishing to attend the park. Trail facilities for ROGG may enhance pedestrian access to the ENP. Opportunities to spread out visitor use and provide additional access options, albeit from longer distances, are options evaluated for ROGG.
- **Airboat Facility Consolidation** – The plan includes the potential for consolidation of commercial airboat operations in the eastern portion of U.S. 41 to one location and the closure of other facilities to public access. This consolidated facility would become a destination location for ROGG, although access to the facility would need to occur consistent with regional hydrological restoration objectives and improvements. As such, access to the facility was considered as part of the ROGG feasibility assessment and master plan study.
- **Environmental Education Improvements** – The plan identifies objectives to expand education and recreation opportunities (hiking, bicycling, wildlife viewing and learning about Everglades restoration and history) along U.S. 41 and the eastern boundary of the ENP in cooperation with public and private entities

involved in the Tamiami Trail Next Steps modification projects. This could include a series of visitor information kiosks and turnouts provided along U.S. 41 and an overview of natural and cultural resources and restoration. The visitor orientation and environmental education components were evaluated as activities that could be incorporated into and/or facilitated by ROGG facilities, including as part of trailheads and as part of an overall wayfinding program within ROGG.

- **Water Access** – The ENP Draft GMP includes a proposal to provide canoe and kayak launches along U.S. 41 at either the L-67 levee extension access at the western edge of the East Addition or at Gator Park. These facilities would provide additional destination stops for ROGG and enhance the types of recreation activities that could be accessed from ROGG. Opportunities to connect to future canoe/kayak launches and establish compatible trail stops at the facilities were evaluated as part of the feasibility assessment and master plan for ROGG.
- **Wilderness Designations** - An east-west strip (1,320 ft. wide) along the boundary of ENP along U.S. 41 is excluded from wilderness consideration. Although primarily to allow for modifications to U.S. 41 for improved water delivery to Shark River Slough, the lack of a wilderness designation provides more flexibility for improvements necessary to address visitor use issues consistent with the GMP as well. Options to use ROGG to address access issues consistent with the GMP requirements for both wilderness and non-wilderness areas within the ENP were evaluated as part of the feasibility assessment and master plan study.
- **Agency / Tribal Coordination** – The draft GMP calls for continued coordination with other agencies and the Miccosukee Tribe to determine feasibility of sharing resources and facilities to meet park and tribe goals. The Miccosukee Village facilities occur west of the Shark Valley Visitor Area and include extensive parking areas for visitors to the Village. Options to accommodate potential connections between the Miccosukee Village and the Shark Valley Visitor Use area were evaluated for ROGG.

Transportation Studies

Federal Lands Alternative Transportation Systems Study; 2001

The FHWA and FTA undertook an assessment of the transportation needs for all federal lands, including those of the NPS, the Bureau of Land Management, and the USFWS. At the time the document was completed in 2001, the study estimated that approximately \$678 million would be needed for alternative transportation systems, defined as transit, on federal lands by 2010. The study outlined TEA-21 and the Transit in Parks Act and justified investment in transit on federal lands as a mitigation measure against traffic, noise, and pollution that severely compromise the visitor experience.

The study listed existing systems in parks and put forth recommendations and estimated costs for transit systems for each. In ENP, visitation is listed as 1,000,000 visitors per year with tram and boat tours documented as the alternative transportation options available. The study recommended improvements to the existing options available but did not recommend a new type of system or additional specific options for alternative transportation for ENP. This study is very broad and provides no specifics on the needs in ENP, nor does it document needs in Big Cypress National Preserve or the state parks in the ROGG Study Area.

Relevance to ROGG: Details of the Federal Lands Alternative Transportation Systems Study with particular relevance to the feasibility assessment and master plan for ROGG include:

- **Transit Planning Guidelines** – The document includes no specific recommendations about alternative transportation options for the federal parks within the ROGG Study Area, but does provide a framework for calculating costs for conceptual transit facilities within public lands. This important framework is captured in Appendix C of the report and provides a list of parameters that impact costs for transit, including assumed transit operating speed, service headway, hours of operation, operating costs for vehicles, capital cost for vehicles and associated facilities, and requirements for vehicle maintenance facilities for the study. For each parameter, it provides potential assumptions that were used in calculating costs. Although these were assumptions for the study, they provide a potential framework for evaluating potential transit services that would be part of or supplement ROGG.

- **Transit Importance** – The document highlights issues such as traffic, noise, and pollution that can compromise visitor experience and opportunities transit presents for addressing these issues for park operations. As visitation has increased in general for federal parks, the desire for the public to experience the parks has also grown. This has led to compromised experiences due significantly to the number of vehicles that need to be accommodated as well as to the number of visitors in total. The results of this study do establish the importance of investment in transit for park lands to mitigate issues on visitor experience and potential impacts to natural and cultural resources. This condition is consistent with the operation at Shark Valley during the peak season, as lines of cars can wait for long periods of time for available parking spaces resulting in people parking their vehicles outside the park with U.S. 41 road right-of-way. Options to incorporate transit in ROGG, including existing destinations and locations throughout the length of the ROGG, were evaluated as part of the feasibility assessment and master plan.

Miami-Dade MPO Bicycle Facilities Plan; 2001

This Bicycle Facilities Plan pre-dates the current Bicycle and Pedestrian Plan from 2009 as the guiding document for bicycle facilities in the County. The plan builds on the 1997 Bicycle Plan through a re-assessment of bicycle facility needs, identification and prioritization of bicycle facility projects, and development of a funding plan. The MPO used a quantitative bicycle level of service analysis coupled with a needs analysis to prioritize areas for improved bicycle facilities. All references to facilities along U.S. 41 in the recommendations section are categorized as unfunded and some are also listed as a low priority due to right-of-way constraints.

Relevance to ROGG: Details of the Miami-Dade MPO Bicycle Facilities Plan with particular relevance to the feasibility assessment and master plan for ROGG include:

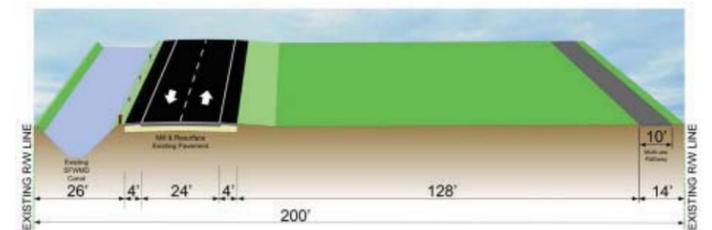
- **Plan Consistency** – This plan includes a route identified as part of the Bicycle Network along U.S. 41/ SW 8th Ave. extending from downtown Miami to two miles east of Krome Ave. (SW 157th Ave.) with an E or F Level of Service and a Low Latent Demand Score for the segment west from SW 122th Ave.

U.S. 41 PD&E Study: Project Development Summary Report; 2008

The Project Development Summary Report for the U.S. 41 PD&E Study documents FDOT's Project Development and Environment Study to assess the widening and reconstruction of U.S. 41 between Collier Boulevard (C.R. 951) and San Marco Drive (C.R. 92). This portion of U.S. 41 connects the urbanized setting of Naples to Collier-Seminole State Park. The report provides recommendations to widen U.S. 41 to a six-lane divided suburban road east to Joseph Lane, convert to a four-lane suburban road from Joseph Lane to 6 L's Road, and to remain as a two-lane road from 6 L's Road to San Marco Road. The report includes a recommendation to resurface the portion of the road that would remain as a two-lane facility. The study also recommends traffic signals at four currently un-signalized intersections.

Relevance to ROGG: Details of the U.S. 41 PD&E Study Project Development Summary Report with particular relevance to the feasibility assessment and master plan for ROGG include:

- **Off-Road Facilities** - Segment 4 (from 6 L's Road to C.R. 92/ San Marco Road), Alternative 4C is the recommended plan and includes a ten foot multi-use trail on the south side of the roadway and adjacent to the existing ROW. This includes a separation of 128 feet from the edge of pavement of U.S. 41. The pathway is recommended to extend to Collier-Seminole State Park at U.S. 41/ C.R. 92 intersection and connect to existing trails within the park. This facility could be incorporated into the ROGG trail.



Two-lane Typical Section From 6 L's Road to C.R. 92 (San Marco Road), Alternative 4C

Miami-Dade MPO Bicycle and Pedestrian Plan Update; 2009

The Miami-Dade MPO prepared the Bicycle and Pedestrian Plan Update to provide a framework for making Miami-Dade County a model region for cycling and pedestrian activity where the activity is convenient and useful transportation and recreation for a variety of user groups. The purpose of the plan included a variety of elements, including defining goals and objectives for bicycle and pedestrian development in the County, incorporation of planning efforts for pedestrian and bicycling in the County Long-Range Transportation Plan, and guidance for various agencies for bicycle/pedestrian facilities. The Plan includes an existing conditions analysis, needs assessment, and recommendations for the region.

The Plan does not mention U.S. 41 or ROGG in the text, but several maps denote the portion of the highway near Krome Avenue. U.S. 41 is listed as a road with a paved shoulder along some segments that are appropriate for cycling. The document does not include references to ROGG. Several maps accompany the Plan. First, the existing On-Road Bicycle Facilities Map categorizes U.S. 41 as having a paved shoulder and counts it among the total 96 miles of paved shoulders in the region's bicycle facilities inventory. In the Off-Road Bicycle Facilities Map, U.S. 41 is also designated as having an unpaved trail. Despite these designations, the bicycle level of service along U.S. 41 is categorized as very poor. The Plan categorizes each road in the region according to level of need for bicycle infrastructure. U.S. 41 is categorized as having "Very Low Need" for on-road bicycle facilities and "Moderate Need" for off-road.

Relevance to ROGG: Details of the Miami-Dade MPO Bicycle and Pedestrian Plan Update with particular relevance to the feasibility assessment and master plan for ROGG include:

- **Transit/Bicycle Access Integration**-Recommendations for connections between transit facilities and bicycle/pedestrian facilities were presented in the plan to address tourists and recreational cyclists who may prefer exploration via bicycle rather than automobile as well as to provide additional options for residents to access new areas with a bicycle. These recommendations included amenity components, such as providing lockers at transit facilities, as well as programmatic components for transit authorities such as improve access in transit vehicles for bicycles. The feasibility assessment and master plan for ROGG included evaluations of these recommendations for areas where trail facilities and transit overlapped.

- **Evaluation Criteria** – The plan provides evaluation criteria for prioritizing projects within Miami-Dade County consistent with goals established in the plan. These criteria range from safety and level of service provided by a project to measures for connectivity and cost feasibility. The report includes a calculation assessment similar to roadway Level of Service calculations for bicycle use, which is a contributing factor for the evaluation criteria. Although several of the criteria are more urban in focus, the methodology used provides a potential model for evaluation criteria for ROGG segments, including using stakeholder groups to identify and weight the criteria.
- **Funding Sources** – The plan provides an overview of funding sources that were available at the time of publication for bicycle and pedestrian improvements, including traditional and non-traditional sources as well as grant funding. Traditional sources identified include the Transportation Equity Act for the 21st Century (TEA-21) and the Recreational Trail Program (RTP) funds, while non-traditional funding sources identified included Adopt-a-Trail programs, land trusts, and State Water management funds. Grant funding options included REI Environmental Grants and private foundations. The funding sources identified in the plan provide a foundation for additional research for funding sources for the feasibility assessment and master plan for ROGG.
- **Design Options** – The plan identifies design components for a variety of categories that are pertinent to the feasibility assessment and master plan for ROGG, including safety and security, engineering improvements, and education and enforcement strategies. The section for safety and security includes recommendations for addressing the physical design of the facilities for elements such as lane widths and ADA accessible pathways as well as the safety and security principles that assist in behavioral uses of the trails. Engineering improvement recommendations include physical measures and/or traffic control devices that improve the function of proposed facilities. Education and enforcement strategies include enforcement of traffic rules for both motorized vehicular and bicycling/pedestrian users, police patrols on bicycles for increased safety and security, and Variable Message Signs along roadways to educate motorists.

De-Designation Of The Tamiami Trail National Scenic Byway; 2009

This document summarizes the events leading up to the de-designation of the Tamiami Trail (U.S. 41) as a National Scenic Byway and outlining lessons learned. The original National Scenic Byway designation was applied for in 1998 and received in 2000. Collier MPO voted for de-designation in 2005, although the FDOT advocated for keeping the designation. The roadway was de-designated in 2008. The document also noted that in 2008-2009, Florida had the highest National Scenic Byways funding of any state. The de-designation of the roadway was the first de-designation in Florida and for the National Scenic Byways Program.

Relevance to ROGG: Details of the De-Designation of the Tamiami Trail National Scenic Byway with particular relevance to the feasibility assessment and master plan for ROGG include:

- **Public Support** – This document noted a lack of grassroots support for the ongoing operations of the facility as a designated Scenic Byway as well as misconceptions concerning the federal requirements for designation as leading causes for the de-designation of the corridor as a National Scenic Byway. Perceptions were that the designation would limit access for hunters, require lowered speed limits, and increased level of traffic into Everglades City. These are similar issues that the various stakeholders have provided as comments on at public events for ROGG.

ETDM Summary Report; Project #12596 – River Of Grass Greenway; Planning Screen – Published On 01/29/2010

ETDM Summary Report; Project #12596 – River Of Grass Greenway; Planning Screen – Published On 04/19/2010

ETDM Summary Report; Project #12596 – River Of Grass Greenway; Programming Screen – Published On 03/11/2011

The Efficient Transportation Decision Making (ETDM) Process and the Environmental Screening Tool (EST) facilitate collaboration among regulatory and resource agencies, transportation planners, and affected communities within Florida so that these groups may review and comment on major transportation projects. An Environmental Technical Advisory Team (ETAT) comprised of representatives from planning, regulatory, and resource agencies review the projects in the Planning and Programming Phases to identify potential adverse effects and provide recommendations for mitigating or avoiding those effects. The three phases in the ETDM process include Planning, Programming, and Project Development. The Planning Screen document summarizes the initial screening of the ROGG project completed by the ETAT, provides details concerning agency comments, and provides additional documentation of activities related to the planning phase for the project. The Programming Screen initiates the State Environmental Impact Report (SEIR) for state-funded projects or the NEPA process for federally-funded projects. A portion of the western side of the ROGG Study Area has undergone several EST screenings. These documents review the Phase I of ROGG that extends from San Marco Road (mile marker 28.4) to S.R. 29 (mile marker 44.2).

1. Planning Screen – Published On 01/29/2010

The Planning Screen provided an overview of the proposed project, a summary of ETAT's review of potential effects from the proposed project, and detailed explanations for the effect determinations provided by the reviewing agencies for each category reviewed. Agency responses were received from the EPA, National Marine Fisheries Service (NMFS), FDEP, Natural Resources Conservation Service (NRCS), USACE, USFWS, FFWCC, and the FHWA. Agency comments noted that mobility and social features would be enhanced by the ROGG as the ROGG was identified in several planning documents in Collier County. The agencies determined that there would not be an effect on three categories: farmlands, infrastructure and navigation. The agencies also

determined that effects on air quality, contaminated sites, aesthetics, economic, land use, and relocation elements would be minimal, while effects on floodplains would be moderate. The agencies determined that substantial effects would occur to eight categories: coastal and marine, special designations, water quality and quantity, wetlands, wildlife and habitat, historical and archaeological sites, recreation areas, and Section 4(f) potential. The FHWA determined that secondary and cumulative effects would be moderate due to the potential for road widening activities resulting from potential additional traffic associated with ROGG trail users.

2. Planning Screen – Published On 04/19/2010

The updated Planning Screen provided an update for the proposed project including the participation of the NPS in the planning phase, a summary of ETAT's review of potential effects from the proposed project, and detailed explanations for the effect determinations provided by the reviewing agencies for each category reviewed. Agency responses were received from EPA, NMFS, FDEP, NRCS, USACE, USFWS, FHWA, FFWCC, Florida Department of State SHPO, FDOT District 1, and the Florida Department of Community Affairs. The evaluation of effects on various categories resulted in the same categorization as the initial planning screen, except for the reclassification of the land use category from minimal to moderate. The agencies maintained the determination that substantial effects would occur to eight categories: coastal and marine, special designations, water quality and quantity, wetlands, wildlife and habitat, historical and archeological sites, recreation areas, and Section 4(f) potential.

3. Programming Screen – Published On 03/11/2011

The Programming Screen contains additional clarification about the anticipated cost of the project and additional funding sources for the planning and design of the system, including through an NPS grant. Transportation plan consistency is addressed and this report updates the Screening with information about how ROGG is consistent with Collier County's 2020 Growth Management Plan and was included in the Collier MPO 2035 LRTP. Agency responses were received from NMFS, FDEP, NRCS, USACE, USFWS, FFWCC, FHWA, Florida Department of State SHPO, FDOT District 1, the Florida Department of Community Affairs, the Miccosukee Tribe of Indians of Florida, and the Seminole Tribe of Florida. The status of six features was reclassified during the Programming Screening. Effects to farmlands, infrastructure, and navigation changed from none to minimal. Effects on water quality and quantity changed from substantial to moderate, and effects on historical and

archeological sites changed from substantial to a potential dispute (programming). Economic effects changed from minimal to enhanced.

Relevance to ROGG: Details of the three ETDM screens for Phase 1 of the ROGG with particular relevance to the feasibility assessment and master plan for the overall ROGG include:

- **Recognized Greenway** – These reports document that the reviewed portion of the ROGG is included on pathways planning maps for the State of Florida Office of Greenways and Trails (highest priority level), North Dade Greenways Master Plan, the CERP Master Recreation Plan, Collier County Comprehensive Pathways Plan, and has been incorporated into the Collier MPO 2035 Long Range Transportation Plan. The reports (including the 03/11/11 Programming Screen) also noted that the FDEP Office of Greenways and Trails “supports the proposed project and has determined that the trail can be built to minimize environmental impacts while maintaining consistency with regional restoration efforts.” The inclusion of ROGG on these plans provides avenues of future potential funding for improvements as well as an acknowledgement of the need and purpose for the ROGG.
- **Potential Impacts** – The agencies noted that the project would likely result in impacts to natural resources, including Essential Fish Habitat (EFH) habitats, wetlands, and listed species. The NMFS reviewer noted that there were 26 estuarine creek crossings and that bridging and/or fill activities would affect NMFS resources. Agencies noted that the site occurred in an area with extensive wetlands and would likely result in wetland impacts, although the USACE reviewer did note that the focus should be on minimizing wetland impacts as avoidance of all impacts would be problematic. The USACE did note that the installation of culverts and/or additional bridges under U.S. 41 would likely be effective in mitigating potential impacts. Where wetlands were required, agencies noted that impacts to low-quality wetlands would be more appropriate than to high quality wetland systems. Agencies noted that several listed species were known to occur within the vicinity of the ROGG and that potential impacts to these species would need to be addressed through permitting and mitigation, especially potential impacts to the Florida panther as the proposed alignment extended through the Florida panther Primary Zone. The screens noted that future PD&E studies would require a Biological Assessment to address potential

impacts to listed species from the ROGG. Scaling these comments to the entire length of ROGG, potential impacts to EFH, wetlands, and listed species resulting from proposed improvements will require consultation and/or coordination with the NMFS, USACE, USFWS, and other state or federal regulatory agencies through various permitting processes. Evaluations of resource impact minimization options, potential mitigation activities, and the costs and timeframes for permitting processes was included in the feasibility assessment for ROGG.

- **Design Recommendations** – Agencies provided design recommendations to minimize potential impacts to resources, including recommendations for proposed route alternatives, compatibility with regional restoration efforts, and stormwater treatment. Recommendations for route alternatives included placing ROGG on existing filled areas such as the road shoulder or disturbed maintained ROW edges of U.S. 41 to minimize impacts, and minimizing or eliminating improvements within public park lands outside of the U.S. 41 ROW. The FHWA noted that route alternatives that included trails that funneled to existing narrow bridges without additional separation from traffic would likely not be feasible due to safety considerations. Recommendations for compatibility with regional restoration efforts included designing trail facilities to aid sheetflow from the Picayune Strand restoration to pass both the trail and U.S. 41.

Recommendations were provided for stormwater treatment and management including complying with regulations for the Big Cypress Area of Critical State Concern. These regulations require management of surface runoff quantity and quality (consistent with OFW standards), and drainage facilities that do not discharge directly to coastal waters. Scaling these comments to the entire length of the ROGG, opportunities to use existing infrastructure that has previously been filled would minimize impacts to the ROGG, although expansions to existing bridges would likely be needed to provide facilities wide enough for trail passage. The ROGG is required to be compatible with regional restoration efforts and should incorporate features to improve hydrology. Finally, opportunities to use the ROGG facilities to treat stormwater runoff both from the ROGG facilities and other untreated areas would be beneficial.

- **Cultural Requirements** – Agency comments noted that the ROGG could result in potential impacts to traditional cultural properties for the tribes, but would likely not

have significant impacts to known archaeological and historical resources. The Miccosukee Tribe of Indians of Florida flagged this segment of ROGG as a potential dispute due to potential impacts to traditional cultural properties, including two camps and tribally owned lands. The tribe required consultation prior to advancing elements of the ROGG. Other comments noted a full Cultural Resource Assessment Survey (CRAS) had not yet been completed for the corridor and would be required prior to implementation of the ROGG. As part of the CRAS, determinations concerning the eligibility for the Tamiami Road and Canal and Collier-Seminole State Park for potential listing with the NRHP would need to be conducted. Considerations for the feasibility assessment and master plan for ROGG include the consultation requirements with both the Miccosukee and Seminole Tribes, completion of a CRAS for the entire length, and Section 106 Consultation if NRHP resources are identified within the corridor.

- **Required Regulatory Documents** – The Programming Screen included a substantial list of documentation that would be required as part of the PD&E process and/or as part of other permitting and consultation coordination for the ROGG West corridor. As part of future PD&E documents, the following reports and technical studies would likely be required as part of the initial scoping meetings: Contamination Screening Evaluation Report; Floodplain Assessment; Navigation Study, Bridge Questionnaire, and USCG Bridge Permit; Water Quality Impact Evaluation and ERP; Wetlands Evaluation Report; Endangered Species Biological Assessment; and Section 4(f) Determination of Applicability. Additional federal, state, or local permits would be required, especially if work is required within adjacent public lands. Considerations for the feasibility assessment and master plan for ROGG include the extensive permitting and regulatory requirements for the site that will be required for any future improvements.

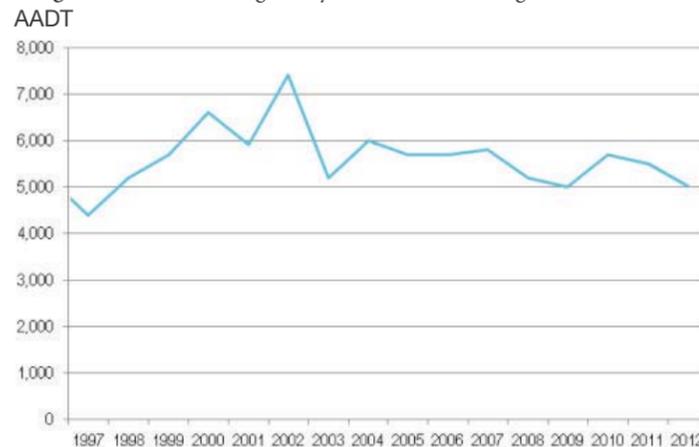
Florida Department Of Transportation AADT Report; 2012

FDOT provides the AADT counts for major corridors in the state on a regular basis, including for U.S. 41. Counts are provided for each year extending back to 1997. Though AADT has fluctuated, the trend in AADT is generally flat over the past 15 years. In 1996, AADT was 5,200, while it was 5,000 in 2012. Though these numbers indicate low traffic volumes overall, they do not account for differences in traffic volumes over the course of the year or during the day. Traffic varies seasonally and is higher in the winter months when more visitors are in the area. Traffic also varies by hour of the day, although the use of U.S. 41 more for recreational traffic than for commuting limits some of the daily variations seen in more urban settings. Peak hour traffic is generally low for rural areas and the percentage of traffic traveling in the peak direction is also different from the typical factors seen in urban areas with a strong commuting pattern. The level of truck traffic as a percent of the total remained generally consistent over the survey period, with some fluctuation.

Relevance to ROGG: Details of the FDOT AADT Report with particular relevance to the feasibility assessment and master plan for ROGG include:

- **Traffic Volumes** – Based on the information in the report, U.S. 41 is a relatively low volume rural roadway with seasonal variations in traffic volumes that vary with visitation rates at the parks in the corridor. Generally, the volumes present on the road would not support widening of the road or other improvements that would warrant the concurrent construction of ROGG. This information also suggests that the

Figure 2. Historic Average Daily Traffic Counts Along U.S. 41



configuration and design of the roadway as well as vehicle characteristics such as speed and/or vehicle type have more influence on pedestrians and bicyclists in the corridor than traffic volume.

- **Vehicle Mix** – The AADT includes a relatively high percentage of trucks compared to the total traffic volume at 11.6% in 2012, which is a slight reduction since 2005 when it was at 14.7%. A greater reduction has occurred between 2005 and 2012 in the ROGG West segment at C.R. 92/ San Marco Road where truck traffic of all types has dropped from 15.4% to 8.7%. Large vehicle types such as trucks can affect pedestrian and bicyclist experiences within the corridor and is important to understand the characteristics over time. Opportunities to provide facilities for pedestrians and bicyclists that are separate from the road lanes can assist in mitigating effects of a disproportionate number of large vehicles, which was considered as part of the feasibility assessment and master plan for ROGG.

Collier MPO Comprehensive Pathways Plan; 2012

The Collier MPO created a Comprehensive Pathways Plan in 2012 to provide a framework for a road-based network of bicycle and pedestrian facilities for the County. The Plan also included an assessment of prioritized system needs, and program and policy recommendations to guide project selection. The plan identifies goals, existing conditions analyses, recommendations, and immediate next steps for implementing the system. A detailed table of recommended improvements and cost estimates is included for both bicycle and pedestrian improvements, including projects along U.S. 41 (see Figure 3).

The priority needs text and maps note that the paved shoulders available on U.S. 41 east of S.R. 29 are suitable for cycling and no additional bicycle facility need is listed for U.S. 41. Portions of U.S. 41 in Collier County, however, is designated as lacking pedestrian sidewalk or shared-use path improvements. Another recommendation near U.S. 41 is the designation of San Marco Road as an important connector between bicycle facilities, presumably between Marco Island and U.S. 41, which is assumed to have a paved shoulder for cycling. These prioritized needs are listed, but no timeline for implementation is included in the plan.

The Collier MPO Plan specifically discusses the River of Grass Greenway. Following is the Plan’s description of ROGG:

“The River of Grass Greenway (ROGG) is proposed to run parallel to Tamiami Trail (US. 41), the ROGG will be a hard-surfaced 12-14 foot wide corridor (separated from the highway) suitable for a range of non-motorized recreation activities such as bicycling, walking, bird-watching, photography, fishing, and general enjoyment of the greater Everglades natural area. ROGG will extend from Krome Avenue (at the eastern edge of Everglades National Park near Miami) to the Naples area, a distance of approximately 75 miles. Over 90% of the pathway will go through national and state parks, and will include spurs to nearby historic and cultural centers including Everglades City and the Miccosukee Indian Village. Parks include Everglades National Park, Big Cypress National Preserve, Ten Thousand Islands National Wildlife Refuge, Fakahatchee Strand Preserve State Park, Collier-Seminole State Park, and Picayune Strand State Forest.” [sic]

The Plan states that the MPO has typically not prioritized greenways in the past, in favor of making on-road improvements to the network. The Plan recommends consideration of a separate program and funding stream for greenway planning and lists this item as an immediate next step; however, the Plan does not include an implementation plan or specific funding recommendations for this type of program.

Relevance to ROGG: Details of the Collier MPO Comprehensive Pathways Plan with particular relevance to the feasibility assessment and master plan for ROGG include:

- **Identified Needs** – The plan documents a need for improved bicycle and pedestrian facilities within the ROGG Study Area. One need consisted of improvements to add paved shoulders for bicycle use from S.R. 29 to Turner River Road on U.S. 41.

Figure 3. Collier MPO Comprehensive Pathways Plan Prioritized Need

Segment	Length	Priority	Project	Total Cost	TIP Funding
U.S. 41 East between S.R. 29 and Turner River Road	6.67 miles	Low	Paved shoulder, two sides & one side	\$753,561	Env 2012/13 DEM \$291,593 2013/14 \$150,934
U.S. 41 East between Collier Boulevard and Mondago Lane	0.46 miles	High	Paved shoulder, one side	\$30,823	CST 2012/2013 CIGP \$3,180,888 LFP \$8,005,019

Bicycle Priority Needs on U.S. 41

Segment	Length	Priority	Project	Total Cost	TIP Funding
U.S. 41 East between Collier Blvd and Duda Rd	3.62 miles	High	one side and two sides	\$771,434	--
U.S. 41 East between Duda Rd and County Boundary	53.13 miles	Low	SW, two sides	\$12,182,658	Rural – paved shoulder (most existing) may suffice

Pedestrian Priority Needs on U.S. 41

Bicycle and Pedestrian needs identified in the corridor included paved shoulders on C.R. 29 from U.S. 41 to Everglades City and paved shoulders on U.S. 41 throughout the corridor to the County line. Proposed ROGG facilities would assist in meeting these needs.

- **Regional Connections** – The plan identifies current and needed regional network connections that could become additional access points or potential connections for ROGG. Although needed improvements are not yet funded or programmed, the identification of the needed improvements provides a long-term planning horizon for potential future improvements, which should be considered as part of a long-term implementation plan for ROGG. Future improvements for pedestrian and bicycle use identified in the plan, such as the paved shoulder installation on San Marco Road, provide potential connection points that were considered as part of the ROGG feasibility assessment and master plan.
- **Prioritization Approach** – The plan provides criteria and a scoring approach for prioritizing improvements. The criteria were established by a stakeholder working group as part of the plan development. Although several of the criteria are more urban in focus, the methodology used provides a potential model for evaluation criteria for ROGG segments.
- **Partnerships** – The plan acknowledges ROGG as a promising greenway project for potential implementation and recommends consideration for ROGG for funding. The Collier MPO does not currently have a Greenways and Trails program. However, the plan identifies the need to establish a separate program to focus additional attention on these facilities. The plan notes the ROGG as a need and recommends that it should be considered for funding along with the other described greenways. Continued coordination with the MPO whether through a Greenways and Trails program or other funding program may provide a long-term partner for completion of the ROGG within Collier County.

Environmental Cultural Resource Documents

Central and Southern Florida Project Comprehensive Review Study Final Integrated Feasibility Report and Programmatic Environmental Impact Statement (PEIS); 1999

The C&SF Project is a network of canals, levees, control structures, and water storage areas located in central and south Florida that was established for numerous reasons, including flood control, water reserves for urban and agricultural land uses, recreation, and navigation. Projects completed under the C&SF Project include the construction of levees around Lake Okeechobee, construction of levees to create Water Conservation Areas, the installation of drainage systems in the Everglades Agricultural Area and the lower east coast, and the channelization of the Kissimmee River. The C&SF Project has been in place for over 50 years and has resulted in extensive unforeseen environmental impacts to south Florida ecosystems. Environmental impacts attributed to the C&SF Project include a regional loss in function and resiliency of wetlands, reduced water storage capacity, altered natural marshes that have been impounded or drained, and an increase in the spread of exotic species and polluted water facilitated by the extensive canal and levee system.

The C&SF Comprehensive Review Study, or Restudy, was approved to review the status of the existing C&SF Project and make recommendations on how the C&SF Project could be modified to restore south Florida ecosystems while continuing to meet flood abatement and water supply. The study details the pre-drainage condition for the natural systems that once persisted in the 18,000 square mile study area, the existing conditions, anticipated future conditions in a “without plan” scenario, the recommended plan, and an implementation strategy. The Restudy also provides necessary information on how to comply with environmental requirements and public involvement. The recommended Comprehensive Plan includes an explicit list of construction and operational features, pilot projects, real estate considerations, adaptive assessment and monitoring methodologies, fish and wildlife mitigation, new feasibility studies, future improvements to the plan, and cost estimates and sharing. The USACE approved this document and Congress incorporated it into the Water Resources Development Act of 2000 to provide the framework that guides future modifications to the C&SF Project.

Components of the C&SF Project and/or restoration projects identified in the Restudy occur throughout the ROGG Study Area. The expansive WCA3 occurs on the north side of U.S. 41 in the eastern portion of the study area. Levees constructed as part of the C&SF Project bound the southern, eastern and western edges of the WCA3 within the ROGG Study Area, including the L-28, L-29, and L-31. Several canals, including the L-67A and L-67C, occur adjacent to the levees. The Restudy identified the need for modifications to these canals and levees to improve water flow into the Shark Valley Slough. Roads and canals from a failed historical subdivision occur north of the western portion of the ROGG Study Area. CERP identified restoration activities as part of the Picayune Strand Restoration Project to degrade these roads and fill the canals to improve sheetflow and hydrology.

Relevance to ROGG: Details of the CERP with particular relevance to the feasibility assessment and master plan for ROGG include:

- **Regional Hydrological Restoration** – CERP is the primary driver for regional hydrological restoration efforts, which will establish the prevailing physical conditions, improvements and infrastructure that must be accommodated by ROGG. Any aspect of ROGG that would compromise the fundamental objectives or implementation of regional hydrological restoration efforts are considered infeasible for this study. The post-restoration configurations and conditions for infrastructure, water levels, and/or flows underlie the feasibility evaluations of routing alternatives and design options for ROGG. The water levels and flow requirements for post-restoration systems set the baseline for the design of trail surface elevations and stormwater treatment drainage requirements.
- **Infrastructure Availability** – Infrastructure from the C&SF Project, including levees (L-28, L-29, and L-31), canals, and water control structures, occur within the ROGG Study Area and were evaluated for feasibility as alternative routes for the ROGG. However, much or all of several of these levees have been identified for removal as part of the regional hydrological restoration efforts for CERP. CERP states that most or all of the L-28 and L-29 levees are identified for removal, although the near term phasing (next 10+ years) associated with CEPP focuses on the removal of only portions of the L-29 levee between the Blue Shanty flow way to the L-67 canal. As a consequence, the levees may remain in place for some limited period

of time until other CERP projects upstream from the levees are completed. Therefore, the potential for the use of the levees as a temporary route for ROGG needs to be balanced with the possibility that the use of the levees as a multi-use or shared-use trail becomes so popular that it could undermine their removal as a part of the restoration plan.

- **Trail Crossings of Structures** – Water control structures are in place in several locations to manage water discharges within canals in the ROGG Study Area. Many of the structures include sufficient space to allow for vehicles to cross the structure, although this space is not always sufficient for both a vehicle and pedestrian to cross at the same time. Where ROGG can feasibly cross structures, potential routing options for ROGG must accommodate operations and security and allow for maintenance vehicle and pedestrian crossings. Modifications to some of these structures are anticipated as part of CEPP and CERP projects, which will provide opportunities to enhance the crossings during structural enhancements. Potential structure crossings were evaluated as part of the feasibility assessment and master plan for ROGG.

Final Recreational Off-Road Vehicle Management Plan Supplemental Environmental Impact Statement (SEIS), Big Cypress National Preserve, Collier, Miami-Dade, and Monroe Counties, Florida; 2000

The NPS developed the Recreational ORV Management Plan to provide guidance on the management of ORV use within the 582,000 acres in the original boundaries of the Big Cypress National Preserve. This plan was required by the GMP for the Preserve as well as a 1995 litigation settlement negotiated between the Florida Biodiversity Project and several agencies and bureaus. The preferred alternative considered resource protection mandates of the NPS while providing reasonable recreational access. The document included an analysis of the effects of the preferred alternative on natural resources and visitor experience and found that implementing the preferred alternative would result in substantial beneficial effects to surface water flow, soils, and vegetation, which would limit ORVs to designated trails and reduce the spatial extent of the Preserve affected by ORVs. The visitor experience for ORV users would be affected by limitations on access and by the need to conform with new rules and permit requirements. The document also noted that many visitors who do not use ORVs would perceive a benefit from

reduced impacts to the scenic quality of the Preserve. In the ROGG Study Area, the ORV Management Plan identified trail access points and the need for orientation and education about the ORV trails. The Plan designated four main access points on or near U.S. 41, including the Burns Lake, Skillet Strand (north and south of U.S. 41), Monroe Station (north and south of U.S. 41), and Jetport. In addition, four access points were designated along Loop Road, including Sig Walker, Pace's Dike, Red Bird Lane, and Boundary Line. The Plan identified improvements for these access points primarily consisting of limited parking for ORV users, bulletin boards for information, and backcountry access permit stations, although some facilities would also include bathrooms and trash receptacles. The Plan also included provisions for educating ORV users about access points, permit requirements, and resource requirements of the Preserve.

Relevance to ROGG: Details of the ORV Management Plan Supplemental EIS with particular relevance to the feasibility assessment and master plan for ROGG include:

- **ORV Access** – The use of ORVs has been and is a significant recreational activity within the Preserve. These vehicles allow access to hunting and camping locations, and provide a unique way to experience the natural resources of the Preserve. These vehicles typically move quickly along trails and introduce vehicle noise to surroundings. For portions of ROGG that would occur in the vicinity of ORV trails and access points, educational and informational signs that notify potential ROGG users of the ORV use in vicinity would be needed to reduce potential conflicts. Conversely, notifications would be needed for ORV users and trails for areas where the trails would cross ROGG. In locations where ROGG crosses an ORV trail, the ROGG facilities will need to accommodate the passage of the various ORV vehicles.
- **Trailheads** – The access points designated for ORV use provide opportunities for rest stops and/or trailheads for the ROGG. The improved trailheads at Skillet North, Monroe Station, and Pace's dike have separate, gated parking areas for ORV users. The improved trailheads at Skillet North, Monroe Station and Paces Dike have separate, gated parking areas for ORV users. Considerations for the access points that can accommodate ROGG parking as well as ORV parking was considered as part of the feasibility assessment and master plan for ROGG.

- **Public Involvement** – Although ORV users are not the largest group of users within the Preserve, they are very active in advocating for the ORV use in public meetings, through regulatory processes, and other forums. A significant subset of ORV user group have been recreating with ORVs in the lands comprising the Preserve since prior to the formation of the Preserve and were also part of the initial coalition of groups that help get the Preserve established. As such, improvements for ROGG that would result in actual or perceived modifications to ORV access would receive extensive public scrutiny, which may provide limitations on timing, funding, or feasibility of installation of those facilities.

Biological Opinion (BO) For The Final Recreational Off-Road Vehicle Management Plan and Supplemental Environmental Impact Statement (SEIS): Big Cypress National Preserve; Permit No. 4-1-00-F-550; 2000

This Biological Opinion (BO) was issued by the USFWS on July 14, 2000 in conjunction with the ORV Management Plan completed for the Big Cypress National Preserve. Determinations made by the USFWS for the ORV plan included a "no effect" determination for West Indian manatee and eastern indigo snake; a "may affect, but is not likely to adversely affect" determination for the red-cockaded woodpecker, wood stork, Everglade snail kite, Cape Sable seaside sparrow, and bald eagle; and a "may affect, likely to adversely affect" determination for the Florida panther. The BO provided detailed documentation about Florida panthers in the vicinity of the Preserve, including documentation that the Preserve contained the home range for 38% of the known Florida panther population at the time of publication. In addition, documentation of the anticipated effects was provided for the other species for which effect determinations were made. Based on the analyses included in the BO, the USFWS made a determination that the ORV Plan would not likely jeopardize the Florida panther. Consistent with the conditions of this BO, NPS reduced trails in Bear Island and initiated research and monitoring in Bear Island and other areas to assure that ORV use is compatible with panther use.

Relevance to ROGG: Details of the ORV Management Plan Biological Opinion with particular relevance to the feasibility assessment and master plan for ROGG include:

- **Species Involved** – The ORV Plan BO included effect designations for Florida panther, Cape Sable seaside sparrow, eastern indigo snake, West Indian manatee,

wood stork, bald eagle, red-cockaded woodpecker, and Everglade snail kite. For all or parts of ROGG determined to be feasible, final design and engineering will more specifically determine the impact to these or other state listed species. Improvements for ROGG would likely require consultation and coordination for all or a subset of these species with the USFWS, even if similar determinations ultimately result in determinations of "may affect, not likely to adversely affect."

- **Florida Panther** – The BO included a summary of the permitting history and mitigation requirements for a variety of projects for which impacts to Florida panthers were anticipated or proposed. The majority of these projects required the acquisition of habitat and/or purchase of panther habitat units from a certified mitigation bank to address potential impacts caused by the project. These mitigation measures were considered as part of the feasibility assessment and master plan for ROGG.
- **Public Involvement** – Potential impacts to listed species resulting from construction projects can be subject to extensive public review and comment as part of coordination and consultation efforts required for various permits and reviews. In the past, regulatory review of potential environmental impacts has resulted in extensive public input. Potential improvements associated with ROGG that will require adverse effects to the populations of listed species in the area will be subject to extensive public scrutiny.

Scenic Corridor Visitor Safety Highway Improvements Environmental Assessment (EA); 2001

The NPS prepared this EA to assess the feasibility of the improvement or establishment of ten interpretive stations (turnouts) along U.S. 41, Turner River Road, and Loop Road within Big Cypress National Preserve. These stations were identified to improve safety, decrease accidents, and improve visitor experience on U.S. 41 that is otherwise compromised by the lack of adequate turnouts, high traffic speeds, and visitor tendencies to pull off the road in undesignated areas. Seven of the identified interpretive stations, including the Preserve headquarters, Dona Drive, HP Williams Picnic Area, Turner River canoe access, Burns Lake campground, Kirby Storter Park, and Monument Lake campground, occur along U.S. 41. Two of the proposed stations occur along Loop Road (Gator Hook and Sweetwater Strand), while the Turner River Trailhead occurs on Turner River Road. Elements such

as bulletin cases for safety and interpretive information, deceleration and acceleration lands at parking areas, controlled parking facilities, stormwater facilities, elevated boardwalks, and restrooms were typically included for each site. The EA noted that wetland impacts would result from site developments including new kiosks, acceleration/deceleration lanes along U.S. 41, parking facilities, restrooms, boardwalks, and viewing platforms. The EA concluded that the Preferred Alternative would provide safer access for visitors to experience the Big Cypress National Preserve due to safer turnouts, improved interpretive opportunities, and a reduced number of traffic accidents.

Relevance to ROGG: Details of the Scenic Corridor Visitor Safety Highway Improvements Environmental Assessment with particular relevance to the feasibility assessment and master plan for ROGG include:

- **Pull-Off Parking** – Current visitor practices include visitation not only to defined parking facilities associated with wayside parks, Oasis Visitor Center, and the Welcome Center, but also opportunistic parking in the maintained ROW of U.S. 41 to view resources of the Preserve. Similarly, hunters and other residents often park on the sides of the road to access hunting or recreational areas in the Preserve. Through years of use, some areas have become informal pullout locations. These informal pullout locations typically are inadequately sized and/or occur in areas with limitations on sight lines. This EA included public comments that noted a continued desire for this practice of engaging in undefined parking along the U.S. 41 maintained ROW. This practice distributes visitors throughout the Preserve, but does expose visitors to potential conflicts with traffic on U.S. 41. In addition, pull-off parking in the maintained ROW has the potential to be restricted or in conflict with trail facilities that would be placed in the maintained ROW as part of ROGG. Trail facilities for ROGG that would constrain pull-off parking would likely be subject to extensive public scrutiny during public review processes.
- **Turn Lanes** – The EA included alternatives that included turn lanes at the formal wayside parks to improve motorized vehicular access. These turn lanes would provide opportunities for vehicles to be out of the main lane of traffic for deceleration or acceleration and improve safe turns into and out of facilities. ROGG facilities that would be placed on the maintained ROW would need to accommodate the additional width of the turn lanes for the road section.
- **Trail Amenities/Trailheads** – The turnout areas

provide opportunities for trailheads and/or trail rest stop amenities that would supplement ROGG. The parking facilities at these turnouts could provide short-term parking for ROGG users, while restrooms and boardwalks at the turnouts could limit their need facilities in other portions of the ROGG. The ROGG could build upon the materials available at the turnouts for an expanded interpretive program.

Historic American Buildings Survey: Monroe Station; 2007

The building at Monroe Station was added to the NRHP in 2000 due to its history as a way station along U.S. 41 and the exploration and visitation patterns that it supported. In 2007, the NPS conducted a building survey that documented the history of the building as well as the historical context in which it occurred. This report summarized the history of construction, original and subsequent occupants, original architecture, alterations and additions, and the historical context that the building served as a police station and stop along the Tamiami Trail. The report notes that the building is a rare example of vernacular roadside architecture from the dawn of American highway construction.

Relevance to ROGG: Details of the Historic American Buildings Survey for Monroe Station with particular relevance to the feasibility assessment and master plan for ROGG include:

- **Historical Cultural Resource** – The Monroe Station building is an example of a cultural resource representative of the historical uses and activities on U.S. 41. As such, it is an opportunity for interpretation as well as a potential constraint to future improvements in the area. The listing of the building on the NRPH requires that modifications to the building undergo Section 106 coordination with SHPO to evaluate potential adverse effects. The survey for Monroe Station serves as an example of the level of detail that may be needed for improvements in and around potential cultural resources along ROGG.
- **Wayside Park** – The wayside park character of the building and adjacent parking facilities provides opportunities for future trailhead and parking connections for ROGG consistent with ORV access trailhead improvements. Opportunities to incorporate the building and/or the setting of the facility in the trailhead plan were evaluated as part of the feasibility assessment and master plan for ROGG.

Documentation And Evaluation Of Coopertown

(8Da6767) And The Airboat Association Of Florida (8Da6768) And An Assessment Of Effects Of Modifications To Tamiami Trail: Next Steps Draft Environmental Impact Statement (DEIS), Miami-Dade County; 2009

During July 2009, New South Associates conducted a study in Miami-Dade County to support the Tamiami Trail Modifications “Next Steps” EIS and comply with Section 106 of the National Historic Preservation Act. The EIS was related to the construction of additional bridging on the U.S. 41 to increase flow of water between the Everglades north and south of the highway. An architectural history survey was conducted and re-evaluation was performed on two properties previously recorded in the project area: Coopertown Restaurant and Airboat Rides (8DA6767) and the Airboat Association of Florida (8DA6768). Both of these properties have been determined eligible for listing in the National Register of Historic Places. Additionally, the Airboat Association of Florida property was evaluated to determine if remains over 50 years old were present, although no such remains were discovered. A third location, the Miccosukee Osceola Camp, was also proposed for recording and assessment of structures and for evaluation as a possible TCP, but access to the property was not granted.

This report included a discussion of proposed design alternatives and a consideration of their respective effects on the historic resources at Coopertown and at the Airboat Association property as well as on U.S. 41 (8DA6510) and Shark River Slough National Register Archaeological District. Because access to Osceola Camp was denied, it is unknown whether this location contains structures over 50 years old that should be recorded and evaluated. The EIS determined that only Coopertown would experience direct adverse effects from all of the proposed alternatives associated with the U.S. 41 road raising and bridge construction work. The preferred alternative included the construction of a 1.75-mile bridge in front of Coopertown, which would require access ramps and other infrastructure to reach the property.

Relevance to ROGG: Details of the Evaluation of Coopertown and Airboat Association of Florida with particular relevance to the feasibility assessment and master plan for ROGG include:

- **Cultural Resource Assessments** – The Airboat Association and Coopertown Restaurant represent historical complexes for the tourism trade along U.S. 41. Similar to Monroe Station, improvements to

properties like these subject to listing on the NRPH would require Section 106 coordination with SHPO to evaluate potential adverse effects. The survey for these facilities serves as an example of the level of detail that may be needed for improvements in and around potential cultural resources that would be required for ROGG.

- **U.S. 41 Historical Designation** – This assessment noted that U.S. 41 was eligible for listing on the NRPH since the facility was constructed more than 50 years ago. The analysis of effects on cultural resources in the document noted that addressing the hydrological impact caused by U.S. 41 through the Tamiami Trail Next Steps project could not be completed without affecting the highway. For ROGG, the designation of U.S. 41 as potentially eligible for listing on the NRPH would need to be addressed through appropriate consultation with SHPO for improvements that may be required on historical road facilities, although some improvements, such as improvements for hydrological conveyance, may be acceptable pending the consultation.

Environmental Assessment (EA) for The Loop Road Improvements, Big Cypress National Preserve, Florida; 2010

The NPS proposed to rehabilitate and repair damage along 16.53 miles of Loop Road to improve safe access for visitors and improve drainage under the roadway. Loop Road is the main scenic drive through Big Cypress National Preserve that provides access to the Loop Road Education Center and is used by thousands of visitors each year. The proposed project included rehabilitation of five miles of paved portions of the road and 11.53 miles of unpaved portions of the road by raising the road surface elevation, replacing old culverts, and installing new culverts to facilitate water flow under the roadbed. This rehabilitation was necessary in part due to damage from Hurricane Wilma in 2005 that resulted in degradation of the roadway. In some locations, road degradation included erosion of the road shoulders and a potential safety hazard for users. Resource topics included in the EA included water quality, hydrology, wetlands, wildlife, special status species, cultural landscape, and visitor use, recreational resources, and transportation. No major impacts were anticipated as a result of the project. NPS found that the preferred alternative would have no adverse effect on the historic character of Loop Road, which was concurred with by SHPO.

Relevance to ROGG: Details of the Loop Road

Improvements Environmental Assessment with particular relevance to the feasibility study and master plan for ROGG include:

- **Routing Alternative** – Loop Road serves as an alignment alternative for the ROGG feasibility assessment and master plan as it provides an alternate route separate from U.S. 41. The road ROW is sufficient for the existing facilities, but is not sufficient for additional widening that would be required to provide a separated trail facility next to the road. The use of this route alternative for ROGG would require ROGG trail user access control in the residential portions of Loop Road to limit potential impacts to private landholders. If incorporated into ROGG, additional trailheads or rest stops would be required along portions of the road due to the length from Monroe Station at the western terminus to the eastern terminus at U.S. 41 near the Miccosukee Village. The NPS has planned several future ORV access points along the Loop Road that may provide joint facilities for ROGG.
- **Loop Road Surfacing** – Portions of the eastern end of the road that provides access to residential houses has been paved, while the remainder of the facility is surfaced with aggregate. Public comments provided in the EA noted a desire to maintain the historical character of Loop Road, including maintaining the non-paved surface. The proposed improvements for the EA provided stabilized road surface sufficient for some bicycling uses. Additional minor changes that enhance the surface through the removal of larger aggregate chunks would assist in improving the surface for bicycling. The feasibility assessment and master plan for ROGG included an evaluation of potential road surfaces that would sustain bicycle use within the context of the public comments concerning surfacing conditions provided in the EA.
- **Hydrological Restoration** – Similar to U.S. 41, the Loop Road restricts the natural sheetflow of the region. The Preferred Alternative included the installation of culverts distribute water under the roadway. Additional opportunities to add culverts or bridges in areas where sheetflow enhancements are needed may provide mitigation for potential wetland impacts in the ROGG.

Tamiami Trail Modifications (TTM): Next Steps/Environmental Impact Statement (EIS) – Everglades National Park, Florida; 2011

In response to Congressional direction, the NPS prepared the Tamiami Trail Modifications: Next Steps EIS to evaluate additional bridging modifications to U.S. 41 to more fully restore hydrology in the ENP and Northeast Shark River Slough. These evaluations expanded upon the one mile bridge identified in Mod Waters and was required to be compatible with CERP. These evaluations included several assumptions, including providing access to commercial airboat operators and Native American camps located along U.S. 41 and a 0.5 mile buffer between all bridge approaches and Native American Indian camps located within the project area. The NPS determined that an alternative with 5.5 miles of bridging (Alternative 6e) most closely met the objectives of the project, while preserving important historic, cultural, and natural resources within ENP.

Within the ROGG Study Area, the preferred alternative consisted of the construction of six bridges ranging in length from 0.4 mile to 2.6 miles and elevating the remainder of the roadway to allow for higher water elevations in the L-29 canal. This alternative also included bridge down ramps to service the Everglades Safari and Coopertown sites. The primary long-term recreational impact identified within the EIS was the removal of bank fishing in areas with new bridges. The EIS did assess the feasibility for adding a bike trail to the proposed bridges and elevated roadways. However, the Preferred Alternative did not include a separate bike trail on the bridges or road, but maintain five-foot wide shoulders to provide on-road bicycle facilities due in part to the anticipated costs (\$6 million per mile for bridges and \$600,000 per mile for the road). The EIS noted that an analysis of impacts from a bike trail would be required if the bike trail was added to the final design of the project.

Relevance to ROGG: Details of the Tamiami Trail Next Steps EIS with particular relevance to the feasibility assessment and master plan for ROGG include:

- **Section Limitations** – The construction of bridges and elevation of the roadway within the eastern portion of the ROGG Study Area will limit the potential for trail facilities to be placed on existing infrastructure. The elevated roadway sections include two 12-foot wide travel lanes with a five-foot paved shoulder and an additional 6.5 foot wide grassed shoulder on each side of the roadway. The shoulders would be bordered by a

guardrail. Sections for the bridges were anticipated to be 44 feet between parapet faces, which would allow for two 12-foot wide travel lanes and 10-foot shoulders. The design of the bridges included in the EIS did not include a separate bike trail facility. The shoulder widths identified in the EIS as well as the guardrail location would preclude the construction of a separated bike trail facility within the proposed sections. However, the wide shoulders would accommodate an on-street bike lane, although this lane could be interrupted by emergency pull-offs.

Routing options for ROGG within the improved U.S. 41 resulting from this EIS would require on-street trail configurations or modifications to the existing design to add a separated bike facility. For cost effectiveness, incorporation of a separate bike trail would need to be included prior to the final design of construction plans for bridges. The feasibility assessment and master plan for ROGG included evaluations of on-street, add-on separated bike trails, and trail facilities that were incorporated into revised designs for the bridges and roadway.

U.S. 41 (S.R. 90) Tamiami Trail Project Development and Environment (PD&E) Study: Environmental Determination; 2011

This Type 2 Categorical Exclusion study evaluated potential impacts for the proposed shoulder widening and guardrail installation along a 32.3 mile portion of U.S. 41 extending from S.R. 29 in Collier County to the Collier County/Miami-Dade County line. The focus of the shoulder work was to extend the paved shoulder on each side by two feet for a total of a four foot paved shoulder. Guardrails would also be replaced on bridge structures and approaches. These improvements were proposed within the existing ROW. The document included an assessment of social, cultural, physical, and environmental impacts. Also included were details from public hearings and other public outreach conducted as part of the assessment. The work authorized under this PD&E was completed in spring and summer of 2013.

Relevance to ROGG: Details of the U.S. 41 Tamiami Trail PD&E Study Environmental Determination with particular relevance to the feasibility assessment and master plan for ROGG include:

- **Cultural Resources** – A CRAS was completed along the 32 mile corridor that found seven previously recorded resources and 46 newly recorded resources

within the U.S. 41 ROW. All 46 newly recorded resources were found to be not eligible for listing on the NRHP. A CRAS will likely be required for any additional improvements associated with future ROGG facilities.

Environmental Assessment (EA); Designated ORV Trailheads and Turn Lanes; Big Cypress National Preserve, Florida; 2012

The NPS completed this EA for the Big Cypress National Preserve to assess the feasibility of trailheads and turn lane construction at access points designated in the previous ORV Management Plan. The Preferred Alternative covered improvements at eight of the 15 access points originally identified in the ORV Management Plan, including Skillet Strand (north and south), and Monroe Station South access points on U.S. 41 and Sig Walker, Pace's Dike, and Boundary Line access points on the Loop Road. Except for Skillet Strand South, all of these access points previously existed in at least some rudimentary form. Trailhead improvements included stabilized parking surfaces for automobiles and vehicles with trailers, single vault toilets, trash receptacles, interpretive and orientation signs, and backcountry permit stations.

In addition to the trailheads, the EA addressed the installation of turn lanes for five key intersections with U.S. 41: Turner River Road, Burns Road, Skillet Strand trailheads, Monroe Station South trailhead, and the entrance to the Oasis Visitor Center. These turn lanes were designed to FDOT standards and proposed to address safe access to the facilities. Benefits of the Preferred Alternative included safe vehicle access, improved ORV and passenger parking, improved passive recreation amenities, and improved traffic movement. Adverse impacts addressed for the Preferred Alternative included impacts to wetlands, floodplain, and Florida panther habitat.

This EA included consultation with the USFWS that resulted in a BO for impacts to federally listed species that would result from the proposed project. This BO, included in a memorandum with Service Consultation Code: 2012-I-0139, included a "no effect" determination for West Indian manatee, American crocodile, and eastern indigo snake; a "may affect, not likely to adversely affect" determination for the wood stork; and a "may affect, likely to adversely affect" determination for the Florida panther. As per the Terms and Conditions of this BO, NPS would purchase 258 Panther Habitat Units and 10.62 kg of short-hydroperiod and 7.89 kg of long-hydroperiod wood stork forage biomass from a Service-approved mitigation bank as part of the mitigation to offset impacts to these species.

Relevance to ROGG: Details of the Designated ORV Trailheads and Turn Lanes EA with particular relevance to the feasibility assessment and master plan for ROGG include:

- **Access Point Facilities** – The ORV access points include the construction of parking areas and other amenities that would benefit ROGG trail users. Opportunities to connect ROGG to these facilities and incorporate them into the trailheads and rest stops for ROGG would limit the need for additional facilities in other areas of the Preserve. In addition, the footprint for new ROGG facilities would be smaller and limited to the trail itself for more areas, which would lessen the potential impacts that could result from ROGG for new trailhead facilities. This needs to be balanced with the requirements of parking vehicles with trailers that are using the access points for ORV access, although the parking for ORVs will be separate from motorized vehicular parking at these access points. Still, operational considerations for maintaining ORV trailer parking is a consideration when joint use of the access points between ORVs and ROGG would occur.
- **Road Improvements** – The turn lane improvements would enhance the safety of access for vehicles into several facilities along U.S. 41. Potential trail alignments for ROGG on the road shoulder would need to accommodate the expanded lane widths of these turn lanes. In addition, the design of the intersection of ROGG trails with the roadways served by these turn lanes needs to include sight lines and other visual clues for the vehicles in the turn lanes and ROGG trail users that an intersection is approaching. If trails for ROGG are required to cross a section of roadway with a turn lane, options to move the trail/road intersection away from the turn lane or to cross the turn lane consistent with FDOT standards and guidelines would need to be explored for ROGG.
- **Listed Species Permitting** – The listed species addressed in this EA would likely be similar to those that would need to be addressed for ROGG. The majority of the facilities proposed in the EA occur adjacent to U.S. 41 and/or Loop Road within similar habitat types to the ROGG Study Area. The USFWS determined that mitigation was required for potential impacts to wood storks and Florida panthers for this EA, which would likely be a similar requirement for ROGG. Mitigation for these impacts consisted of the purchase of credits for Florida panther habitat and wood stork forage biomass. Mitigation for potential

impacts resulting from ROGG would likely include purchase of credits from a mitigation bank.

Draft Integrated Project Implementation Report and Environmental Impact Statement (EIS): Central Everglades Planning Project (CEPP); 2013

The purpose of CEPP is to advance restoration efforts in the central portions of the Everglades, including routing more freshwater (approximately two-thirds of the estimated flow estimated to be provided by CERP) into the ENP through improvements to a variety of elements of the C&SF Project as described in Section 2.1 - Context. Components of the CEPP that occur within the ROGG Study Area include removal of a portion of the L-29 levee, removal of portions of the Old Tamiami Trail, levee modifications in the southwest corner of WCA 3B including the construction of the new Blue Shanty levee, and recreation elements. The Draft PIR/EIS provided an implementation timeline of approximately 14 years, although it also noted that this timeline is dependent on the completion of other CERP and non-CERP projects with full implementation likely extending more than 20 years. The Draft PIR/EIS provided a phasing approach for implementing the CEPP components, with the components that occur in the ROGG Study Area generally being shown as later phases. Upon finalization, the PIR/EIS will be submitted to Congress for funding.

Relevance to ROGG: Details of the CEPP PIR/EIS with particular relevance to the feasibility assessment and master plan for ROGG include:

- **Levee Modifications for WCA 3B** – Based on the current draft plan, CEPP includes several modifications to the levee system in the southern portion of WCA3 to improve sheetflow into the ENP. Approximately 4.3 miles of the L-29 levee along U.S. 41 will be removed to allow sheetflow under the 2.6 mile bridge identified in the Tamiami Trails Next Steps project. A new levee known as the Blue Shanty levee would be installed at the eastern end of the L-29 removal and extend from U.S. 41 to the L-67A levee. The L-67C will be removed between the Blue Shanty levee and U.S. 41. The levee removal for the L-29 removes potential infrastructure that could be available for ROGG. However, the connection of the Blue Shanty levee to the L-67A levee maintains a longer connection of infrastructure that could be connected to potential ROGG facilities. The removal of the 4.3 mile long segment of the L-29

removes a portion of existing infrastructure that could be used for ROGG. Coupled with the bridge design selected in Tamiami Trail Next Steps, the removal of the levee causes a gap in existing infrastructure available and/or programmed improvements other than on-road bicycle lanes that would maintain direct access along the U.S. 41 corridor for this 4.3 mile segment.

The Blue Shanty levee and L-67C provide a potential route separate from U.S. 41 around this gap, but this potential route would be significantly longer than a direct connection. In addition, the use of this longer route for a separate loop route would still be limited by the lack of existing infrastructure or programmed improvements on U.S. 41 between the two levees. The feasibility assessment and master plan for ROGG included evaluations for potential routing alternatives and improvements that would provide direct connections along U.S. 41 and/or provide a potential loop trail connection between the Blue Shanty levee and L-67C levee.

- **Recreation Elements** – The recreation plan for CEPP includes several maintained, enhanced, or new improvements within the ROGG Study Area. On the north side of U.S. 41 at the S-333 structure for the L-67 canal, the plan designates that the existing boat ramp would be relocated to maintain access to WCA3A and WCA3B and additional improvements, including a restroom, shelter, and trailhead parking facilities, would be provided for connections to “blueways and greenways”. Bicycle and pedestrian access from the L-29 levee will be re-routed along north along the L-67A levee to the new Blue Shanty levee and return to the L-29 levee. The existing parking area at the S-334 site near the eastern terminus of the ROGG Study Area will be maintained and a kayak launch and shelter will be added. The parking and restroom facilities at the S-334 and S-333N sites provide opportunities for trailheads for the ROGG. The removal of the L-29 levee limits a direct east/west trail on a levee within the area, although the recreation plan maintains pedestrian access on the remaining portions of the L-29 levee.

In addition, the recreation plan identifies an alternative, albeit longer, multi-use or shared-use trail connection option that extends along the Blue Shanty flow way and the L-67A levee. This bicycle and pedestrian access provides a connection point for recreation access to the northern portions of the CEPP study area and other regional greenway systems. The recreation plan for CEPP identifies trails on the new Blue Shanty levee and

the portions of the L-29 and L-67A that would remain after the CEPP projects are completed that could be integrated into or connected to ROGG. The parking areas and improvements identified in the plan would potentially be available for trailhead facilities for ROGG.

- **Old Tamiami Trail Removal** – Approximately six miles of the Old Tamiami Trail between the ENP Tram Road and the L-67 Extension Levee are identified for removal as part of CEPP, which is the majority of the trail east of the Miccosukee Village. The Old Tamiami Trail provides an existing piece of infrastructure with a paved surface that could be available for use by ROGG. The banks of the facility are dominated by shrubs, including exotic invasive species, which limits views into the adjacent habitats, but provides shade for people using the old roadbed. For ROGG, the Old Tamiami Trail provides an existing piece of infrastructure that could be available temporarily for trail use, although this would need to be done consistent with and in a manner that does not compromise hydrological restoration goals.

Literature Review Summary

The Literature Review included the review of a broad set of documents relevant to the planning and design of ROGG. All potential uses would need to be consistent with and in a manner that does not compromise restoration goals. Other significant findings from these guiding documents include:

The South Florida Water Management District (SFWMD) Public Use Rule (2006) allows for public access and use of many lands adjacent to the ROGG Study Area for outdoor recreation activities including the use of bicycles within levee right-of-ways, along maintenance berms and on levee tops. Direct implications for ROGG include the potential use of SFWMD levees, levee berms and/or levee right-of-ways for the use of hiking, biking or other outdoor recreation uses.

Recreation management of SFWMD lands by the SFWMD Recreation Management and Partnership Plan (2011) seeks to balance access to consumptive and non-consumptive activities as well as provide connectivity to other public lands through greenway partnerships. The ROGG is a priority greenway route by the FDEP's Office of Greenways and Trails (OGT). This designation, in coordination with lands managed by the SFWMD may provide opportunities to enhance regional greenway networks through the implementation of ROGG and meet the plan objectives for SFWMD to provide outdoor recreation activities for both hiking and biking (non-consumptive use) and fishing and hunting (consumptive uses).

The ETDM Summary Report; Project #12596 – River Of Grass Greenway; Planning Screen & Program Screen reports document that the reviewed portion of the ROGG (ROGG West) is included on pathways planning maps for the State of Florida OGT (highest priority level), North Dade Greenways Master Plan, the CERP Master Recreation Plan, Collier County Comprehensive Pathways Plan, and has been incorporated into the Collier MPO 2030 Long Range Transportation Plan. The inclusion of ROGG on these plans provides avenues of future potential funding for improvements as well as an acknowledgment of the need and purpose for the ROGG.

The Draft Integrated Project Implementation Report And Environmental Impact Statement: Central Everglades Planning Project (CEPP) includes planned improvements for the Blue Shanty levee and L-67C provide a potential route separate from U.S. 41 around an identified gap in direct trail connections along U.S. 41 due to the proposed removed of 4.3 miles of the L-29 Levee. In addition, the recreation plan for CEPP includes several maintained, enhanced, or new improvements within the ROGG Study Area such as enhanced pedestrian connections access along the Blue Shanty and L-67A levee with connections to recreation areas in the northern regions of the CEPP study area. The CEPP proposal also includes the removal of approximately six miles of the Old Tamiami Trail east of the Miccosukee Village area. This represents removal of existing infrastructure that could be available temporarily for trail use.