

Mitigation Plan Rev. 2

093-87652



July 2011

Table of Contents

1.0 II	NTRODUCTION	3
2.0 V	VETLAND IMPACT FUNCTIONAL ASSESSMENT	8
2.1	Methods	8
2.1.1	Uniform Mitigation Assessment Method (UMAM)	8
2.1.2	Wetland Assessment Technique for Environmental Review (W.A.T.E.R.)	10
2.2	HID In-lieu Fee	11
2.3	Results	12
2.3.1	1 Units 6 & 7 Site	12
2.3.2	2 Associated Non-Linear Facilities	13
2.3.3	3 Associated Linear Facilities	16
3.0 P	ROPOSED MITIGATION PLAN	20
3.1	Northwest Restoration Site	20
3.1.1	1 Existing Condition	21
3.1.2	2 Target Community	22
3.1.3	3 Methods	22
3.1.4	4 Environmental Lift	24
3.2	SW 320 th Street Restoration Site	25
3.2.1	1 Existing Condition	26
3.2.2	2 Target Community	27
3.2.3	3 Methods	28
3.2.4	4 Environmental Lift	29
3.3	Mitigation Banks	30
3.3.1	1 Everglades Mitigation Bank	30
3.3.2	2 Hole in the Donut Mitigation Bank	31
3.4	Pipeline Restoration	32
3.4.1	1 Methods	32
3.4.2	2 Environmental Lift	32
3.5	Sea Dade Canal Crocodile Sanctuary	35
3.5.1	1 Existing Condition	35
3.5.2	2 Target Community	35
3.5.3	3 Methods	35
3.5.4	4 Environmental Lift	36
3.6	Temporary Construction Access Road Restoration	38
	IONITORING AND SUCCESS CRITERIA	
5.0 C	ONCLUSION	40



List of Tables

l'able 1-1	Units 6 & 7 Project Wetland Impact Summary
Γable 1-2	Mitigation Alternative Summary
Γable 2-1	Units 6 & 7 Site Wetland Functional Assessment Summary
Γable 2-2	Associated Non-Linear Facilities UMAM Wetland Functional Assessment Summary
Γable 2-3	Associated Non-Linear Facilities W.A.T.E.R. Wetland Functional Assessment Summary
Γable 2-4	Associated Non-Transmission Linear Facilities Wetland Functional Assessment Summary
Γable 2-5	Conceptual Transmission Line Corridor Rights-of-Way Wetland Functional Assessment Summary
Γable 3-1	Northwest Restoration Site Functional Assessment Summary
Γable 3-2	SW 320 th Street Restoration Site Functional Assessment Summary
Γable 3-3	Pipeline Restoration Areas Functional Assessment Summary
Γable 3-4	Sea Dade Canal Crocodile Sanctuary Functional Assessment Summary

List of Figures

- Figure 1 Proposed Facilities Site and Associated Non-linear Facilities
- Figure 2 Proposed Facilities Non-transmission Linear Facilities
- Figure 3 Proposed Facilities Transmission
- Figure 4 Mitigation Alternatives Location Map
- Figure 5 Location of Transmission Line Corridors Showing Segments
- Figure 6 Northwest Restoration Site Aerial Map
- Figure 7 Northwest Restoration Site Existing Landuse/Landcover
- Figure 8 Northwest Restoration Site Proposed Landuse/Landcover
- $Figure\ 9-Northwest\ Restoration\ Site\ Conceptual\ Cross-Section$
- Figure 10 Northwest Restoration Site Conceptual Illustration
- Figure 11 SW 320th Street Restoration Site Aerial Map
- Figure $12 SW 320^{th}$ Street Restoration Site Existing Landuse/Landcover
- Figure 13 SW 320th Street Restoration Site Proposed Landuse/Landcover
- Figure 14 Everglades Mitigation Bank Service Area
- Figure 15 Hole in the Donut Mitigation Bank Service Area
- Figure 16 Pipeline Restoration Aerial Map
- Figure 17 Sea Dade Canal Crocodile Sanctuary Aerial Map
- Figure 18 Sea Dade Canal Crocodile Sanctuary Existing Landuse/Landcover
- Figure 19 Sea Dade Canal Crocodile Sanctuary Conceptual Design

List of Appendices

Appendix A	UMAM Functional Assessment
Appendix B	W.A.T.E.R. Functional Assessment
Appendix C	Mitigation Area Photographs



July 2011 1 093-87652

EXECUTIVE SUMMARY

The Turkey Point Units 6 & 7 Project offers a portfolio of uniquely beneficial environmental opportunities that are a result of its design attributes and the overall magnitude of the Project. The benefits are provided in three key areas: inherent environmental benefits that result from Project design, mitigation offered in response to unavoidable wetland impacts, and associated regional restoration projects.

The Mitigation Plan (Rev. 0) submitted with the Site Certification Application (SCA) in June 2009 and amended (Rev. 1) in May, 2010 identified several mitigation opportunities for consideration that collectively provide more functional lift than required to offset the Project's wetland impacts. The Plan has been further refined to focus upon those mitigation options that have received a positive reception from regulatory agency staff and cumulatively provide the functional lift required to offset the Project's wetland impacts. The Plan includes a conservative assessment of functional lift required, as areas of temporary impact associated with the construction access roadway improvements are proposed to be mitigated as permanent impacts, and wetland impacts associated with transmission facilities are anticipated to be reduced following detailed engineering and facility design.

By design, the Turkey Point Units 6 & 7 Project offers inherent environmental benefits while addressing two key environmental issues affecting South Florida: greenhouse gas emissions and the conservation of regional water resources. First, the application of nuclear generation technology will avoid the emission of 7 million tons of carbon dioxide (CO₂) annually, as compared to current combined cycle natural gas technology. Second, in selecting reclaimed water from Miami-Dade County as the Project's primary cooling water source, FPL will contribute to environmental protection by reusing a regional resource that is currently discarded, thereby avoiding disposal of treated wastewater via ocean outfall and reducing the volume of water currently discharged by two-thirds. This utilization of reclaimed water also assists Miami-Dade County in achieving its regulatory obligations to increase reclaimed water usage in the County in a cost-effective manner. Selection of this Project allows the County to avoid a minimum of \$122 million of additional capital costs that County water and sewer customers would otherwise pay. Additionally, FPL will compensate the County for operation and maintenance costs of approximately \$200 million over the first 40 years of plant operation.

The Project's Mitigation Plan was initially formulated in consultation with members of the Compatibility Working Group (CWG), which was formed by FPL in 2007 specifically to solicit input on the Project. The CWG is comprised of representatives of the South Florida Water Management District (SFWMD), Florida Department of Environmental Protection (FDEP), Miami-Dade County Department of



Environmental Management (DERM), Miami-Dade County Planning and Zoning, Miami-Dade County Water and Sewer Department (MDWASD), U.S. Army Corps of Engineers (USACE), U.S. Fish and Wildlife Service (USFWS), Biscayne National Park (BNP), and Everglades National Park (ENP). The Project and the associated Mitigation Plan have been refined in consultation with the regulatory agencies to avoid and minimize wetland impacts to the greatest extent practicable, and to incorporate several mitigation opportunities to replace the loss of wetland functions due to unavoidable wetland impacts. Avoidance and minimization efforts focused on minimizing impacts to high-quality wetlands in Site selection, reducing the acreage of impact with regard to the design of associated facilities, and utilization of previously impacted areas to the greatest extent practicable.

In accordance with regulatory guidelines of the FDEP and USACE, FPL proposes that the loss of wetland habitat associated with the Project be mitigated through a combination of regional wetland restoration, enhancement, and preservation initiatives furthering the regional restoration goals of the Comprehensive Everglades Restoration Plan (CERP) within the Biscayne Bay Coastal Wetlands (BBCW) study area, as well as the use of FDEP- and USACE-approved mitigation banks. FPL has collaboratively worked with local, state and federal agencies during the development of the Project to identify mitigation opportunities of regional interest. The refined Mitigation Plan includes over 800 acres of applicant-sponsored wetland restoration, enhancement, and preservation opportunities combined with purchase of credits from regional mitigation banks. The proposed mitigation sites are broadly focused on two geographic areas, the BBCW area adjacent to the L-31E Canal north of the Turkey Point Plant, and the Model Lands Basin west of the Turkey Point Plant. Mitigation activities proposed within the BBCW area include restoration, enhancement, and preservation of large wetland parcels adjacent to the L-31E Canal that will benefit regional ecosystem restoration plans. The conveyance of some of these FPL mitigation parcels to the public trust would connect the restored lands with state and federal environmentally protected lands to the east, completing acquisition of an important segment of the BBCW project. Mitigation proposed within the Model Lands Basin is designed to provide an increase in wetland/wildlife habitat through creation of a crocodile nesting sanctuary, continuing FPL's role as an environmental steward for this endangered species, , as well as restoration of sawgrass marsh wetlands associated with the temporary construction access roadways.



1.0 INTRODUCTION

FPL proposes to construct and operate two new nuclear generating units (Units 6 & 7) and supporting facilities at a Site within the existing Turkey Point plant property boundaries, as well as new transmission lines and other off-site associated linear and non-linear facilities. The Project has been described in the Site Certification and Federal Dredge and Fill Applications submitted to FDEP and USACE, respectively, in June 2009 and amended in May 2010, as well as the SCA Completeness Responses submitted from 2009 through 2011.

The Project's Mitigation Plan was initially formulated in consultation with members of the Compatibility Working Group (CWG), which was formed by FPL in 2007 specifically to solicit input on the Project. The CWG was comprised of representatives of the SFWMD, FDEP, DERM, MDC Planning and Zoning, MDWASD, USACE, USFWS, BNP, and ENP. Although meetings of the CWG were not continued past the submittal of the SCA, numerous meetings with each of the representative groups during the SCA review process have occurred to discuss the components of the Mitigation Plan. The Project and the associated Mitigation Plan have been refined to avoid and minimize wetland impacts to the greatest extent practicable, and to incorporate several mitigation opportunities for consideration to replace the loss of wetland functions due to unavoidable wetland impacts.

Avoidance and minimization efforts are focused on minimizing impacts to high-quality wetlands in Site selection, reduction in the acreage of impact with regard to the design of associated facilities, and utilization of previously impacted areas to the greatest extent practicable. The proposed locations of Project features are illustrated in Figures 1 through 3. The location for the Units 6 & 7 Site lies within the existing Turkey Point permitted industrial wastewater facility. Utilization of this previously impacted area allows for avoidance of over 200 acres of impact to coastal mangrove and/or freshwater marsh wetlands. Parking and laydown areas were initially located adjacent to SW 359th Street and 117th Avenue. impacting approximately 159 acres of wetlands, including large areas of high-quality sawgrass-dominated freshwater marsh. Avoidance and minimization efforts associated with the relocation of the parking and laydown areas to locations within the existing Turkey Point Plant and industrial wastewater facility resulted in significant reduction in wetland impacts. The reconfigured and relocated parking and laydown areas, reduced in size and limited to previously-impacted, low-quality wetlands, reduced the wetland impact acreage by approximately 100 acres (66 percent) compared to the initial locations and designs. The restoration of roadways within the construction access improvements corridor by returning existing public roads to their current lane configuration and restoring SW 359th Street to a transmission access road after construction of Units 6 & 7 provides further minimization of Project impacts.



Additional avoidance and minimization efforts focused on identification of a potential alternative location for the FPL reclaimed water treatment facility within an area of lower quality wetlands at the Turkey Point Plant. The potential alternative location is an area historically dredged for test cooling evaluations, which currently consists of upland spoil piles dominated by Australian pine, excavated open water canals, an upland access pathway, sawgrass marsh, dwarf mangroves, and exotic wetland hardwoods. Use of this significantly disturbed area could reduce impacts to mangrove and sawgrass wetlands by approximately 10 acres and the associated functional loss by approximately 5 credits as compared to the location originally proposed. Use of the potential alternative location for the FPL reclaimed water treatment facility would also allow installation of the treated reclaimed water delivery pipeline within construction access road areas, further reducing temporary wetland impacts by approximately 3.4 acres. If the reviewing agencies prefer this alternative location for the reclaimed water treatment facility and that alternative location is selected during the ongoing permitting proceedings, then FPL is willing to accept a condition of certification requiring submittal of final design details on the reclaimed water treatment facility and its location as part of the post-certification submittals for the Project. For purposes of the mitigation plan, the impacts associated with construction of the FPL reclaimed water treatment facility are presented for both the potential alternative location as well as the originally proposed location.

Avoidance and minimization efforts associated with the Project's linear facilities (i.e., reclaimed water pipelines, access roads, and transmission lines) include selection of corridors that maximize opportunities for co-location with disturbed linear facilities such as existing roadways, canals, and rights-of-way. Co-location with existing linear features minimizes the amount of additional clearing of rights-of-way required for construction and reduces wetland impacts. Additional avoidance and minimization efforts associated with the transmission line corridor include exchange of the existing FPL right-of-way through the ENP for a replacement right-of-way located adjacent to the existing L-31N Canal. Exchange of the existing right-of-way provides the opportunity to minimize impacts to high quality wetlands within the ENP by co-locating the new transmission facilities with existing disturbed linear features.

The Project and associated non-linear facilities (i.e., nuclear administration building, training building, parking area, FPL reclaimed water treatment facility, radial collector wells and delivery pipelines, and equipment barge unloading area) will result in up to approximately 320 acres of permanent wetland impact, 6.4 acres of temporary wetland impact, and 3 acres of secondary wetland impact. The majority of this impact (approximately 250 acres) is associated with the Units 6&7 Site, which is wholly contained within the existing industrial wastewater treatment facility.



As discussed in Chapter 9.0 of the SCA, the Project's associated linear facilities (transmission lines, FPL reclaimed water pipelines, access road improvements, and potable water pipelines) have generally been located within corridors proposed for certification rather than within specific rights-of-way. Locating linear facilities within corridors allows flexibility in routing to address site-specific constraints and incorporation of additional wetland avoidance/minimization opportunities during the final design of the transmission lines, pipelines, and access road improvements. For purposes of wetland impact assessment, a conservative "enveloping" scenario was utilized for linear facilities in order to ensure that the mitigation plan would provide more than sufficient mitigation to offset all impacts following final route selection and refinement of linear facility engineering design. In the case of the transmission corridors, this enveloping approach results in a worst-case scenario of wetland impacts that will be reduced during final engineering design. Using the conservative assumptions, the total estimated wetland impacts resulting from construction of the associated linear facilities include up to 308 acres of permanent wetland impact for the transmission line structure pads and associated access roads, approximately 82 acres of permanent and 45 acres of secondary wetland impact associated with the Units 6 & 7 temporary access road improvements, and approximately 44 acres of temporary wetland impact associated with installation of the underground reclaimed water and potable water pipelines. A summary of the Project's wetland impacts is provided in Table 1-1.



TABLE 1-1
UNITS 6 & 7 PROJECT WETLAND IMPACT SUMMARY

Wetland Impacts (acres)			(acres)	Functional Loss	
Area	Direct	Secondary ^a	Temporary	(UMAM Credits)	
Units 6 & 7 Site	250.2			128.3 ^b	
Associated Non-Linear Facilities	69.8°	3	6.4 ^d	53.4 ^b	
Access Roads	81.6	45		80.6	
Reclaimed Water Pipelines			43.6 ^e	4.5 ^e	
Transmission Line Corridors	308.2 ^f			241 ^f	
TOTAL	710 ^c	48	50°	508°	

^a Secondary wetland impact calculated as 25-foot zone surrounding areas of wetland fill; functional loss for secondary impacts calculated as 60 percent of direct impact.

- ^c Summary includes impacts resulting from construction of FPL reclaimed water treatment facility at the originally proposed location. Utilization of the potential alternative location reduces direct wetland impacts by approximately 4.1 acres, reduces temporary pipeline wetland impacts by approximately 3.4 acres, and reduces total functional loss by approximately 5.4 UMAM credits
- ^d Loss of functional value for temporary impacts associated with pipeline installation will be replaced through insitu restoration. Additional mitigation credits to offset functional loss associated with time lag of in-situ restoration are provided.
- ^e Summary includes temporary impacts resulting from installation of reclaimed water pipeline to FPL reclaimed water treatment facility potential alternative location. Installation of reclaimed water pipeline to the originally proposed location for the FPL reclaimed water treatment facility reduces temporary wetland impacts by approximately 5.3 acres and reduces functional loss by approximately 0.4 UMAM credits.

In accordance with regulatory guidelines of the FDEP and USACE, as well as the Miami-Dade County Unusual Use Approval Conditions, FPL proposes that the loss of wetland habitat associated with the Project be mitigated for through a combination of wetland restoration, enhancement, and preservation consistent with the regional restoration goals of the CERP within the BBCW study area and Model Lands Basin, as well as use of the Everglades Mitigation Bank (EMB) and the Hole in the Donut Mitigation Bank (HID).

In consultation with the CWG, the Mitigation Plan submitted with the SCA was developed to identify several mitigation options for consideration that collectively provide more functional lift than required to offset the Project's wetland impacts. Based upon feedback from regulatory agencies, the refined Plan incorporates those mitigation options that cumulatively provide the necessary functional lift to offset the



^b Functional loss calculated via W.A.T.E.R. functional assessment methodology for the Units 6 & 7 Site = 148.4 W.A.T.E.R. credits; nuclear administration/training building and parking area = 19.9 W.A.T.E.R. credits; FPL reclaimed water treatment facility original location = 39 W.A.T.E.R. credits; FPL reclaimed water treatment facility alternative location = 33 W.A.T.E.R. credits

f Transmission line impacts were approximated utilizing conservative estimates regarding road and pad design layout within corridor and average functional assessment scores within the corridor segments; actual wetland impacts will be reduced upon completion of detailed engineering design. Acreage of clearing and conversion of forested to herbaceous wetlands will be calculated upon completion of detailed engineering design.

Project's wetland impacts. A summary of the various mitigation options included in the refined Plan is presented in Table 1-2 and illustrated in Figure 4.

TABLE 1-2
MITIGATION SUMMARY

Mitigation Option	Activity	Acreage	Functional Lift (UMAM)
Northwest Restoration Site	Vegetative enhancement, hydrologic restoration, preservation, recreational facilities	238	35.7
SW 320 th St. Restoration Site	Vegetative enhancement, preservation	574	56.8
Everglades Mitigation Bank	Mitigation Credits	1,409	175.8 (UMAM)/ 201.3 (W.A.T.E.R.)
Hole in the Donut Mitigation Bank	Mitigation Credits	308	241 (UMAM)/ 308 (Ratio)
Pipeline Restoration	Vegetative restoration	46.6	N/A ^a
Sea Dade Canal Crocodile Sanctuary	Creation of saline lagoon and crocodile nesting habitat	6.4	N/A ^b
Temporary Construction Access Roadway Restoration	Removal of temporary roadways, vegetative restoration	TBD^{c}	N/A ^b
TOTA	AL	2,582	509 (UMAM)

^aTemporary impacts associated with pipeline installation to be restored in-situ; additional mitigation to be provided to offset time lag factors. See Section 3.4.



^bAdditional mitigation activity conducted without credit for the generation of functional lift. Sea Dade Canal Crocodile Sanctuary and restoration of temporary construction access roads considered "additional mitigation activities".

^cAcreage of temporary construction access roadway restoration will be determined post-certification upon final engineering designs for construction and post-construction roadways.

2.0 WETLAND IMPACT FUNCTIONAL ASSESSMENT

2.1 Methods

Rather than an acre-for-acre mitigation or the use of mitigation ratios, the calculation of wetland mitigation requirements typically involves use of a wetland functional assessment value multiplied by the acreage of impact to determine the required number of mitigation credits to offset the loss of wetland functions. Wetland functional assessments involve ranking the subject wetland relative to several variables, such as vegetation, wildlife utilization, hydrology, and surrounding landscape conditions. The goal of the functional assessment is to determine the ecological value of the wetland prior to disturbance to ensure that mitigation will replace the wetland's ecological functions rather than merely replacing the acreage of fill. Using this rationale, a 2-acre wetland dominated by exotic vegetation with altered hydrology and little wildlife utilization would have a lower functional value and thus require fewer mitigation credits to offset unavoidable impacts as compared to a 2-acre wetland supporting a diverse assemblage of native flora and fauna and an unaltered hydrologic regime.

Wetland functional assessment protocols used for the Units 6 & 7 Project include the FDEP UMAM and the EMB W.A.T.E.R., as described in Subsections 2.1.1 and 2.1.2, respectively. In the case of the HID mitigation bank, credits are calculated utilizing an in-lieu fee in accordance with the bank's FDEP permit, as described in Subsection 2.1.3.

2.1.1 Uniform Mitigation Assessment Method (UMAM)

The UMAM functional assessment protocol was utilized to evaluate the ecological condition of all wetlands associated with the Units 6 & 7 Project, as well as to evaluate the amount of functional lift generated through the Project's various mitigation alternatives.

The FDEP UMAM is designed to be used for wetland systems occurring throughout the state, to provide a standard functional assessment methodology applicable to a variety of wetland habitats. The UMAM quantifies wetland quality or health through evaluation of several variables, including location and landscape support, water environment, and community structure. The variables are defined in Chapter 62-345, Florida Administrative Code (F.A.C.), and are summarized in the following sections.

Location and Landscape Support – The value of functions provided by an assessment area to fish and wildlife are influenced by the landscape position of the assessment area and its relationship with surrounding areas. Many species that nest, feed, or find cover in a specific habitat or habitat type are also dependent in varying degrees upon other habitats that are present in the regional landscape, including upland, wetland, and other surface waters. The location of the assessment area is considered to the extent that fish and wildlife utilizing the area have the opportunity to access other habitats necessary to fulfill



their life history requirements. The availability, connectivity, and quality of offsite habitats and offsite land uses that might adversely impact fish and wildlife utilizing these habitats are factors considered in assessing the location of the assessment area. The location of the assessment area is considered relative to offsite and upstream hydrologic contributing areas and to downstream and other connected waters to the extent that the diversity and abundance of fish and wildlife and their habitats are affected in these areas. The opportunity for the assessment area to provide offsite water quantity and quality benefits to fish and wildlife and their habitats downstream and in connected waters is assessed based on the degree of hydrologic connectivity between these habitats and the extent to which offsite habitats are affected by discharges from the assessment area.

Water Environment – The quantity of water in an assessment area, including the timing, frequency, depth, and duration of inundation or saturation, flow characteristics, and the quality of that water, may facilitate or preclude its ability to perform certain functions and may benefit or adversely impact its capacity to support certain wildlife. Hydrologic requirements and tolerance to hydrologic alterations and water quality variations vary by ecosystem type and the wildlife utilizing the ecosystem. Hydrologic conditions within an assessment area, including water quantity and quality, are evaluated to determine the effect of these conditions on the functions performed by area and the extent to which these conditions benefit or adversely affect wildlife. Water quality within wetlands and other surface waters is affected by inputs from surrounding and upstream areas and the ability of the wetland or surface water system to assimilate those inputs.

Community Structure (Vegetation and Structural Habitat) – The presence, abundance, health, condition, appropriateness, and distribution of plant communities in surface waters, wetlands, and uplands can be used as indicators to determine the degree to which the functions of the community type identified are provided. Vegetation is the base of the food web in any community and provides many additional structural habitat benefits to fish and wildlife. Overall condition of a plant community can often be evaluated by observing indicators such as dead or dying vegetation, regeneration and recruitment, size and age distribution of trees and shrubs, fruit production, chlorotic or spindly plant growth, structure of the vegetation strata, and the presence, coverage, and distribution of inappropriate plant species. Human activities such as mowing, grazing, off-road vehicle activity, boat traffic, and fire suppression constitute more direct and easily observable impacts affecting the condition of plant communities. Although short-term environmental factors such as excessive rainfall, drought, and fire can have temporary impacts, human activities such as flooding, drainage via groundwater withdrawal and conveyance canals, or construction of permanent structures such as seawalls in an aquatic system, can permanently damage these systems. The plant community is evaluated to consider whether natural successional patterns for the



community type are permanently altered. Inappropriate plants, including invasive exotic species, other invasive species, or other species atypical of the community type being evaluated, do not support the functions attributable to that community type and can out-compete and replace native species. Native upland and wetland vegetation, such as wax myrtle, pines, and willow, which are not typically considered as invasive, can occur in numbers and coverage not appropriate for the community type and can serve as indicators of disturbance. The relative degree of coverage by inappropriate species, inappropriate vegetation strata, condition of vegetation, and both biotic and abiotic structure all provide an indication of the degree to which the functions anticipated for the community type identified are being provided.

Time Lag and Risk – Additional mitigation credits have been calculated to address time lag and risk associated with the proposed enhancement and restoration activities. The time lag associated with mitigation activities addresses the period of time between when the functions are lost at an impact site and when those functions are replaced through mitigation. Wetland creation generally has a greater time lag to establish certain wetland functions than most enhancement activities. The time lag, in years, is used to determine the time lag factor (T-factor) to reflect the additional mitigation needed to account for the delay in replacement of wetland functions. Mitigation risk accounts for the degree of uncertainty that the proposed mitigation activity will achieve the proposed conditions. Typically, mitigation projects that require longer periods of time to replace lost functions are considered to have a higher risk. Risk is scored on a scale from 1 (de minimus risk) to 3 (high risk). Time lag and risk factors for the proposed mitigation alternatives are discussed in Section 3. Offsite mitigation through the purchase of credits from the EMB or HID already incorporates time lag and risk in the calculation of credits available for purchase. Alternatively, the preservation of wetland acreage adjacent to the Biscayne National Park (BNP) does not include significant risk or lag time.

2.1.2 Wetland Assessment Technique for Environmental Review (W.A.T.E.R.)

When utilizing a mitigation bank, the applicant must use the functional assessment methodology approved for the specific mitigation bank to assess impact sites for the purpose of determining mitigation credits, as described in Rule 62-345.100(6), F.A.C. The EMB functional assessment protocol, W.A.T.E.R., is similar to the UMAM protocol. W.A.T.E.R. must be used to establish credits obtained from the EMB and is directly applicable to the conditions present in southeast Florida.

The W.A.T.E.R. functional evaluation matrix includes four main categories: fish and wildlife, vegetation, landscape/hydrology, and salinity. These main categories are further subdivided to represent most of the important ecological components and factors of the Everglades and coastal ecosystems of southeast Florida. Variables within the four main categories are scored from 0 to 3, with half-point increments allowable. For each wetland assessment area, the sum of all variable scores is then divided by the total



possible score to derive an overall W.A.T.E.R. functional assessment score ranging between 0 and 1. Parameters that cannot be attributed to direct wetland function are termed site suitability parameters, which are used to calculate a site suitability multiplier. The site suitability multiplier assesses a wetland based upon how it contributes to the functional attributes of other wetlands, addressing the anthropogenic importance and/or socioeconomic value of the wetland. The site suitability multiplier is multiplied by the acreage of impact and functional assessment score to determine the total number of EMB mitigation credits required to offset wetland impacts.

The W.A.T.E.R. protocol was used to assess the functional value of hypersaline wetlands within the industrial wastewater facility (Units 6 & 7 Site), as well as mangrove and sawgrass wetlands associated with the FPL reclaimed water treatment facility and the nuclear administration building, training building, and parking area. Wetland mitigation credits from the EMB will be purchased to offset impacts to wetlands within the Units 6 & 7 Site, as well as the FPL reclaimed water treatment facility and nuclear administration building, training building, and parking area.

2.2 HID In-lieu Fee

An in-lieu fee program involves the restoration, establishment, enhancement, and/or preservation of aquatic resources through funds paid to a governmental or non-profit natural resources management entity to satisfy compensatory mitigation requirements. Similar to a mitigation bank, an in-lieu fee program sells compensatory mitigation credits to permittees whose obligation to provide compensatory mitigation is then transferred to the in-lieu program sponsor.

The HID was permitted as an in-lieu fee mitigation bank prior to adoption of 62-345.100(6), F.A.C., therefore the quantification of required mitigation credits is calculated using the methodology in place when the bank was permitted. As stated in 62-345.100(6), F.A.C.:

Pursuant to paragraph 373.414(18)(b), F.S., an entity that has received a mitigation bank permit issued by the Department of Environmental Protection or a water management district under Sections 373.4135 and 373.4136, F.S., prior to the adoption of this rule (UMAM) must have impact sites assessed for the purpose of deducting bank credits using the credit assessment method, including any functional assessment methodology, that was in place when the bank was permitted.

According to the HID permit (FDEP permit # 132416479, issued 2/15/1995), "mitigation for wetland impacts within the Mitigation Service Area will consist of a set dollar amount per acre of impact." Although the HID was permitted prior to the ERP Basis of Review (BOR) and Uniform Mitigation Assessment



Method (UMAM), the BOR ratios for restoration range from 1.5:1 to 4:1. Based on June 2011 consultation with HID managers, the assessment methodology of the bank may be revised in the future to comply with the UMAM. Following completion of detailed transmission line design and prior to construction, FPL will comply with the assessment methodology of the HID, as approved by the FDEP and USACE, to determine the appropriate number of credits required to compensate for the impacts associated with construction of the proposed transmission facilities.

2.3 Results

The following summarizes the existing, pre-development functional assessment scores, acreage of impact, and mitigation credits required to offset the loss of wetland functions associated with construction of the Project within the Units 6 & 7 Site, associated non-linear facilities, and associated linear facilities. UMAM functional assessment forms are provided in Appendix A; W.A.T.E.R. functional assessment forms are included in Appendix B.

2.3.1 Units 6 & 7 Site

Wetlands within the Site have low functional value¹. The area is wholly isolated within the boundaries of the industrial wastewater treatment facility, with no connection to Biscayne Bay for over 35 years. The Site is periodically inundated by hypersaline water used for cooling purposes and provides limited habitat for aquatic biota, evidenced by the limited number of aquatic taxa that can tolerate hypersaline waters, elevated temperatures, and low dissolved oxygen. The area is part of the permitted existing Turkey Point industrial wastewater treatment facility. The altered hydrology, soils, salinity, and temperature reduce the functional value of mangrove systems compared to undisturbed tidal mangroves of Biscavne Bay. Wetland functional value is influenced by the surrounding landscape characteristics, specifically the existing power generation facility, the extensive industrial wastewater facility/cooling canal system, and lack of natural tidal inundation. The industrial wastewater facility alters the timing, frequency, and duration of inundation of wetlands within the Site when compared to the historical tidal hydroperiod. Although nuisance and/or exotic species such as Australian pine (Casuarina equisetifolia), Brazilian pepper (Schinus terebinthifolius), and half-flower (Scaevola sericea) occur within the Site, these species are not widespread and are primarily restricted to upland areas or along the transitional upland-wetland ecotone. However, hydrologic alteration is prevalent throughout the Site. Vegetative communities are stressed, evidenced through decreased growth rates and high mortality. The hypersaline conditions and altered hydrology have resulted in vegetative communities with reduced value as wildlife habitat, and reduced capability to recover from natural environmental impacts such as storm events or freezing temperatures.

The use of the term "wetlands" with reference to the Site is used solely as a descriptive term and is not used as a regulatory or jurisdictional term.



Table 2-1 summarizes the W.A.T.E.R. assessment results for the Units 6 & 7 Site. Scoring for the suite of variables contained within each assessment category and the site suitability evaluation is detailed in Appendix B. The UMAM assessment was also conducted at the Units 6 & 7 Site; results are provided in Appendix A.

TABLE 2-1
UNITS 6 & 7 SITE WETLAND FUNCTIONAL ASSESSMENT SUMMARY

ELUCECC		W.A.T.E.R.	T	Site	Eurotional Loss
FLUCFCS Code	Wotland Type	Score	Impact Acreage	Suitability Multiplier	Functional Loss (W.A.T.E.R. Credits)
	Wetland Type		Acreage	-	· '
510	Active Canals	0.54	4.1	1.05	2.32
511	Remnant Canals	0.59	8.4	1.05	5.20
531	Open Water/ Discharge Canal 1	0.54	12	1.05	6.80
612-A	Mangrove Heads	0.70	12.2	1.05	8.97
612-B	Dwarf Mangroves	0.65	16.9	1.05	11.53
650	Mud Flats	0.55	187.5	1.05	108.28
	Wetland Spoil			1.05	
743-Wet	Areas	0.55	9.1		5.26
			250.2		148.4

2.3.2 Associated Non-Linear Facilities

Wetlands associated with the nuclear administration building, training building, and parking areas are reduced in functional value due to their isolated location within the Turkey Point facility, surrounding paved parking lots, encroachment of exotic/nuisance species of vegetation, lack of upland vegetative buffers, and hydrologic alteration.

Mangrove wetlands associated with the radial collector well delivery pipelines are higher quality systems connected to Biscayne Bay. These wetlands are slightly reduced in functional value due to the existing fill and roadways associated with the existing Turkey Point Plant, but exhibit minimal amounts of nuisance/exotic species, experience a relatively unaltered hydrologic regime, and provide significant wildlife habitat.

Freshwater sawgrass marsh and dwarf mangrove wetlands associated with the FPL reclaimed water treatment facility potential alternative location are reduced in functional value due to historic dredging for test cooling canal evaluations, resulting in upland spoil piles, excavated open water canals, and an upland access pathway. These areas are isolated from Biscayne Bay due to the historical construction of the primary Turkey Point Plant access road and contain upland and wetland areas dominated by the exotic species Australian pine. The treated reclaimed water pipeline between the FPL reclaimed water treatment



facility potential alternative location and the Site would be installed within construction access roadways, avoiding additional wetland impact.

Dwarf mangrove, sawgrass marsh, and mixed wetland hardwoods associated with the FPL reclaimed water treatment facility originally proposed location and treated water pipeline are slightly reduced in functional value due to hydrologic alteration and presence of exotic species of vegetation, although they are considered high-quality wildlife habitat. These areas are isolated from Biscayne Bay due to the historical construction of the primary Turkey Point Plant access road.

Expansion of the equipment barge unloading area will require excavation of upland fill material and approximately 0.1 acre of dredging adjacent to the existing man-made turning basin. The expansion is not expected to result in any impacts to adjacent surface waters through utilization of best management practices (BMPs) to isolate the construction area with turbidity curtains, silt screens, or other erosion and turbidity control measures.

A summary of the UMAM and W.A.T.E.R. functional assessment results for the associated non-linear facilities are provided below (Table 2-2); UMAM and W.A.T.E.R. wetland assessment forms are provided in Appendices A and B, respectively.



TABLE 2-2

ASSOCIATED NON-LINEAR FACILITIES

UMAM WETLAND FUNCTIONAL ASSESSMENT SUMMARY

FLUCFCS			Impact	Functional Loss		
Code	Wetland Type	UMAM Score	Acreage	(UMAM Credits)		
Nuclear Administration Building, Training Building, and Parking Area						
612	Mangrove Swamps	0.67	18.5	12.4		
612/618	Mangrove/Willow	0.63	7.6	4.8		
		SUBTOTAL	26.1	17.2		
	Radial Co	ollector Well Pipeli	nes ^a			
612	Mangrove Swamps	0.87	3	0.5 ^a		
	Treated Reclaimed Water	Pipeline (Originally	Proposed Location	on)		
	Sawgrass Marsh/Dwarf					
6411/612-B	Mangroves	0.77	3.1	0.47		
	Mixed Wetland		0.3	0.04		
617	Hardwoods	0.70				
		SUBTOTAL	3.4	0.5		
FP	L Reclaimed Water Treatm	ent Facility (Potent	ial Alternative Lo			
510/511	Canals/Ditches	0.50	3.2	1.7 ^b		
	Exotic Wetland					
619	Hardwoods	0.47	3.7	1.8 ^b		
	Sawgrass Marsh/Dwarf					
6411/612-B	Mangroves	0.77	32.6	26.8 ^b		
		SUBTOTAL	39.5	30.3		
FI	PL Reclaimed Water Treatm	ent Facility (Origin	ally Proposed Lo	cation)		
	Sawgrass Marsh/Dwarf			_		
6411/612-B	Mangroves	0.77	42.8	34.1°		
	Mixed Wetland					
617	Hardwoods	0.80	0.8	1.1°		
		SUBTOTAL	43.6	35.2		
-		t Barge Unloading		T		
510	Barge Basin	0.50	0.1	N/A		
	TOTAL 76.2 ^d 53.4 ^d					

^a Loss of functional value for temporary impacts associated with radial collector well pipelines installation will be replaced through in-situ restoration. Mitigation credits to offset time lag associated with in-situ restoration are provided (see Section 3.4.2).

Mitigation for unavoidable wetland impacts associated with the FPL reclaimed water treatment facility, nuclear administration building, training building, and parking area is proposed through purchase of mitigation credits from the EMB. Wetland functional assessment for these non-linear associated facilities utilizing the EMB W.A.T.E.R. is summarized below (Table 2-3).



^b Includes 1.76 credits associated with 3.9 acres of secondary impacts surrounding FPL reclaimed water treatment facility potential alternative location.

^c Includes 1.53 credits associated with 3.3 acres of secondary impacts surrounding FPL reclaimed water treatment facility originally proposed location.

Total calculated utilizing FPL Reclaimed Water Treatment Facility originally proposed location and treated reclaimed water pipeline. Total utilizing potential alternative location = 68.7 acres, 48 UMAM credits

TABLE 2-3
ASSOCIATED NON-LINEAR FACILITIES
W.A.T.E.R. WETLAND FUNCTIONAL ASSESSMENT SUMMARY

FLUCFCS		W.A.T.E.R.	Site Suitability	Impact	Functional Loss
Code	Wetland Type	Score	Multiplier	Acreage	(W.A.T.E.R. Credits)
Code					`
	Nuclear Administrat	ion Building, T	raining Buildin	g, and Parki	ng Area
612	Mangrove Swamps	0.74	1.05	18.5	14.4
612/618	Mangrove/Willow	0.69	1.05	7.6	5.5
			TOTAL	26.1	19.9
	FPL Reclaimed Water	Treatment Fac	cility (Potential	Alternative	Location)
510/511	Canal/Ditches	0.59	1.05	3.2	1.5 ^a
	Sawgrass Marsh/				
6411/612-B	Dwarf Mangroves	0.81	1.05	32.6	29.6 ^a
	Exotic Wetland				
619	Hardwoods	0.48	1.05	3.7	1.9 ^a
			TOTAL	39.5	33 ^a
	FPL Reclaimed Water	Treatment Fa	cility (Original	ly Proposed 1	Location)
	Sawgrass Marsh/				
6411/612-B	Dwarf Mangroves	0.81	1.05	42.8	37.6 ^b
	Mixed Wetland				
617	Hardwoods	0.83	1.05	0.8	1.1 ^b
			TOTAL	43.6	38.7 ^b

^a Includes 1.95 credits associated with 3.9 acres of secondary impacts surrounding FPL reclaimed water treatment facility potential alternative location.

2.3.3 Associated Linear Facilities

Associated linear facilities include the reclaimed water pipelines, temporary construction access road improvements, potable water pipeline, and transmission line corridors. Wetlands associated with the associated linear facility corridors vary in functional value, primarily based upon prevalence of nuisance/exotic species of vegetation and degree of hydrologic alteration.

A portion of the temporary construction access road improvements, transmission facilities, and potable water pipeline corridors are co-located along SW 359th Street extending west across the L-31E Canal from the northwestern edge of the industrial cooling canals. Freshwater marsh wetlands associated with this portion of the linear facilities corridor located adjacent to SW 359th Street are of relatively high quality, dominated by sawgrass and other desirable native wetlands species; and, with the exception of occasional ditches and the existing transmission line access road, these areas are mostly undisturbed. Areas of relatively high-quality mangrove wetlands occur within the reclaimed water pipeline corridor and portion of the access road corridor adjacent to the L-31E Canal. In other areas of the temporary construction access road improvements and reclaimed water pipeline corridors, mixed wetland hardwood communities demonstrate a reduced functional value due to the prevalence of several exotic species,



^b Includes 1.68 credits associated with 3.3 acres of secondary impacts surrounding FPL reclaimed water treatment facility originally proposed location.

primarily Brazilian pepper and Australian pine. These species are moderately widespread throughout the mixed wetland hardwood communities within the associated linear facility corridors. Areas dominated by exotic wetland hardwoods that provide limited wildlife habitat, reduced vegetative species diversity, and low functional value are prevalent within the linear facility corridors.

Temporary impacts associated with the reclaimed water pipeline will be restored in-situ, as described in Section 3.5. Following construction, the temporary construction access roads will be restored, with exception of a permanent transmission line access road on SW 359th Street, as described in Section 3.6. Although the majority of wetland impact associated with the temporary construction access roads will be restored, these areas will be mitigated as permanent impacts. The functional lift generated through post-construction restoration is considered "additional mitigation" and not included as part of the Project's overall credit ledger.

A summary of wetland type, functional assessment score, impact acreage, and amount of mitigation required to offset the loss of wetland functions for the reclaimed water pipelines and temporary construction access road improvement corridors is provided in Table 2-4.



TABLE 2-4

ASSOCIATED NON-TRANSMISSION LINEAR FACILITIES
WETLAND FUNCTIONAL ASSESSMENT SUMMARY

FLUCFCS UMAN			Impac	t Acreage	Functional		
Code	Wetland Type	Score	Direct	Secondary	Loss (Credits)		
Reclaimed Water Pipelines ^a Corridor (Potential Alternative Location)							
241-W	Wet Palm Tree Nursery	0.27	0.16		N/A ^a		
510/511	Canals/ Ditches	0.50	1.7	0	0.02^{a}		
612/612-B	Mangroves /Dwarf Mangroves	0.77	19.51	0	2.92 ^a		
	Mangrove/Exotic Wetland			0			
612/619	Hardwoods	0.60	4.47		0.27 ^a		
617	Mixed Wetland Hardwoods	0.70	8.34	0	1.17 ^a		
619	Exotic Wetland Hardwoods	0.50	2.31		N/A ^a		
641	Freshwater Marshes	0.70	7.09	0	0.14 ^a		
	SUBTOTAL		43.6		4.5 ^a		
	Reclaimed Water Pipelines ^a Corn	ridor (Origin	ally Propos	ed Location)			
241-W	Wet Palm Tree Nursery	0.27	0.16		N/A ^a		
510/511	Canals/ Ditches	0.50	1.7	0	0.02 ^a		
612/612-B	Mangroves /Dwarf Mangroves	0.77	17.17	0	2.58 ^a		
	Mangrove/Exotic Wetland			0			
612/619	Hardwoods	0.60	4.47		0.27 ^a		
617	Mixed Wetland Hardwoods	0.70	8.46	0	1.18 ^a		
619	Exotic Wetland Hardwoods	0.50	2.31		N/A ^a		
641	Freshwater Marshes	0.70	4.07	0	0.08^{a}		
	SUBTOTAL		38.3		4.1 ^a		
	Temporary Construction Acc						
510/ 511/ 534	Canals/ Ditches/ Reservoirs	0.50	7.3	3.6	4.7		
612-B	Dwarf Mangroves	0.77	7.5	3.1	7.2		
617	Mixed Wetland Hardwoods	0.70	9.1	8.0	9.7		
	NC 187 4 1						
617/641	Mixed Wetland Hardwoods/Freshwater Marshes	0.77	5.6	5.9	7.0		
617/641 619	Exotic Wetland Hardwoods	0.77	5.6 4.2	4.2	7.0		
641	Freshwater Marshes	0.80	47.9	20.2	48.0		
0+1	SUBTOTAL	0.00	81.6	45	80.6		
	TOTAL		125.2°	45	85.1°		
	IUIAL		143,4	45	03.1		

^a Loss of functional value for temporary impacts associated with reclaimed water pipeline installation will be replaced through in-situ restoration. Mitigation credits to offset time lag associated with in-situ restoration are provided (see Section 3.4.2).

^c Total calculated utilizing reclaimed water pipeline corridor to FPL Reclaimed Water Treatment Facility potential alternative location. Total utilizing originally proposed location = 119.9 acres, 84.7 UMAM credits



b Secondary wetland impact calculated as 25-foot zone surrounding areas of wetland fill; functional loss for secondary impacts calculated as 60 percent of direct impact. Temporary Construction Access Road Restoration described in Section 3.6

For purposes of impact assessment within the transmission line corridors, an enveloping approach was utilized to calculate a conservative maximum acreage of wetland impacts that could be associated with transmission structure pads, transmission access roads, and expansion of the existing Levee Substation. Conservative assumptions regarding transmission access road length, height and width, as well as placement of structure pads, were incorporated into the assessment to derive a "not to exceed" maximum scenario of wetland impact acreage. Upon detailed transmission line design, road engineering, culvert placement, and incorporation of avoidance and minimization efforts in the specific locations of structures and transmission access roads, the total acreage of wetland impacts are expected to be reduced. The current impact estimates, reflected in Table 2-5, are considered conservative to ensure that the amount of mitigation credits proposed will be more than sufficient to offset the final wetland impacts.

For each segment of the transmission line corridors, as illustrated in Figure 5, a summary of the conservative estimated acreage of wetland impact, average UMAM functional assessment scores for wetlands within each corridor segment, and resulting credits of functional loss is presented in Table 2-5.

TABLE 2-5
CONCEPTUAL TRANSMISSION LINE CORRIDOR RIGHTS-OF-WAY
WETLAND FUNCTIONAL ASSESSMENT SUMMARY

			Estimated Maximum	Average	Estimated
		Wetland Types	Wetland Impact	UMAM	Functional Loss
Corridor	Segment	(FLUCFCS Codes)	(Acres)	Score	(Credits)
West	1A	612-B	4.91	0.80	3.93
West	1B	617, 641	23.65	0.83	19.63
West	1C	617, 641	19.89	0.83	16.51
West	1D	617, 619, 641, 643	44.76	0.70	31.33
West	2	641	2.70	0.60	1.62
West	3A	617, 619, 641	15.33	0.80	12.26
West	3B	617, 619, 641, 643	102.63	0.80	82.10
West	3C	617, 618, 619, 641	55.95	0.83	46.44
West	4	617, 619, 641, 643	27.69	0.70	19.38
West	5A	619, 631, 641, 643	1.06	0.70	0.74
West	5B	619, 641, 643	0.28	0.70	0.20
	Levee Substation				
West	Expansion	619, 641	7.50	0.70	5.25
	Tamiami Trail				
West	Access Corridor	641	1.63	0.80	1.30
	Krome Avenue				
West	Access Corridor	619, 641	0.20	0.70	0.14
East	6	612	0.06	0.83	0.05
	TOTAL		308		241

3.0 PROPOSED MITIGATION PLAN

Wetland impacts will be mitigated through a combination of wetland restoration, enhancement, and preservation consistent with the regional restoration goals of the CERP within the BBCW study area and Model Lands Basin, as well as purchase of mitigation credits from the EMB and HID. Due to FPL's large land holdings in the area, there is an opportunity to offer a variety of mitigation activities that would not only offset the Project's wetland impacts, but support regional restoration goals benefitting BNP and CERP projects. FPL has proposed a suite of mitigation opportunities in compensation for wetland impacts, including wetland restoration through removal of exotic vegetation, topographic grading and installation of native wetland vegetation, wetland enhancement through hydrological improvements designed to restore historical fresh water flows, preservation of large areas of wetlands contiguous to SFWMD-owned parcels and Biscayne Bay, in-situ restoration of temporarily impacted wetlands associated with pipeline installation, wildlife habitat creation and preservation, and purchase of mitigation credits from the EMB and HID.

The current wetland mitigation proposal identifies several mitigation options that collectively provide the functional lift necessary to offset the Project's wetland impacts. Six mitigation options are discussed below as components of the final mitigation proposal: Northwest Restoration Site, SW 320th Street Restoration Site, EMB and HID Mitigation Banks, Pipeline Restoration, Sea Dade Canal Crocodile Sanctuary, and Temporary Construction Access Road Restoration (Figure 4).

3.1 Northwest Restoration Site

The Northwest Restoration Site consists of several FPL-owned parcels totaling 238 acres located adjacent to the L-31E Canal between SW 328th Street and SW 344th Street/Palm Drive, approximately 2 miles northwest of the Units 6 & 7 Site and directly west of the BNP (Figure 6). Restoration and enhancement of these parcels will be achieved through the removal of exotic species of vegetation, removal of ditches and grading to restore natural topography and enhance hydrology, and preservation through a conservation easement. The area is uniquely positioned adjacent to the SW 328th Street entrance to the BNP, which provides the opportunity for the incorporation of passive public recreation opportunities within the area such as boardwalks, bird observation areas, and environmental education. The area is located within the proposed Biscayne - Everglades Greenway at the entrance to BNP and could be incorporated into the Greenway's overall plan to provide a network of bicycle trails and walkways between the two parks.



3.1.1 Existing Condition

The area is impacted due to historic hydrologic alteration through a network of mosquito ditches and prevalence of exotic species, resulting in reduced quality of wildlife habitat and vegetative species diversity (Appendix C, Photographs 1 and 2). A network of mosquito control ditches (FLUCFCS 511) crosses the parcel, with adjacent spoil materials supporting the exotic species Australian pine and Brazilian pepper. The east-west mosquito control ditches are typically approximately 4 feet wide by 4 feet deep, while north-south ditches are approximately 3 feet wide by 2 feet deep. Construction of the L-31E, Florida City, and North Canals has isolated the area from tidal influence, altering the salinity to that more characteristic of an oligohaline marsh community. Habitats within the Northwest Restoration Site (Appendix C, Photographs 3 and 4) are dominated by sawgrass marsh (FLUCFCS 6411), mangroves (FLUCFCS 612), exotic wetland hardwoods dominated by Australian pine (FLUCFCS 619-AP), and mixed wetland hardwoods (FLUCFCS 617), as illustrated in Figure 7 and described below.

Sawgrass Marsh (FLUCFCS 6411)

The majority of the site is comprised of low salinity marsh dominated by sawgrass (*Cladium jamaicense*) (FLUCFCS 6411), with a variety of native and exotic subdominant species occurring within the marsh such as knotted spikerush (*Eleocharis interstincta*), Australian pine, buttonwood (*Conocarpus erectus*), white mangrove (*Laguncularia racemosa*), camphorweed (*Pluchea* sp.), red mangrove (*Rhizophora mangle*), mangrove vine (*Rhabdadenia biflora*), rosegentian (*Sabatia* sp.), arrowhead (*Sagittaria lancifolia*), creeping hempvine (*Mikania scandens*), beggarticks (*Bidens laevis*), and cattail (*Typha* spp.). Areas of marsh have been colonized by nuisance/exotic species, including Australian pine, melaleuca (*Melaleuca quinquenervia*), Brazilian pepper, shoebutton ardisia (*Ardisia elliptica*), and small-leaf climbing fern (*Lygodium microphyllum*).

Mangroves (FLUCFCS 612)

The eastern portion of the parcel is hydrologically connected to the L-31E Canal through culverts and supports areas of high-quality red mangrove, black mangrove (*Avicennia germans*), and buttonwood communities with relatively minimal colonization by exotic species. Additional areas classified as mangrove swamp occur within the north-central portion of the Site, supporting a mixture of red mangrove, white mangrove, buttonwood, wax myrtle (*Myrica cerifera*), and approximately 10 percent coverage of Australian pine.

Mixed Wetland Hardwoods (FLUCFCS 617)

The central portion of the site contains areas of tree islands vegetated with a mixture of native hardwoods, including red mangrove, black mangrove, white mangrove, buttonwood, pond apple (*Annona glabra*), cocoplum (*Chrysobalanus icaco*), and coastal plain willow (*Salix caroliniana*).



Exotic Wetland Hardwoods – Australian Pine (FLUCFCS 619-AP)

Areas dominated by the nuisance exotic species Australian pine occur primarily along the northern and southern boundaries of the site, adjacent to the Florida City Canal and SW 328th Street. In addition to Australian pine, these areas contain scattered Brazilian pepper, melaleuca, poisonwood (*Metopium toxiferum*), nettletree (*Trema micrantha*), nightshade (*Solanum* sp.), mysrine (*Myrsine cubana*), dahoon holly (*Ilex cassine*), coastal plain willow, strangler fig (*Ficus aurea*), whisk fern (*Psilotum nudum*), bracken fern (*Pteridium aquilinum*), common reed (*Phragmites australis*), and buttonwood.

3.1.2 Target Community

Mitigation activities will restore the native vegetative community composition and enhance the hydrologic regime within the area, targeting conditions typical of a shallow sawgrass marsh/marl prairie community with mangroves and scattered tree islands. The majority of the Northwest Restoration Site will be restored to native sawgrass marsh, with areas of mangrove swamp, mixed wetland hardwood tree islands, and relatively open marl prairie areas supporting periphyton mat communities specifically beneficial for wading birds and shorebirds (Figure 8). The average hydroperiod for a sawgrass marsh is approximately ten months, but ranges from less than six months to almost continuous flooding. The Northwest Restoration Site is located within areas that historically supported marl prairie, with hydroperiods ranging between three and seven months and having relatively shallow water depth of approximately 4 inches. The network of mosquito ditches has facilitated colonization by Australian pine; backfilling the network of ditches should moderately elevate the water level within the marsh, discouraging recolonization by Australian pine. Removal of exotic species of vegetation and supplemental planting, if necessary, will be utilized to maintain the target community.

3.1.3 Methods

Restoration of wetlands at the Northwest Restoration Site involves hydrologic enhancement and exotic vegetation eradication to achieve the target community. The existing network of mosquito ditches will be backfilled with adjacent spoil materials and topographically graded to encourage sheetflow distribution of water throughout the restored area and to facilitate the success of target native vegetative communities (Figure 9). The spoil areas adjacent to mosquito ditches are dominated by Australian pine; removal of these exotic species will occur prior to backfilling. Due to potential soil subsidence within the spoil areas, it is anticipated that additional fill material may be required to adequately fill mosquito ditches and achieve the desired topographic conditions. Where necessary, clean fill material will be imported to the Site for this purpose.



Control of nuisance/exotic species will be achieved through applications of herbicides, hand removal, prescribed fire, and additional focused herbicide re-treatments to areas showing regrowth. Due to the presence of desirable wetland vegetation throughout the area, it is anticipated that regeneration from the seedbank will produce a diverse assemblage of native species. Supplemental exotic species control will be utilized to prevent re-colonization of the area following initial eradication efforts. Installation of wetland vegetation, as necessary, will be included where natural regeneration from the seedbank does not produce the target vegetative community.

Specific guidelines and scope of work for the control of exotic species of vegetation within the Northwest Restoration Site will be prepared in consultation with representatives of the FDEP, USACE, and DERM. Herbicide applications will be timed so as to occur prior to the onset of summer rains. The following provides a conceptual schedule of activities proposed for the Northwest Restoration Site:

YEAR	MONTH	ACTIVITY	
1	Jan-March	Mechanical clearing, mosquito ditch removal, topographic grading	
	March/April	Ground crew herbicide treatment and manual removal	
	October	Monitoring event #1	
2	March/April	Prescribed fire	
	October	Monitoring event #2	
3	March/April	Spot herbicide treatment by ground crews	
	May	Installation of native herbaceous wetland species if necessary, as	
		available	
	October	Monitoring event #3	
4	March/April	Spot herbicide treatment by ground crews if necessary	
	May	Supplemental installation of native wetland species if necessary	
	October	Monitoring event #4	
5	October	Monitoring event #5	

The following EPA-approved herbicides, for example, are effective for control of the target species and may be considered for use as part of the exotic control program:

Brazilian pepper	Potential herbicides:
(Schinus terebinthifolius)	triclopyr (Garlon), glyphosate (Rodeo), imazapyr (Arsenal)
	N d d G c C c c c c d d d d d d d d d d d d d d
Australian pine	Method: Cut surface treatments to eliminate larger undesirable
(Casuarina equisetifolia)	stems. Basal treatments can be used in combination with cut surface
	treatments when large undesirable trees are mixed with smaller
Melaleuca	stems. Freshly cut stumps should be treated with water soluble amine
(Melaleuca quinquefolia)	herbicide formulations labeled for this use; previously cut stumps (up
	to several months old) may be treated with low volume basal
Shoebutton ardisia	herbicide mixtures.
(Ardisia elliptica)	
,,	



Sources: Thayer, D.D., K. A. Langeland, W.T. Haller, and J.C. Joyce. 2003. Weed Control in Florida Ponds. University of Florida Institute of Food and Agricultural Sciences; Kline, W.N. and J.G. Duquesnel. 1964. Management of Invasive Exotic Plants with Herbicides in Florida. *Down to Earth*, (51)2.

Success criteria, to be negotiated in consultation with the FDEP, USACE, and DERM, will likely include maintenance of the mitigation area to include 5% or less cover by exotic species and with suitable coverage of native wetland species of vegetation for a period of at least 3 years following initiation of mitigation activities.

FPL proposes to provide public access to the mitigation parcel for passive recreation and environmental education opportunities. An elevated boardwalk may be constructed with interpretive kiosks and observation platforms for birdwatching, wildlife observation, and plant identification (Figure 10). The location of the Northwest Mitigation Site in close proximity to the BNP will provide Park visitors with the opportunity to explore a restored sawgrass marsh, marl prairie, and mangrove ecosystem. In addition, the Site's location within the proposed Biscayne - Everglades Greenway would allow for potential incorporation into the Greenway's overall plan to provide a network of bicycle trails and walkways between the two parks.

3.1.4 Environmental Lift

The current UMAM wetland functional assessment scores for the Northwest Mitigation Site range from a low of 0.50 for the mosquito ditches to a high of 0.67 for mangrove areas. The functional scores reflect diminished ecological conditions as a result of the hydrological alterations and proliferation of exotic species. It can reasonably be expected that after exotic vegetation removal and maintenance, hydrologic enhancement through removal of mosquito ditches, establishment of native marsh vegetative communities, and preservation of the area, the UMAM functional assessment scores would range between 0.73 and 0.83 as a result of increased health of the vegetative community and subsequent increase of forage fish, macroinvertebrates, and wildlife utilization. A total of 35.7 credits of functional lift are generated through the restoration and preservation of 238 acres of wetlands within the Northwest Restoration Site. A summary of the functional assessment is provided in Table 3-1 and discussed below; UMAM spreadsheets are provided in Appendix A.



TABLE 3-1 NORTHWEST RESTORATION SITE FUNCTIONAL ASSESSMENT SUMMARY

	Target		UMAM Score		m·	T *04	
Wetland Type (FLUCFCS Code)	Community (FLUCFCS Code)	Acres	Pre	Post	Time Lag x Risk	Lift per Acre	Functional Lift (Credits)
Ditches (511)	Sawgrass Marsh (6411)	10.50	0.50	0.73	1.71	0.13	1.37
Freshwater/Sawgrass Marsh (641/6411)	Sawgrass Marsh (6411)	95.43	0.60	0.80	1.3	0.15	14.31
Mixed Wetland Hardwoods (617)	Mixed Wetland Hardwoods (617)	16.23	0.60	0.83	1.43	0.16	2.60
Exotic Wetland Hardwoods – Australian Pine (619)	Sawgrass Marsh (6411)	66.19	0.53	0.77	1.43	0.17	11.25
Periphyton Mat (655)	Periphyton Mat (655)	7.23	0.60	0.80	1.3	0.15	1.08
Mangrove (612)	Mangrove (612)	42.20	0.67	0.83	1.3	0.12	5.06
TOTAL		238					35.7

For areas of sawgrass marsh, freshwater marsh, and periphyton mat, utilizing the difference between preand post-mitigation UMAM functional scores (0.20) divided by the time lag (TL) and risk (R) factors (TL of 3 years = 1.07, R factor of 1.25, $TL \times R = 1.3$), the resulting functional lift per acre is 0.15. Following restoration, the functional value of mixed wetland hardwood communities would increase from 0.60 to 0.83. Utilizing the difference between pre- and post-mitigation UMAM functional scores (0.23) divided by the time lag (TL) and risk (R) factors (TL of 5 years = 1.14, R factor of 1.25, $TL \times R = 1.43$), which results in a lift per acre of 0.16. In the case of ditches, the difference between pre- and post-mitigation UMAM functional scores (0.23) divided by the time lag (TL) and risk (R) factors (TL of 5 years = 1.14, R factor of 1.5, $TL \times R = 1.71$), the resulting functional lift per acre is 0.13. The difference between pre- and post-mitigation UMAM functional scores for exotic wetland hardwoods (0.24) divided by the time lag (TL) and risk (R) factors (TL of 5 years = 1.14, R factor of 1.25, $TL \times R = 1.43$), results in functional lift per acre of 0.17. The resulting functional lift per acre is 0.12 for mangrove areas, utilizing the difference between pre- and post-mitigation UMAM functional scores (0.16) divided by the time lag (TL) and risk (R) factors (TL of 3 years = 1.07, R factor of 1.25, $TL \times R = 1.3$). The total functional lift generated by the proposed wetland restoration and preservation within the Northwest Restoration Site is 35.7 credits.

3.2 SW 320th Street Restoration Site

The SW 320th Street Restoration Site is located approximately 4 miles northwest of the Units 6 & 7 Site and encompasses a total of 574 acres, comprised of parcels located on the north and south of the C-103 Canal and extending east toward SFWMD-owned parcels adjacent to the FPL transmission line, L-31E



Canal, and the BNP (Figure 11). Restoration and enhancement of these parcels will be achieved through the removal of exotic species of vegetation, removal of ditches to restore natural topography and enhance hydrology, supplemental planting of desirable native wetland vegetation, and preservation through a conservation easement. Following restoration of wetlands within the SW 320th Street Restoration Site, these parcels are proposed to be transferred to the public trust, under the management of the SFWMD, BNP, MDC, FDEP or other qualified entity, to further regional wetland conservation efforts within the BBCW area. The juxtaposition of the SW 320th Street Restoration Site adjacent to lands previously conveyed from FPL to SFWMD adjacent to the L-31E Canal and BNP (Appendix C, Photographs 5 and 6) will result in a significant increase in the overall acreage of conservation lands within the BBCW area. These lands will be restored, preserved, and protected from future development in the area.

3.2.1 Existing Condition

Current land use/land cover within the SW 320th Street Restoration Site is illustrated in Figure 12. The southwestern, central, and northwestern portions of the site are classified as exotic wetland hardwoods (FLUCFCS 619) infested by the nuisance/exotic species Brazilian pepper and Australian pine. A parcel of planted palm tree nursery (FLUCFCS 241) is located within the western portion of the site, with associated perimeter drainage ditches. Forested wetlands within the eastern portion of the site are classified as mixed wetland hardwoods/exotic wetland hardwoods (FLUCFCS 617/619), vegetated with a variety of native species but extensively colonized by the exotic species Australian pine and Brazilian pepper. The central portion of the SW 320th Street Restoration Site includes an approximately 219-acre parcel of former palm tree nurseries that have been restored to freshwater marsh (FLUCFCS 641) and native buttonwood. Representative photographs are included in Appendix C; the existing vegetative community composition within each of these habitats is described below.

Palm Tree Nursery (FLUCFCS 241)

Approximately 42 acres of the site is comprised of palm tree nurseries. Native vegetative communities occurring upon hydric soils were historically cleared and the area was graded for production of palms. Elevated rows of trees are separated by irrigation furrows, with perimeter drainage ditches.

Freshwater Marsh (FLUCFCS 641)

The northern and central portion of the Site is comprised of approximately 219 acres of former palm tree nurseries that have been restored to freshwater marsh and buttonwood. A variety of herbaceous species occur within the marsh (Appendix C, Photograph 7), including several species of spikerush (*Eleocharis cellulosa*; *E. geniculata*; *E. interstincta*), arrowhead (*Sagittaria lancifolia*), giant leather fern (*Acrostichum danaefolium*), southern amaranth (*Amaranthus australis*), bushy bluestem (*Andropogon glomeratus*), spangletop (*Leptochloa nealleyi*; *L. fusca fascicularis*), Mexican primrose willow (*Ludwigia*



octovalvis), whorled marsh pennywort (Hydrocotyle verticillata), water hyssop (Bacopa monnieri), camphorweed, widespread maiden fern (Thelypteris kuntii), and the nuisance species cattail (Typha domingensis) and torpedo grass (Panicum repens). Nuisance vegetation, specifically cattail and torpedo grass, are controlled through targeted herbicide application. Sparsely vegetated mudflat areas with exposed substrate and/or open water provide habitat suitable for shorebird and wading bird foraging (Appendix C, Photographs 8 and 9). A variety of avifauna have been observed within the restored marsh, including wood storks (Mycteria americana), great blue heron (Ardea herodias), tricolored heron (Egretta tricolor), white ibis (Eudocimus albus), glossy ibis (Plegadis falcinellus), little blue heron (Egretta caerulea), snowy egret (Egretta thula), least tern (Sterna antillarum), pied-billed grebe (Podilymbus podiceps), blue-winged teal (Anas discors), mottled duck (Anas fulvigula), cattle egret (Bubulcus ibis), great egret (Casmerodius albus), black-necked stilt (Himantopus mexicanus), and red shouldered hawk (Buteo jamaicense).

Mixed Wetland Hardwood/Exotic Wetland Hardwoods (FLUCFCS 617/619)

The eastern portion of the SW 320th Street Restoration Site supports native mixed wetland hardwoods interspersed with exotics, including Australian pine, Brazilian pepper, and shoebutton ardisia. The canopy is comprised of buttonwood, white mangrove, dahoon holly, cocoplum, Australian pine, wax myrtle, myrsine, and poisonwood, with understory vegetation including sawgrass, camphorweed, arrowhead, leather fern, mangrove vine, nettletree, spikerush, and cattail. The eastern edge of the SW 320th Street Restoration Site abuts SFWMD parcels of mixed wetland hardwoods currently being treated for Australian pine and Brazilian pepper (Appendix C, Photograph 10).

Exotic Wetland Hardwoods (FLUCFCS 619)

Areas dominated by the nuisance exotic species Australian pine and Brazilian pepper occur in the southwestern portion of the site, both north and south of the C-103 canal. In addition to dense coverage of Australian pine and Brazilian pepper, a variety of both native and nuisance exotic species are present, including shoebutton ardisia, groundsel tree (*Bachharis halimifolia*), willow, elderberry (*Sambucus canadensis*), buttonbush (*Cephalnathus occidentalis*), strangler fig, primrose willow (*Ludwigia* sp.), dogfennel (*Eupatorium capillifolium*), spikerush, nettletree, climbing hempvine (*Mikania scandens*), and cattail.

3.2.2 Target Community

The target communities for the SW 320th Street Restoration Site are freshwater marsh and mixed wetland hardwood wetlands dominated by native species typical of the historical condition (Figure 13). Areas of exotic wetland hardwoods and palm tree nurseries will be restored to freshwater marsh, while the exotic wetland hardwood/mixed wetland hardwood forest along the eastern portion of the site will be restored to



a native mixed wetland hardwood community. Control of exotic species of vegetation will facilitate regeneration of desirable wetland vegetation from the seed bank, supplemented by planting as necessary to achieve the target communities. The anticipated vegetative community composition associated with freshwater marsh systems include a variety of herbaceous species such as spikerush, sawgrass, arrowhead, beaksedges (*Rhynchospora* spp.), camphorweed, leather fern, and pickerelweed (*Pontederia cordata*), as well as occasional shrubs and small trees such as buttonwood, willow, coco plum, and buttonbush. Within the restored freshwater marsh, sparsely-vegetated areas of exposed substrate will be created to provide potential shorebird foraging habitat. Mixed wetland hardwood areas will include a variety of native canopy and shrub species, such as buttonwood, myrsine, coco plum, white mangrove, willow, and dahoon holly, with an understory dominated by sawgrass.

3.2.3 Methods

Mitigation activities at the SW 320th Street Restoration Site will involve extensive exotic species eradication efforts to remove Australian pine, Brazilian pepper, and shoebutton ardisia infestation. Mechanical control methods will be used primarily where invasive plant densities are high and standing biomass limits accessibility. Bulldozers, mowers, choppers, feller-bunchers, chippers, chainsaws, and other machinery may be utilized. In areas that are not dominated by invasive vegetation, manual treatment with herbicides will occur. Herbicidal control involves the careful application of chemicals to the targeted plants, while minimizing impact to desirable native species of vegetation.

Herbicide applications will be timed so as to occur during the driest time of the year, prior to the onset of summer rains. Only EPA-approved herbicides will be used (see Section 3.1.3). Following mechanical and herbicide treatment of exotic vegetation, the areas will be topographically graded, including backfilling of agricultural ditches, and planted with native wetland species to encourage vegetative succession within the restored freshwater marsh wetlands. Herbaceous wetland plants will be planted on 3 foot centers to provide for rapid revegetation and effective competition against nuisance invader species. This will result in a density of approximately 4,800 plants per acre. Planting of bare root stock or small containerized stock will be done manually. Mixed wetland hardwood communities will be restored through natural regeneration from the seed bank and supplemental planting of desirable wetland species, as necessary. Subsequent treatments of exotic species of vegetation will be conducted as necessary to discourage regrowth of Brazilian pepper and Australian pine. The 219-acre freshwater marsh portion of the SW 320th Street Restoration Site, currently under restoration but not under a conservation easement, will be preserved and transferred to the public trust as part of the overall SW 320th Street Restoration Site mitigation alternative.



3.2.4 Environmental Lift

Within the SW 320th Street Restoration Site, the current UMAM functional score for Brazilian pepper and Australian pine-dominated wetlands (FLUCFCS 619) is 0.50. The functional score is a reflection of diminished ecological conditions as a result of the widespread proliferation of exotic species and historical hydrologic impacts. Within the eastern portion of the site, as native mixed wetland hardwoods increase in occurrence, the existing UMAM score is 0.57 due to continued prevalence of Australian pine and Brazilian pepper. Upland areas of active palm tree nursery were assigned a UMAM score of 0.27, due to presence of hydric soils but current lack of wetland vegetation and functions. The current UMAM functional score for areas of restored freshwater marsh is 0.57, resulting from the continued presence of exotic species within the restoration area. It can reasonably be expected that after exotic vegetation eradication and maintenance, removal of ditches, establishment of a native marsh and mixed wetland hardwood vegetative community, and preservation of the area, the functional value of the SW 320th Street Restoration Site would improve, with UMAM scores ranging from 0.60 to 0.73 as a result of increased health of the vegetative community, subsequent increase in wildlife utilization, and transfer of restored lands to the public trust. A total of 56.8 credits of functional lift are generated through the restoration and preservation of 574 acres within the SW 320th Street Restoration Site. A summary of the functional assessment is provided in Table 3-2 and discussed below; UMAM spreadsheets are provided in Appendix A.

TABLE 3-2
SW 320th STREET RESTORATION SITE
FUNCTIONAL ASSESSMENT SUMMARY

			UMAM				
	Target		Score		Time		Functional
Wetland Type	Community				Lag x	Lift per	Lift
(FLUCFCS Code)	(FLUCFCS Code)	Acres	Pre	Post	Risk	Acre	(Credits)
Wet Palm Tree Nursery (241)	Freshwater Marsh (641)	42	0.27	0.60	2	0.17	7.14
Mixed Wetland Hardwoods/Exotic Wetland Hardwoods (617/619)	Mixed Wetland Hardwoods (617)	169	0.57	0.73	1.43	0.11	18.59
Exotic Wetland Hardwoods (619)	Freshwater Marsh (641)	144	0.50	0.70	1.43	0.14	20.16
Freshwater Marsh (641)	Freshwater Marsh (641) - Preservation	219	0.57	0.63	0.9 (pres. adjust factor)	0.05	10.95
TOTAL		574					56.8



For areas of mixed wetland/exotic hardwoods adjacent to the C-103 Canal, utilizing the difference between pre- and post-mitigation UMAM functional scores (0.16) divided by the time lag (TL) and risk (R) factors (TL of 5 years = 1.14, R factor of 1.25, TL×R = 1.43), the resulting functional lift per acre is 0.11. For the restoration of wet palm tree nurseries to freshwater marsh, the difference in pre- and post-mitigation scores (0.33) was divided by an increased risk factor and 5-year time lag factor (TL of 5 years = 1.14, R factor of 1.75, TL×R = 2), with a resulting adjusted functional lift of 0.17 per acre. Areas of exotic wetland hardwoods to be restored to freshwater marsh were assigned a difference in pre- and post-mitigation scores of 0.20, which when divided by time lag and risk factors (TL of 5 years = 1.14, R factor of 1.25, TL×R = 1.43) yields an adjusted functional lift of 0.14 per acre. For the 219-acre parcel of freshwater marsh currently under restoration, the preservation of this area and transfer to the public trust would generate a functional lift of 0.06, which when multiplied by a preservation adjustment factor of 0.9 results in an adjusted lift of 0.05 per acre. For the entire SW 320th Street Restoration Site, the functional lift associated with restoration and preservation of 574 acres is 56.8 credits.

3.3 Mitigation Banks

Wetland mitigation banks are proposed to offset the loss of wetland functions associated with the Units 6 & 7 Site (Plant Area and adjacent laydown area), the nuclear administration, training and parking area located immediately north of the Units 6 & 7 Site, the FPL reclaimed water treatment facility, as well as impacts associated with the Project's transmission line corridors. Impacts to saline wetlands within the Site, FPL reclaimed water treatment facility, nuclear administration, training and parking area, and East Preferred Transmission Corridor will be mitigated through the purchase of coastal mangrove credits from the EMB, while impacts to freshwater wetlands within the West Preferred Transmission Corridor are proposed to be mitigated through the purchase of credits from the HID. As these banks are functioning in advance of Project impacts, they reduce the temporal losses of aquatic functions and values and reduce uncertainty or risk over the ecological success of the mitigation.

3.3.1 Everglades Mitigation Bank

Wetland impacts associated with the Units 6 & 7 Site, the FPL reclaimed water treatment facility, the nuclear administration, training and parking area, and the East Preferred Transmission Corridor will be mitigated through the purchase of 201 mitigation credits from the EMB, calculated in accordance with the W.A.T.E.R. functional assessment methodology. A mosaic of saline mangrove and freshwater marsh habitats have been enhanced within the EMB, including reconnection of tidal creeks' freshwater headwaters to benefit hypersaline mangrove parcels and removal of berms and roads that created isolated parcels of historically continuous mangrove wetlands. The Units 6 & 7 Site is located within the same watershed and service area of the EMB (Figure 14). Providing mitigation to offset impacts within the



same watershed to retain lost function within the same basin is a concept that eliminates cumulative impacts. The restoration work of the EMB will be protected from future development pressure by a conservation easement and a perpetual maintenance fund ensures oversight. Enhancement and restoration associated with 201 credits of mitigation corresponds to approximately 1,400 acres of improved wetlands within the EMB.

3.3.2 Hole in the Donut Mitigation Bank

The HID is a regional mitigation bank located within the ENP and operated by the National Park Service (NPS) (Figure 15). The HID contains over 6,000 acres of agriculturally-impacted lands historically infested with the nuisance exotic species Brazilian pepper. Historic farming activities utilized rock-plowing to break up the original limestone surface and mix it with the surficial marl soil, which increased ground surface elevations and in turn decreased the hydroperiod such that 1985 National Wetland Inventory surveys mapped the area as uplands. The return of wetland functions within the HID involves the complete removal of all existing exotic vegetation and complete removal of historical rock-plowed agricultural soils. Early attempts at restoration of native vegetation through seeding, planting, mechanical removal of exotics, herbicide application, fire, and mowing or discing of farmed areas proved unsuccessful for exotic vegetation control. In order to prevent re-establishment of Brazilian pepper, complete removal of anthropogenic soils was required. The removal of rock-plowed material reduced the land elevation, allowing restoration of a more typical wetland hydroperiod to support the target marl prairie wetland community.

According to FDEP permit # 132416479, issued 2/15/1995, "mitigation for wetland impacts within the Mitigation Service Area will consist of a set dollar amount per acre of impact." Conservative assumptions regarding transmission access road length, height and width, as well as placement of structure pads, were incorporated into the assessment to derive a "not to exceed" maximum scenario of wetland impact acreage. Wetland impacts within the West Preferred Transmission Corridor are proposed to be mitigated through purchase of up to 308 mitigation credits from the HID, reflecting the "not to exceed" maximum scenario of wetland impact acreage. The HID permit is scheduled for renewal in 2015; if the renewal includes revision of the HID credit ledger to utilize the UMAM functional assessment protocol, the appropriate number of UMAM credits will be purchased to offset the loss of wetland functions associated with construction of transmission facilities within the West Preferred Transmission Corridor. The exact acreage of wetland impact and resulting functional loss will be calculated following completion of detailed transmission engineering design and are expected to be reduced. Purchase of mitigation credits from the HID will provide significant benefit to regional wetland



restoration and conservation efforts, and directly benefit vegetative communities and wildlife habitat within the ENP.

3.4 Pipeline Restoration

A total of up to approximately 46.3 acres of temporary wetland impacts are associated with the installation of the radial collector well delivery pipelines and the reclaimed water pipelines between the Miami-Dade South District Wastewater Treatment Plant and the FPL reclaimed water treatment facility (Figure 16). These areas are proposed to be mitigated through in-situ restoration of wetlands temporarily disturbed during excavation of pipeline trenches.

All areas of temporary wetland impact associated with pipeline installation will be restored, thereby avoiding any permanent reduction in wetland acreage. Mitigation will be provided to offset the temporary loss of wetland functional values. The potable water pipelines will be installed within existing upland road medians and within the temporary access roadway improvements corridor, therefore no additional wetland impacts will occur in association with the potable water pipelines.

3.4.1 Methods

Within wetland areas traversed during pipeline installation, the upper layer of the soil horizon associated with the pipeline trench will be scraped and placed in a spoil bank located on adjacent uplands, segregated from the spoil resulting from the further excavation of the trench. Following installation of the pipeline segment, the upper layer of the soil horizon will be replaced and graded to restore wetland elevations allowing natural revegetation of the temporarily impacted work area from the native seed bank. FPL will control exotic species of vegetation within the restored areas through manual removal and/or herbicide application, in consultation with FDEP, USACE, and DERM. If natural recruitment from the seed bank does not comply with success criteria regarding vegetative community composition and coverage, supplemental planting of native wetland species will be conducted.

3.4.2 Environmental Lift

The in-situ restoration of temporary wetland impacts associated with pipeline installation will generate a total of up to 33.1 credits of mitigation, as calculated in accordance with the UMAM, depending upon the location of the FPL reclaimed water treatment facility and associated pipeline routes. However, due to the time lag required to restore temporarily disturbed areas to their pre-construction condition, in-situ restoration of pipeline areas does not fully replace the loss of wetland functions. A time lag of 10 years was applied to areas of forested wetland impact (mangroves and mixed wetland hardwoods), while a 2 year time lag was applied to herbaceous marsh wetlands as well as canals and ditches. Significantly disturbed or agriculturally altered areas classified as exotic wetland hardwoods and wet palm tree



nurseries were not assigned restoration time lag factors. A total of approximately 5 additional credits of mitigation are required following in-situ restoration when time lag factors are applied. These additional credits of mitigation required are included in the overall Project wetland impact summary (Table 1-1), as well as detailed in Tables 2-2 and 2-4.

The evaluation of functional lift associated with in-situ restoration of temporary impacts is summarized in Table 3-3 below.



TABLE 3-3

PIPELINE RESTORATION AREAS
FUNCTIONAL ASSESSMENT SUMMARY

FUNCTIONAL ASSESSMENT SUMMARY Functional Lift (Credits)									
	Restoration UMAM Score			1 Score	. (
Wetland Type		Time Lag							
(FLUCFCS Code)	Acres		Target	Actual	Target	Actual	Deficit		
		er Pipelines (Pot)		<u>I</u>		
Wet Palm Tree Nurseries (241-W)	0.16	1 year = 1.0	0.27	0.27	0.04	0.04	0		
Canals/Ditches (510/511)	1.7	2 years = 1.03	0.50	0.49	0.85	0.83	0.02		
Mangroves (612)	19.51	10 years = 1.25	0.77	0.62	15.02	12.10	2.92		
Mangrove/Exotic Wetland Hardwoods (612/619)	4.47	10 years = 1.25	0.60	0.54	2.68	2.41	0.27		
Mixed Wetland Hardwoods (617)	8.34	10 years = 1.25	0.70	0.56	5.84	4.67	1.17		
Exotic Wetland Hardwoods (619)	2.31	1 year = 1.0	0.50	0.50	1.16	1.16	0		
Freshwater Marshes (641)	7.09	2 years = 1.03	0.70	0.68	4.96	4.82	0.14		
SUBTOTAL	43.6				30.55	26.03	4.5		
		er Pipelines (Or	iginally Pr	oposed Lo	cation)	T			
Wet Palm Tree Nurseries (241-W)	0.16	1 year = 1.0	0.27	0.27	0.04	0.04	0		
Canals/Ditches (510/511)	1.7	2 years = 1.03	0.50	0.49	0.85	0.83	0.02		
Mangroves (612)	17.17	10 years = 1.25	0.77	0.62	13.22	10.65	2.57		
Mangrove/Exotic Wetland Hardwoods (612/619)	4.47	10 years = 1.25	0.60	0.54	2.68	2.41	0.27		
Mixed Wetland Hardwoods (617)	8.46	10 years = 1.25	0.70	0.56	5.92	4.74	1.18		
Exotic Wetland Hardwoods (619)	2.31	1 year = 1.0	0.50	0.50	1.16	1.16	0		
Freshwater Marshes (641)	4.07	2 years = 1.03	0.70	0.68	2.85	2.78	0.07		
SUBTOTAL	38.3				26.72	22.61	4.1		
		Water Pipeline	(Originally						
Sawgrass Marsh/Dwarf Mangroves (6411/612-B)	3.1	10 years = 1.25	0.77	0.62	2.39	1.92	0.47		
Mixed Wetland Hardwoods (617)	0.3	10 years = 1.25	0.70	0.56	0.21	0.17	0.04		
SUBTOTAL	3.4				2.60	2.09	0.5		
	+	l Collector Well			 	1 	1 .		
Mangroves (612)	3	10 years = 1.25	0.87	0.696	2.61	2.09	0.5		
TOTAL	46.6 ^a				33.16 ^a	28.12 ^a	5.0 ^a		

^a Total calculated utilizing reclaimed water pipeline corridor to FPL Reclaimed Water Treatment Facility potential alternative location. Total utilizing originally proposed location = 44.7 acres, 5.1 UMAM credits



3.5 Sea Dade Canal Crocodile Sanctuary

As part of the Project's additional mitigation activities, the Sea Dade Canal Crocodile Sanctuary involves creation of wetlands impacted by historical dredging and filling, topographic grading and planting, creation of low-salinity ponds for juvenile crocodile refugia, and creation of habitat conditions with suitable nesting substrate specifically benefitting the federally threatened American crocodile (*Crocodylus acutus*). The approximately 6.4-acre area is located southwest of the industrial wastewater treatment facility, adjacent to the Sea Dade Canal and an existing meteorological tower (Figure 17).

3.5.1 Existing Condition

The proposed Sea Dade Canal Crocodile Sanctuary is currently comprised of previously filled uplands, open water borrow ponds, mixed hardwood wetlands, dwarf red mangrove marsh, and sawgrass marsh (Figure 18) adjacent to the Sea Dade Canal. An access road leads to a meterological tower on the eastern edge of the site. Areas of forested wetland are vegetated with a mixture of red mangrove, white mangrove, buttonwood, poisonwood, and the threatened species locust berry (*Byrsonima lucida*).

3.5.2 Target Community

The target community is modeled after the successful crocodile sanctuary created upon previously filled land within the EMB in 2008. A post-enhancement conceptual design is presented in Figure 19. Upland areas will be topographically graded to restore wetland hydrology and planted with a variety of native species such as buttonwood, bay cedar (*Suriana maritima*), Florida silver palm (*Coccothrinax argentata*), willow bustic (*Sideroxylon salicifolium*), muhly grass (*Muhlenbergia capillaries*), and railroad vine (*Ipomea pes-capri*) to create a mosaic of habitats, including saline lagoon areas connecting to the Sea Dade Canal, isolated low-salinity ponds, and crocodile nesting areas utilizing a proven mixture of peat, marl, and sand. In addition to providing a nesting sanctuary for crocodiles, the area will provide potential foraging habitat for wading birds, including wood storks, through the creation of shallow freshwater ponds suitable for tactile feeding.

3.5.3 Methods

The Sea Dade Canal Crocodile Sanctuary will be created in accordance with the methodology used to create the EMB crocodile sanctuary in 2008. Photographs of the crocodile sanctuary prior to enhancement and immediately following creation are presented in Appendix C (Photographs 11 and 12). This approximately 5-acre area was cleared of exotic vegetation, topographically graded to create freshwater ponds and nesting areas with a specific mixture of peat, marl, and sand to create ideal nesting substrate, and planted with native species of vegetation. The success of the design is evidenced through documented utilization of the area by a nesting female crocodile within the first year after construction.



Similar to the design utilized at the EMB crocodile sanctuary, areas of previously filled uplands within the Sea Dade Canal Crocodile Sanctuary will be graded and connected to existing borrow pond areas to create an open water lagoon habitat. The proven mixture of peat, marl, and sand will be used along the slopes and banks to create ideal crocodile nesting substrate. The lagoon will be connected to the Sea Dade Canal on the eastern edge near the existing access road. It will be connected to the western borrow pond and a second connection to the Sea Dade Canal will also be constructed within the western borrow pond to facilitate wildlife access to the sanctuary. Perched ponds designed to collect rainwater and provide low-salinity juvenile crocodile refugia will be created surrounding the primary lagoon.. Nesting mounds of peat, marl, and sand will be constructed adjacent to and surrounding the low-salinity ponds. Areas of forested wetland surrounding the lagoon and ponds will be maintained to include 5% or less cover by exotic species of vegetation through mechanical and herbicide treatment.

3.5.4 Environmental Lift

The Sea Dade Canal Crocodile Sanctuary is being proposed as additional mitigation, although the resulting functional lift is not included in the overall mitigation credit ledger. However, the W.A.T.E.R. functional assessment was utilized to quantify the benefit generated and is provided below for informational purposes. Utilizing the W.A.T.E.R. functional assessment protocol, a total of approximately 1.5 credits of functional lift are generated through the proposed 6.4 acres of wetland restoration and habitat creation associated with Sea Dade Canal Crocodile Sanctuary. A summary of the functional assessment is provided in Table 3-4 and discussed below; W.A.T.E.R. spreadsheets are provided in Appendix B.



TABLE 3-4
SEA DADE CANAL CROCODILE SANCTUARY
FUNCTIONAL ASSESSMENT SUMMARY

		Post-Restoration			T.E.R. ore	Site	Lift	Functional
Existing Land Use (FLUCFCS Code)	Acres	Land Use (FLUCFCS Code)	Acres	Pre	Post	Suitability Multiplier	per Acre	Lift (Credits)
Borrow Pond (534)	0.77	Saline Lagoon (542)	0.77	0.49	0.77	1.08	0.30	0.23
Dwarf Mangroves (612-B)	0.75	Saline Lagoon (542)	0.04	0.75	0.77	1.08	0.02	<0.01
		Dwarf Mangroves (612-B)	0.71	0.75	0.82	1.08	0.08	0.06
Mixed Wetland Hardwoods (617)	3.08	Mixed Wetland Hardwoods (617)	2.75	0.69	0.77	1.08	0.09	0.25
		Saline Lagoon (542) and Low- Salinity Ponds (534)	0.31	0.69	0.77	1.08	0.09	0.03
		Dwarf Mangroves (612-B)	0.02	0.69	0.82	1.08	0.14	<0.01
Sawgrass Marsh (6411)	0.28	Sawgrass Marsh (6411)	0.28	0.75	0.82	1.08	0.08	0.02
Disturbed Open Land (744)	1.32	Saline Lagoon (542) and Low- Salinity Ponds (534)	0.82	0.13	0.77	1.08	0.69	0.57
		Mixed Wetland Hardwoods (617)	0.03	0.13	0.77	1.08	0.69	0.02
		Sawgrass Marsh (6411)	0.47	0.13	0.82	1.08	0.75	0.35
Roads (814)	0.19	Roads (814)	0.19	-	-	-	-	N/A
Electric Power Facilities (831)	0.04	Electric Power Facilities (831)	0.04	-	-	-	-	N/A
TOTAL	6.4		6.4					1.5

The current W.A.T.E.R. functional scores for disturbed open land and borrow pond areas within the proposed Sea Dade Canal Crocodile Sanctuary Site are 0.13 and 0.49, respectively. It can reasonably be expected that after creation of saline lagoon and low-salinity juvenile crocodile pond refugia, the functional value of these areas will improve to 0.77 as a result of increased health of the aquatic and vegetative community and subsequent increase in wildlife utilization. Utilizing the difference between pre- and post-mitigation W.A.T.E.R. functional scores for disturbed open lands (0.64) and borrow pond (0.28) multiplied by the site suitability multiplier (1.08), the resulting functional lift per acre is 0.69 and 0.30, respectively. In the case of disturbed open land conversion to sawgrass marsh, the difference between pre and post-mitigation W.A.T.E.R. functional scores (0.69) multiplied by the site suitability multiplier (1.08) yields 0.75 units of functional lift per acre. The current W.A.T.E.R. functional score for



mixed wetland hardwood wetlands within the proposed Sea Dade Canal Crocodile Sanctuary Site is 0.69. The functional score reflects slightly diminished ecological conditions resulting from the disturbed nature of the adjacent previously filled areas. It can reasonably be expected that after restoration, the functional value of the forested wetland areas would improve to 0.77 as a result of increased health of the vegetative community and subsequent increase in wildlife utilization. Utilizing the difference between pre- and post-mitigation W.A.T.E.R. functional scores for mixed wetland hardwood wetlands (0.08) multiplied by the site suitability multiplier (1.08), the resulting functional lift per acre is 0.09. Restoration of historically disturbed areas and increase in the quality of wildlife habitat will slightly increase the functional value of adjacent sawgrass marsh and dwarf mangrove areas within the Sea Dade Canal Crocodile Sanctuary. Using the difference between pre- and post-mitigation W.A.T.E.R. functional scores for sawgrass and dwarf mangrove wetlands (0.07) multiplied by the site suitability multiplier (1.08), the resulting functional lift per acre is 0.08. Therefore, the functional lift associated with enhancement and preservation of 6.4 acres of wetlands within the Sea Dade Canal Crocodile Sanctuary Site is 1.5 credits.

3.6 Temporary Construction Access Road Restoration

The restoration of temporary construction access roads is proposed as part of the Project's additional mitigation activities, conducted without the resulting functional lift included in the overall mitigation credit ledger. Temporary construction access road improvements are necessary to facilitate transportation of employees, construction workers, and materials and supplies to and from the Turkey Point Plant during the construction phase. The roadway improvements are uniquely required for safe and efficient construction of the facility, but not all are necessary post-construction. FPL is providing compensatory mitigation for all wetland impacts associated with the temporary construction access roads as if they are permanent. FPL proposes to remove lanes required for temporary construction access following construction and restore the temporarily-impacted wetlands. Following removal of temporary lanes, the area will be topographically graded to pre-construction elevation and planted with native species of vegetation, principally sawgrass, similar to the surrounding landscape. Permanent access road facilities on SW 359th Street will be limited to a transmission access road, with a typical 18' wide surface at a height of at least one foot above seasonal high water. The acreage of temporary construction access road restoration will be determined following detailed road design. It is anticipated that over 50% of the temporarily impacted area will be restored.



4.0 MONITORING AND SUCCESS CRITERIA

Mitigation monitoring methodology, frequency, and success criteria for each mitigation area will be developed in consultation with the FDEP, USACE and DERM. FPL will document implementation of the proposed mitigation projects and provide monitoring of mitigation success in accordance with the requirements of the FDEP, USACE and DERM. Monitoring reports will be provided to the FDEP, USACE and DERM detailing the condition of each mitigation project relative to the prescribed success criteria as required and proposed corrective actions to be implemented to achieve success criteria, as necessary.

Typical success criteria used to demonstrate achievement of required mitigation include:

- Nuisance/Exotic species occupy less than 5% of the total vegetative cover of the parcel;
- Percent cover by desirable wetland species, as listed in F.A.C. Rule 62-340, shall be 95% or greater;
- Wetland species shall be reproducing naturally in the ground, shrub, and canopy stratum; and
- Final success determination shall not be made less than two years from the completion of implementation of the initial mitigation measures and when the above-mentioned criteria have been continuously met for a period of a least one growing season without intervention in the of removal of undesirable vegetation.

The specific information to be included within the mitigation monitoring reports will be determined in consultation with the FDEP, USACE and DERM; typical requirements are as follows:

- Status of construction, with a description of the extent of work completed since previous report;
- Problems encountered and solutions undertaken;
- Anticipated work for the following year;
- Panoramic photographs taken from at least four permanent stations;
- Status of nuisance/exotic vegetation eradication on the parcel;
- Status of enhancement on the parcel;
- Herbicide listing and date of application; and
- Percentage survival, density, and cover of trees and herbaceous species.



5.0 CONCLUSION

Wetland impacts associated with the Turkey Point Units 6 & 7 Project will be mitigated through a combination of wetland restoration, enhancement, and preservation consistent with the regional restoration goals of the CERP within the Biscayne Bay Coastal Wetlands study area and Model Lands Basin, as well as purchase of mitigation credits from the EMB and HID. FPL has proposed a suite of mitigation opportunities to compensate for wetland impacts involving over 800 acres of applicant-sponsored wetland restoration and preservation over wetlands located within the BBCW area contiguous to SFWMD-owned parcels and Biscayne Bay; in-situ restoration of temporarily impacted wetlands associated with pipeline installation; creation and preservation of wildlife habitat designed to benefit the American crocodile, wading birds, and shorebirds; and purchase of mitigation credits from the EMB and HID. The mitigation alternatives not only offset the Project's wetland impacts, but also benefit BNP and CERP restoration projects, support regional conservation efforts through enhancement and preservation of significant acreage of wetland habitat, and provide opportunities for public recreation and environmental education.

This mitigation plan provides the functional lift required to offset the Project's wetland impacts. Detailed planting plans, topographic grading designs, and site-specific mitigation success criteria will be developed in consultation with the appropriate regulatory agencies during further refinement and finalization of the mitigation plan.







Turkey Point Plant Property

Turkey Point Units 6 & 7 Site

Associated Non-Linear Facilities



ROJECT

TURKEY POINT UNITS 6 & 7 **PROJECT**

TITLE

PROPOSED FACILITIES SITE AND ASSOCIATED NON-LINEAR FACILITIES

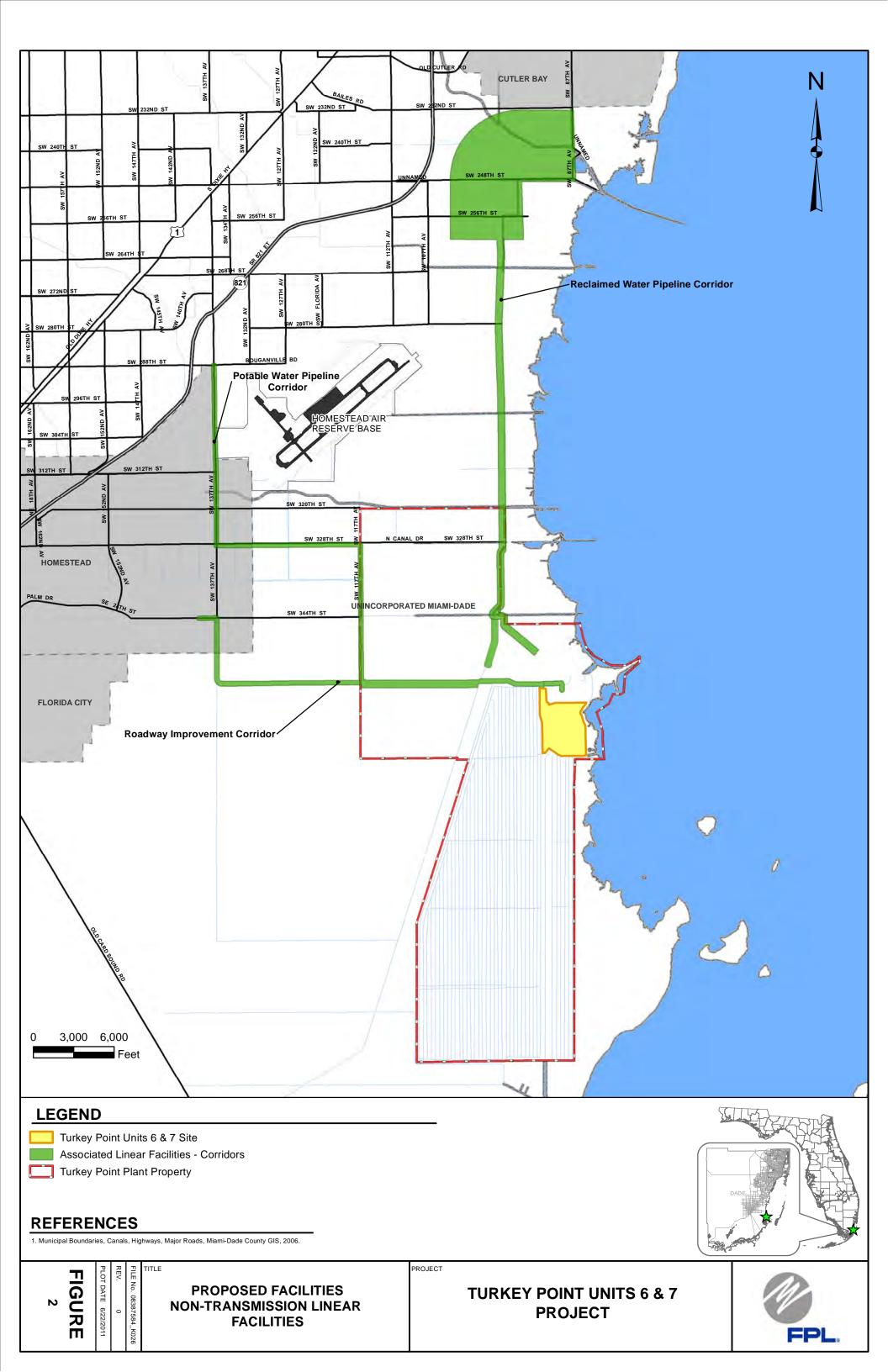


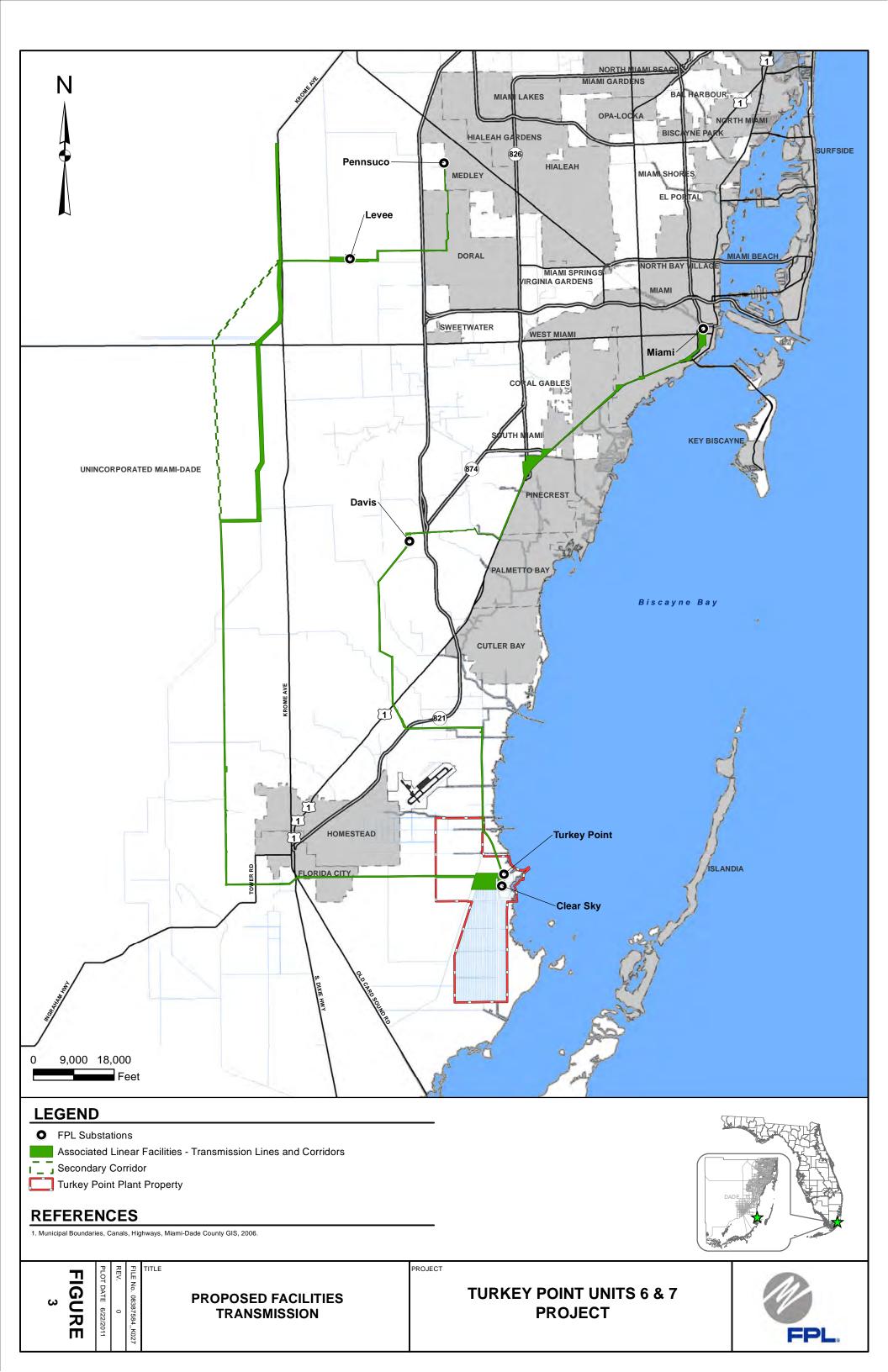
FILE No. (08387584_K025	
REV. 0		
PLOT DATE	6/22/2011	l

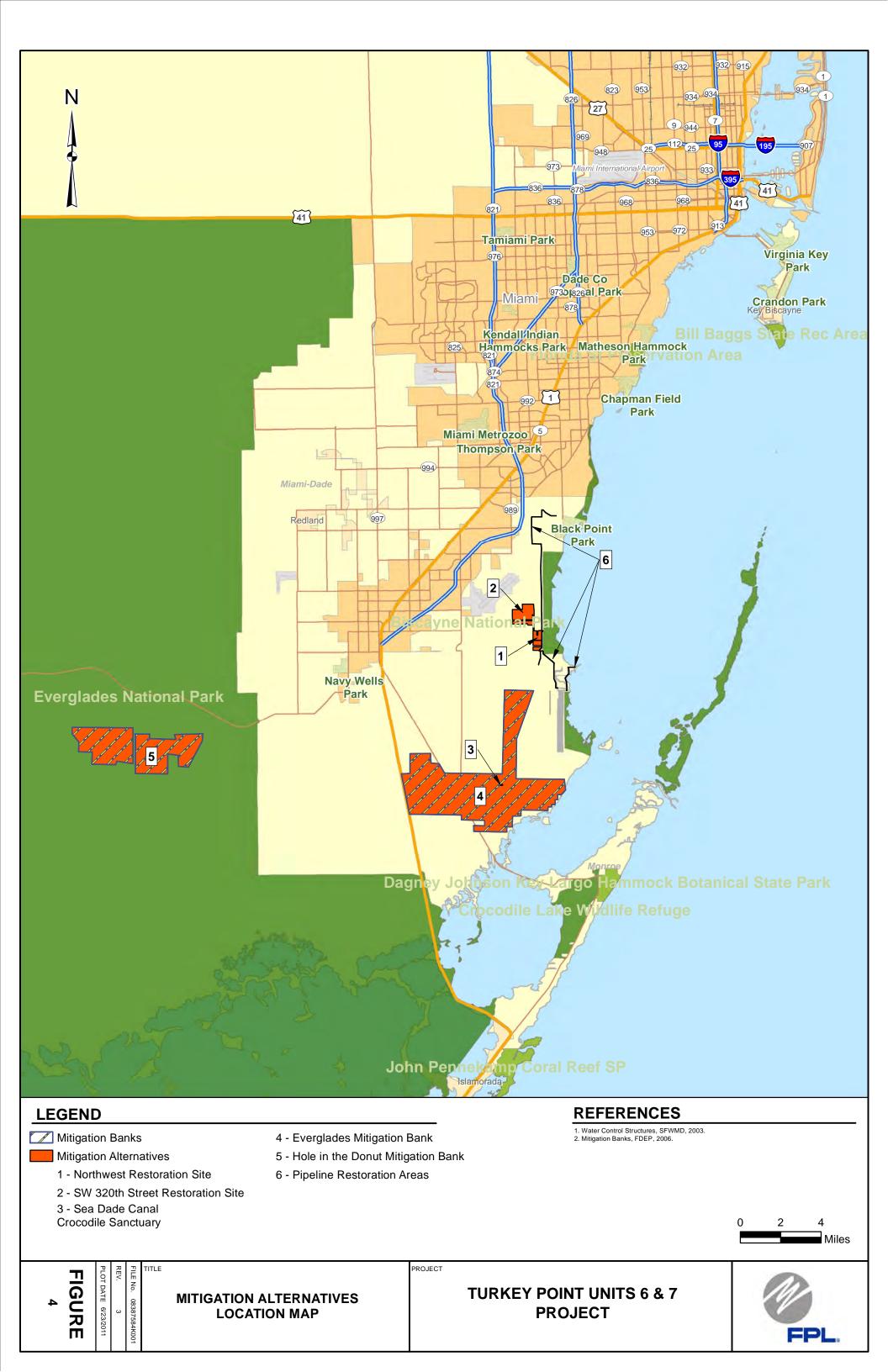
FIGURE

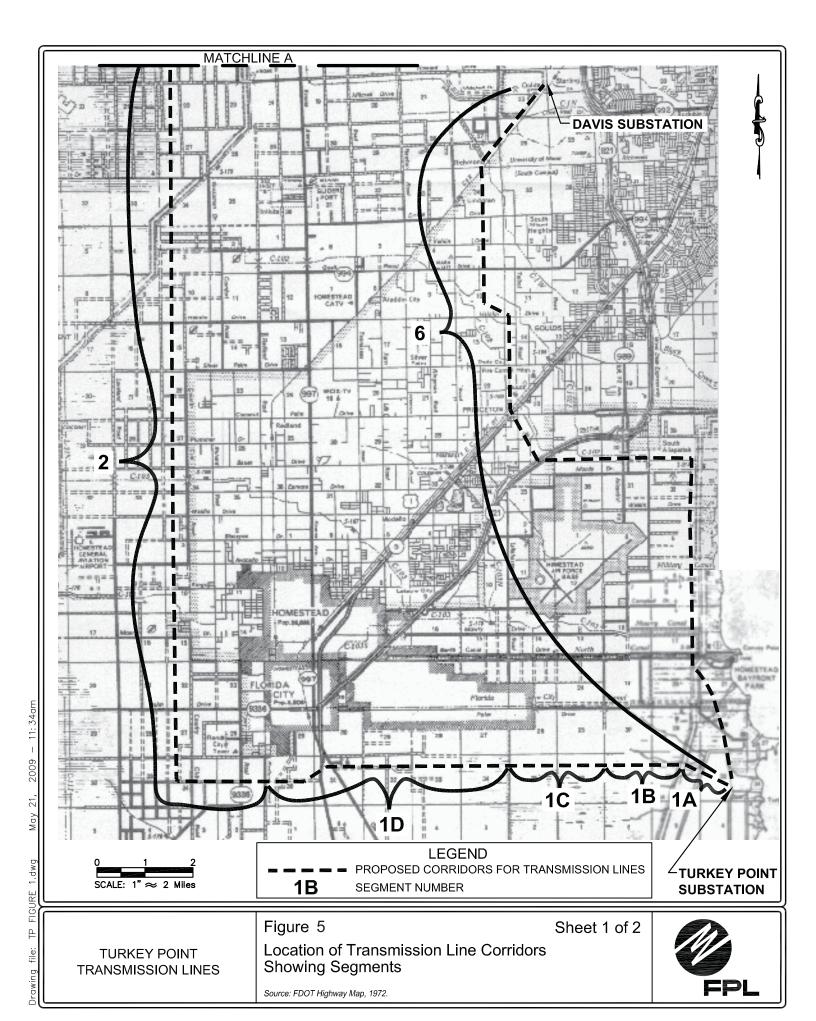
REFERENCES

1. Imagery, Miami-Dade County, 2007.









wing file: TP FIGURE 1.d

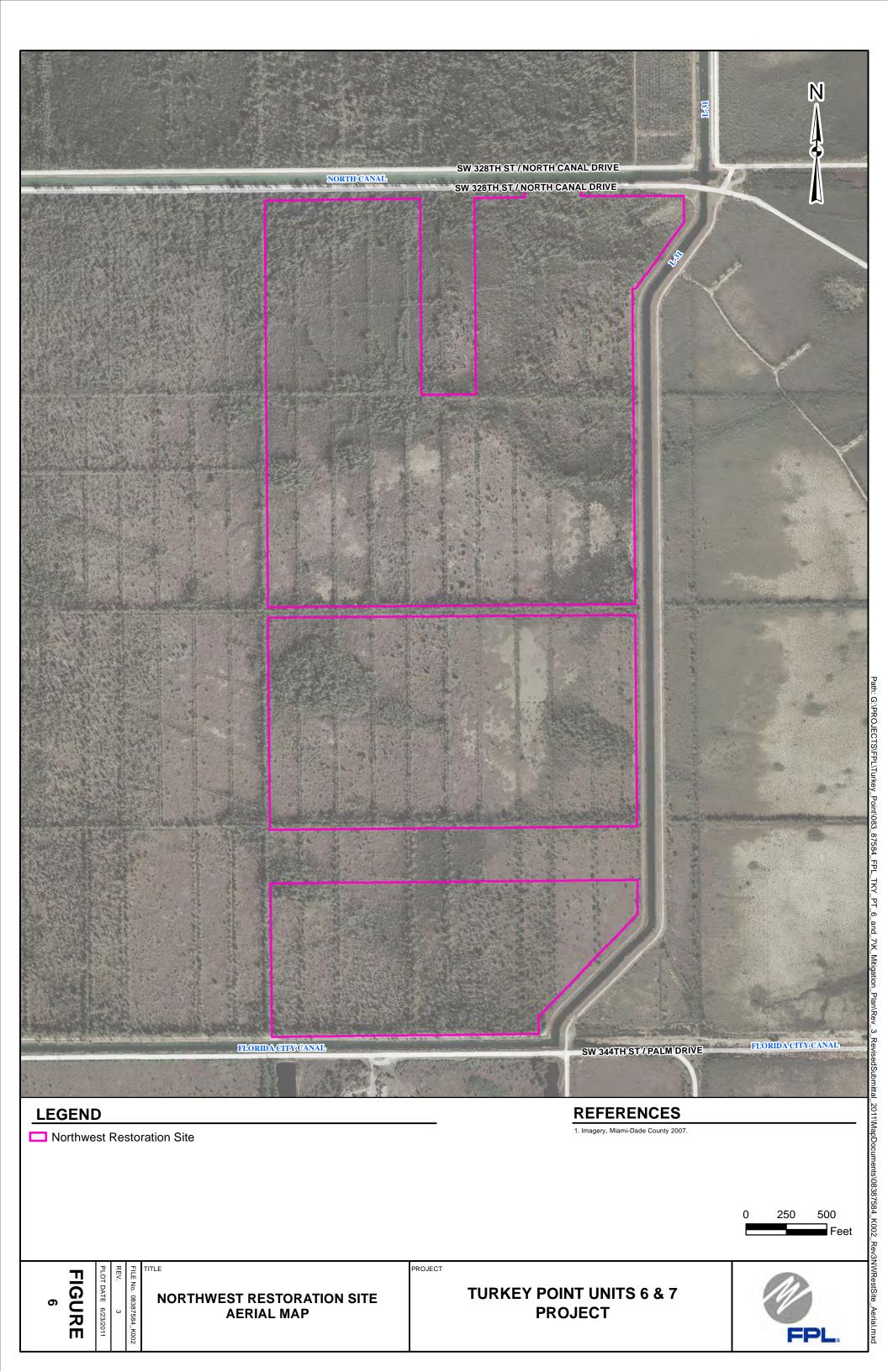
TURKEY POINT TRANSMISSION LINES

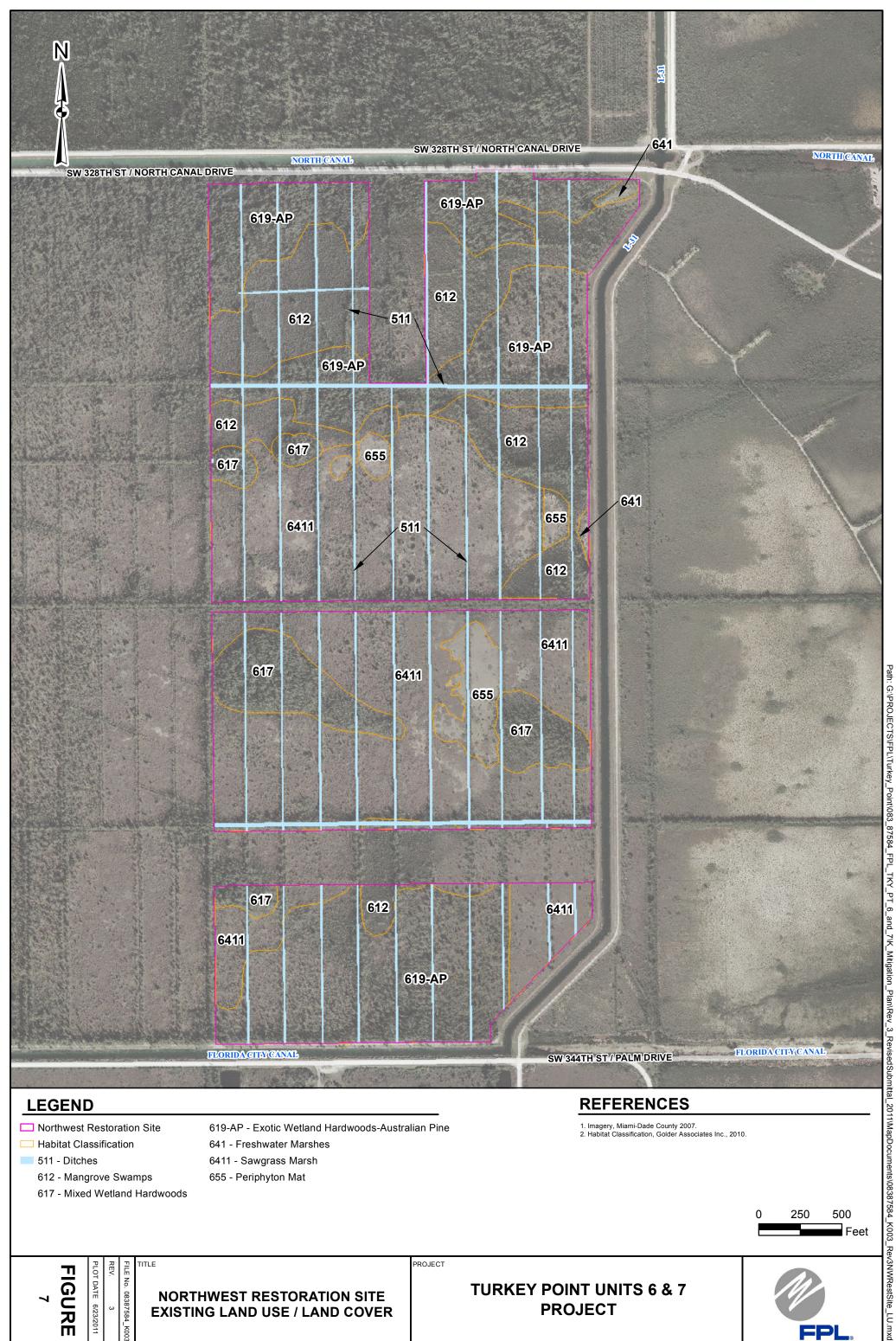
Figure 5

Location of Transmission Line Corridors Showing Segments

Source: FDOT Highway Map, 1972.







FILE No. 08387584_K003

NORTHWEST RESTORATION SITE **EXISTING LAND USE / LAND COVER**

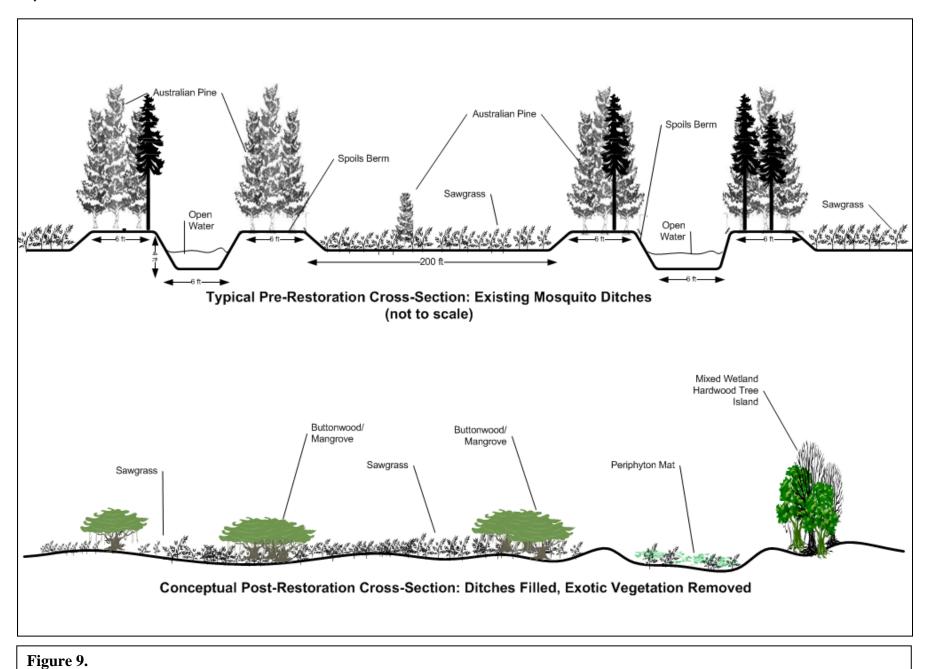


FILE No.

NORTHWEST RESTORATION SITE PROPOSED LAND USE / LAND COVER



July 2011 093-87652



Northwest restoration Site Conceptual Cross Sections



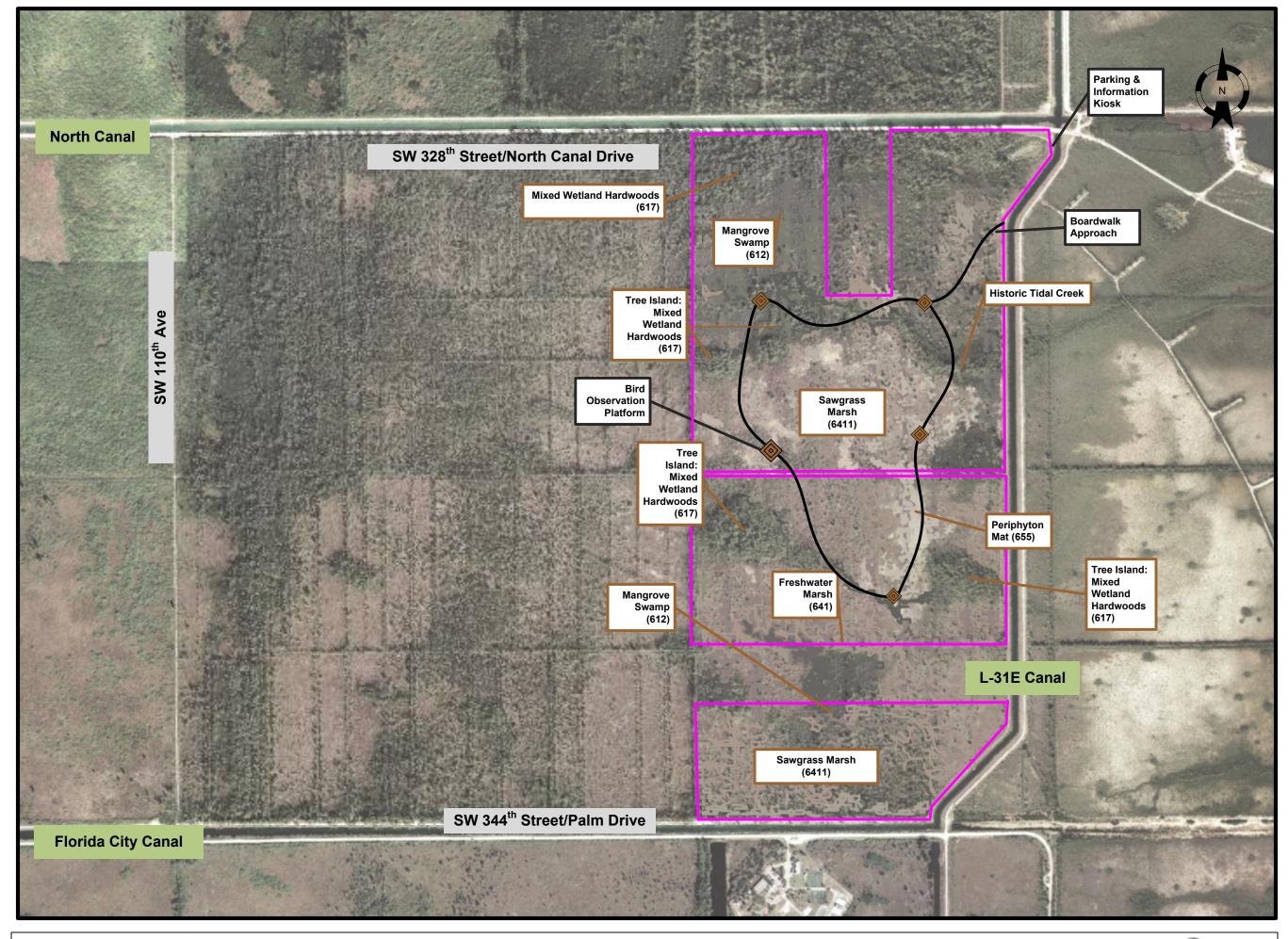
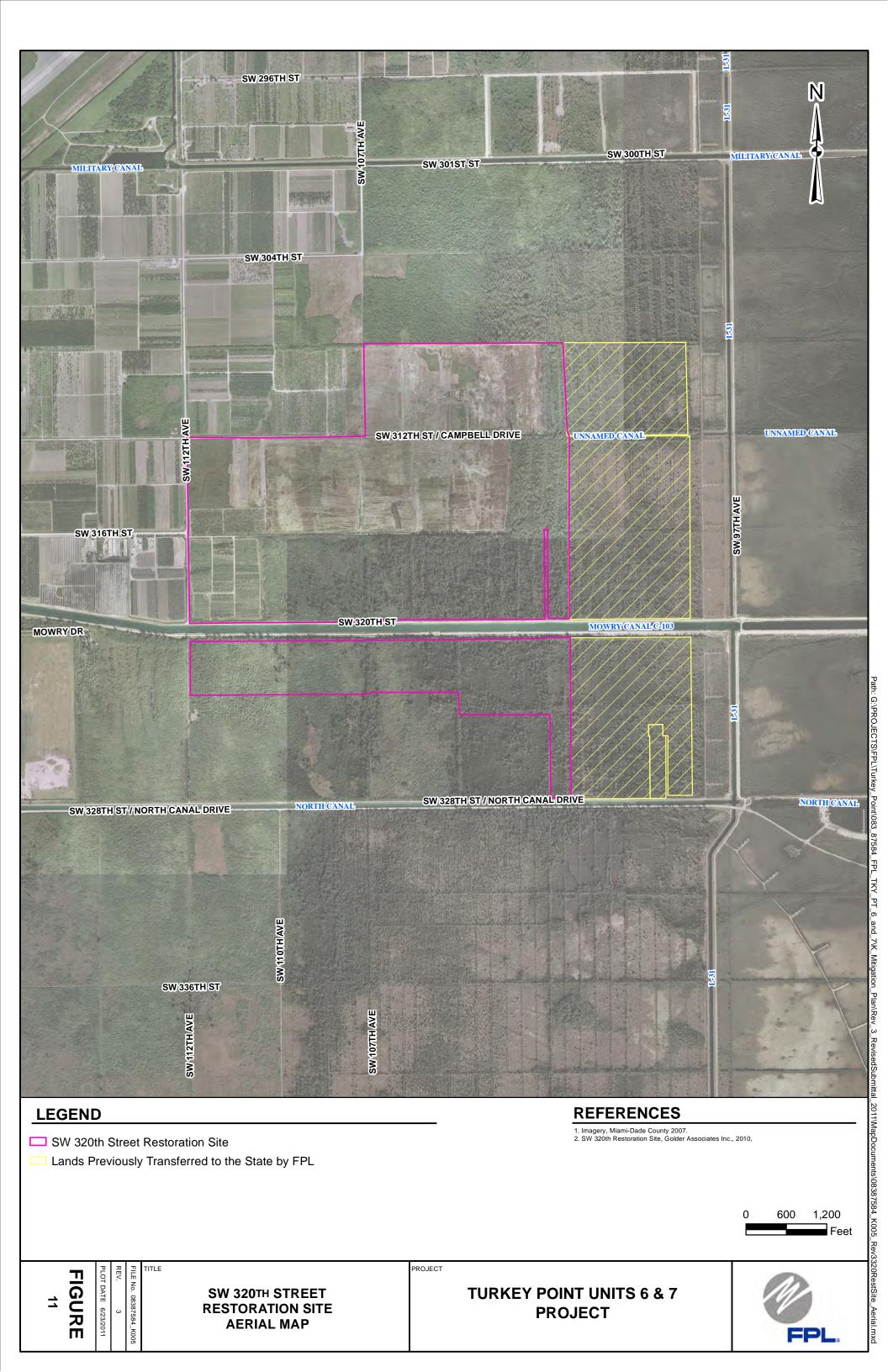
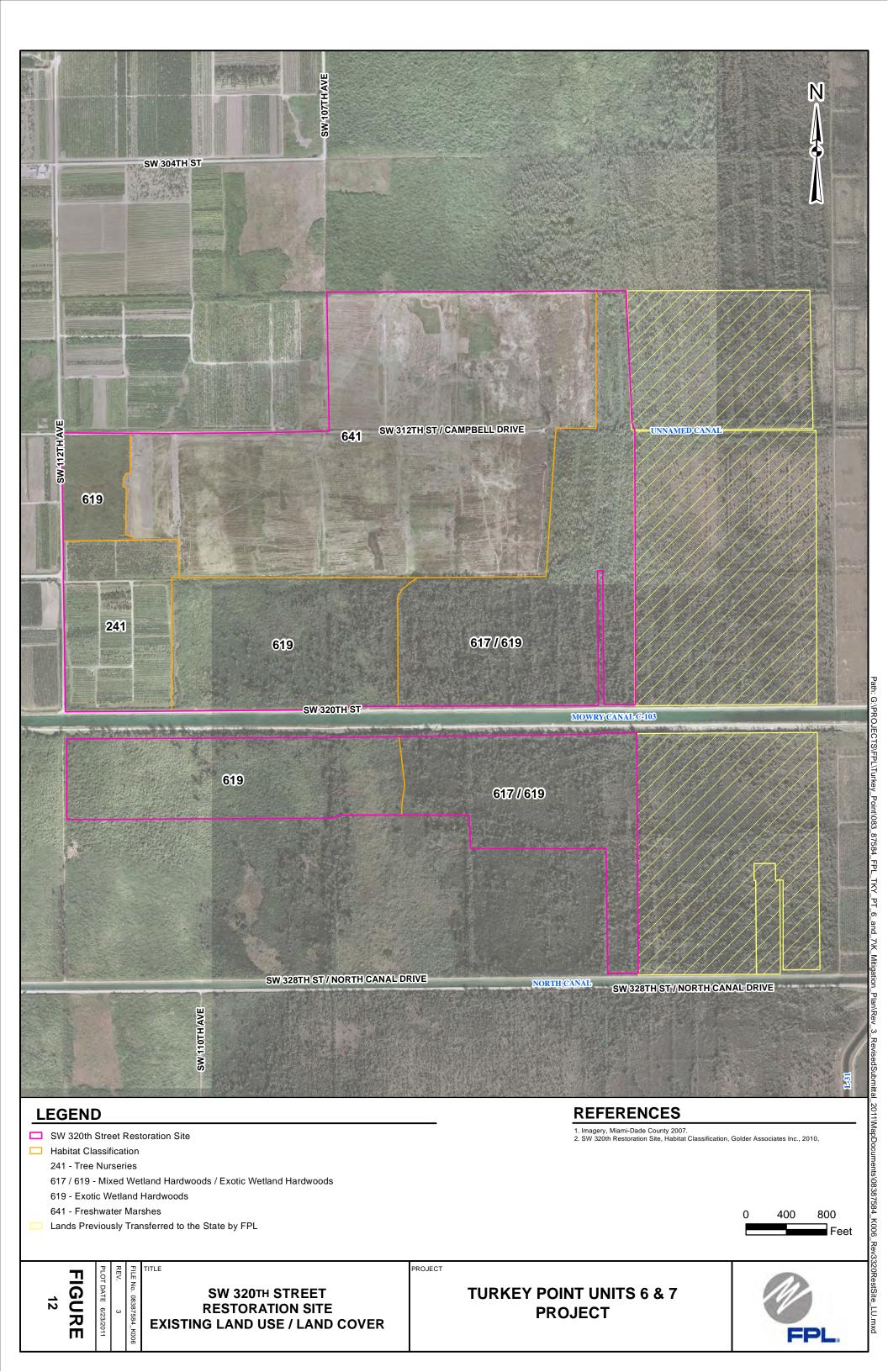
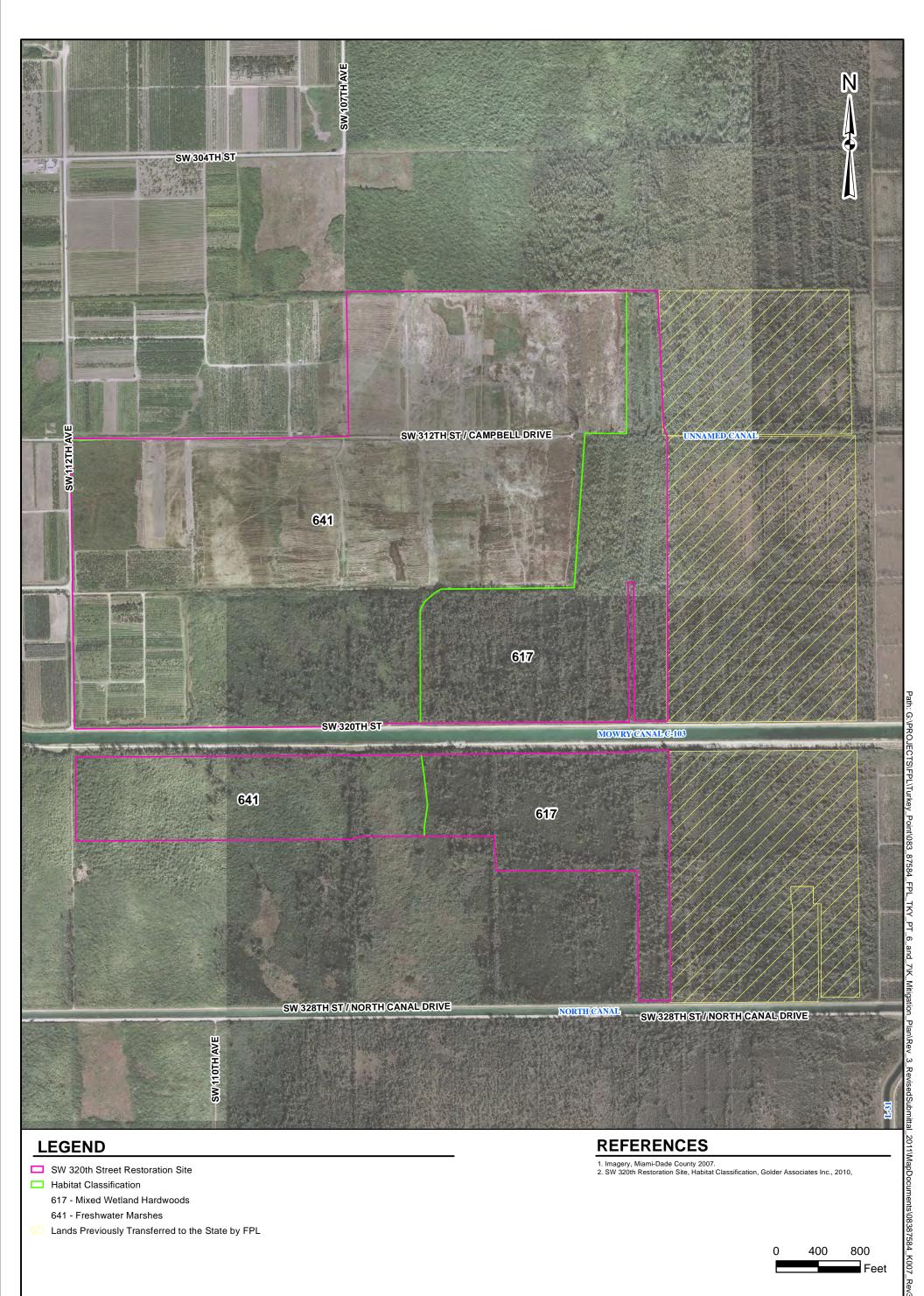


Figure 10. Northwest Restoration Site Conceptual Illustration (not to scale)









FIGURE

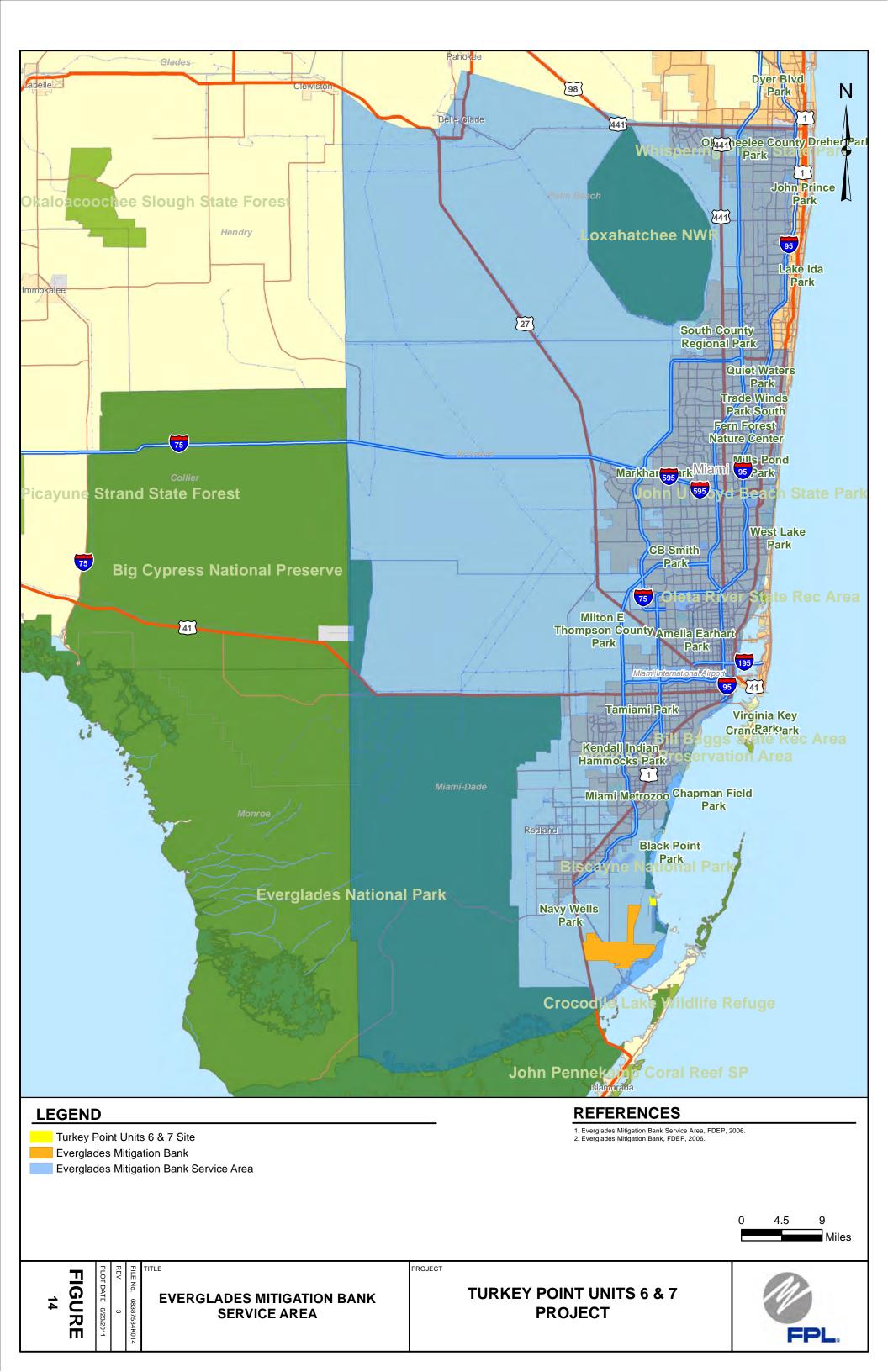
FILE No. 08387584_K007
REV. 3

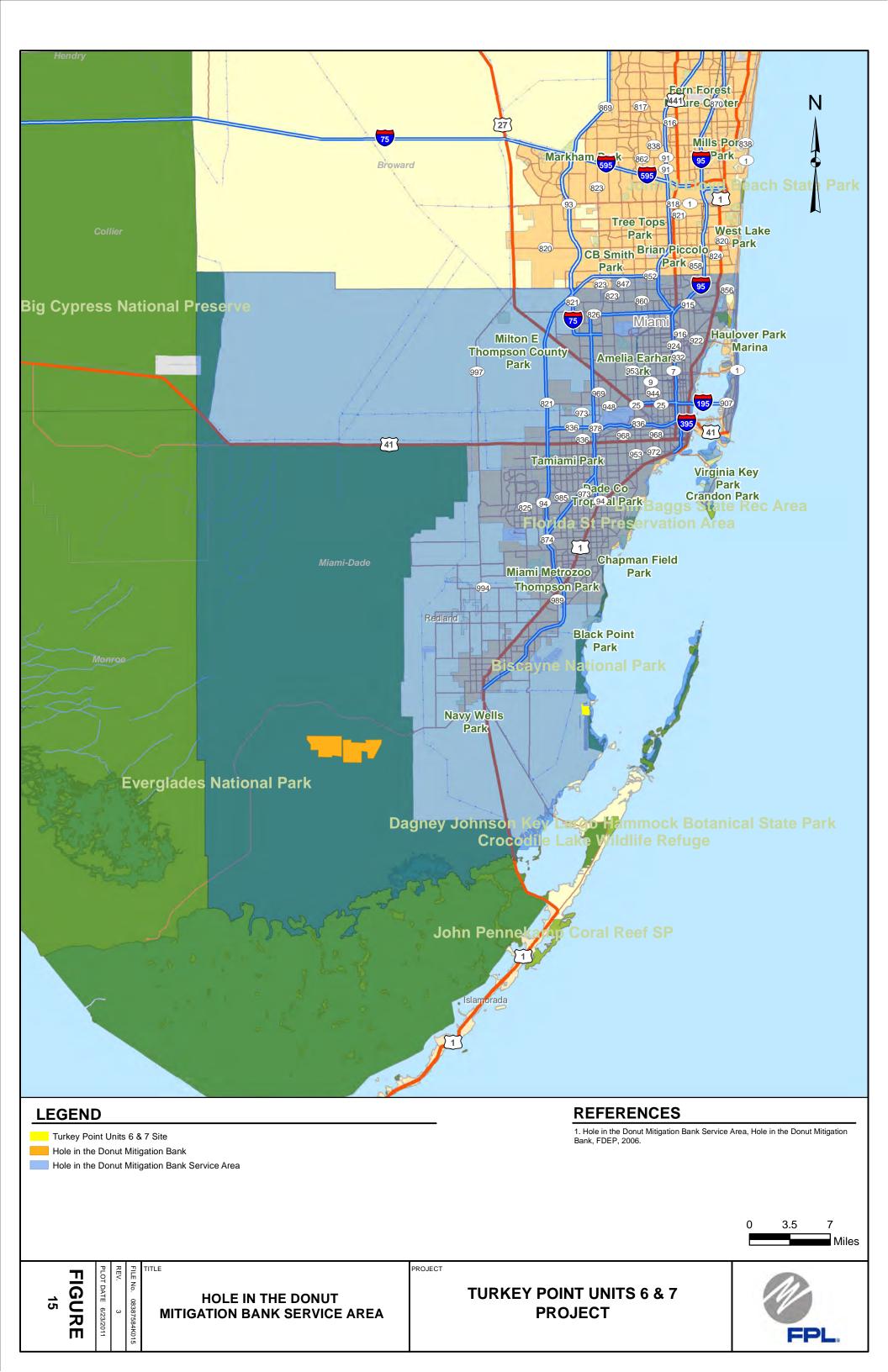
TITLE

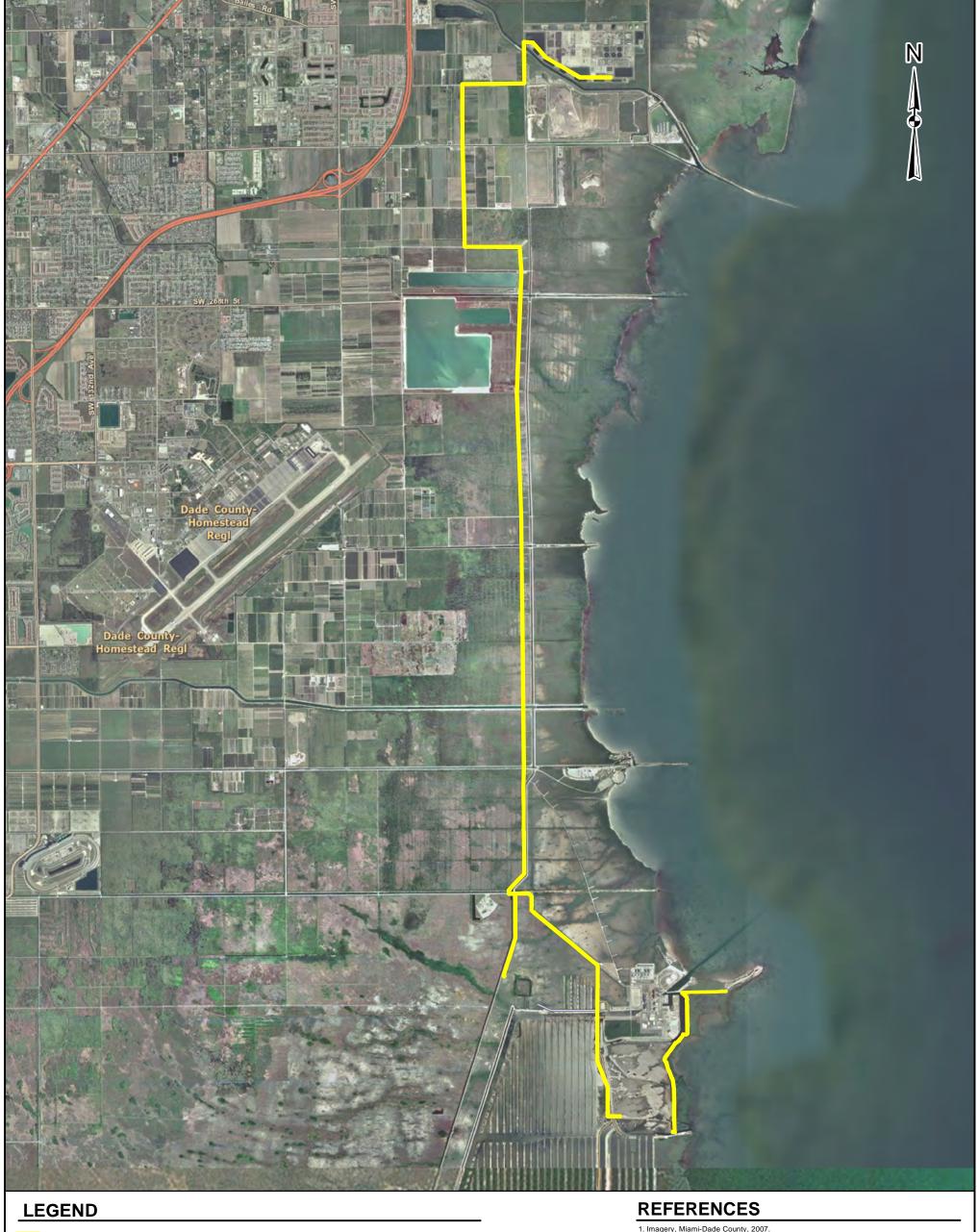
SW 320TH STREET RESTORATION SITE PROPOSED LAND USE / LAND COVER

PROJECT









Pipeline Restoration Areas

1. Imagery, Miami-Dade County, 2007.

2,000 4,000 Feet

FIGURE

PIPELINE RESTORATION

AERIAL MAP

PROJECT





Sea Dade Canal Crocodile Sanctuary 1. Imagery, Miami-Dade County, 2007.

0 1,000 2,000 Feet

FIGURE

REV. 3

TITLE

SEA DADE CANAL CROCODILE SANCTUARY AERIAL MAP PROJECT





Sea Dade Canal Crocodile Sanctuary

☐ Habitat Classification

534 - Reservoirs less than 10 acres

612-B - Dwarf Mangroves 617 - Mixed Wetland Hardwoods

6411 - Sawgrass

744 - Fill Areas

814 - Roads and Highways

831 - Electrical Power Facilities

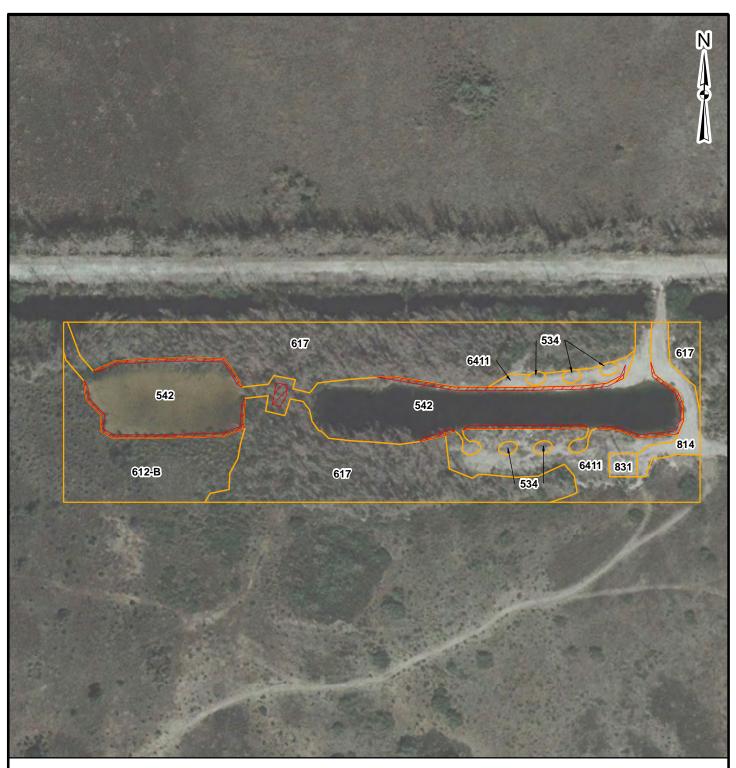
- Sea Dade Canal Crocodile Snctuary, FPL, 2010
 Land Use / Land Cover, Golder Associates Inc., 2011.
 Imagery, ESRI Online Imagery Accessed 2011.

125 Feet

REV. 3
PLOT DATE 6/23/2011

SEA DADE CANAL CROCODILE SANCTUARY EXISTING LAND USE / LAND COVER PROJECT





LEGEND

Nesting Substrate

Post Restoration Land Use

534 - Low Salinity Ponds

542 - Saline Lagoon

612-B - Dwarf Mangroves

617 - Mixed Wetland Hardwoods

6411 - Sawgrass

814 - Roads and Highways

831 - Electrical Power Facilities

REFERENCES

Aerial Imagery, FDOT, 2007.
 Sea Dade Canal Crocodile Sanctuary, Nesting Substrate, Golder Associates Inc., 2011.



ROJECT TURKEY POINT UNITS 6 & 7 **PROJECT**

TITLE

SEA DADE CANAL CROCODILE SANCTUARY CONCEPTUAL DESIGN



FILE No.	08387584_K028
REV. 0	
PLOT DAT	E 6/16/2011

FIGURE

19

APPENDIX A

UMAM FUNCTIONAL ASSESSMENT



PART I – Qualitative Description (See Section 62-345.400, F.A.C.)

Site/Project Name	Application Numbe	nber Assessment Area Name or Number			or Number		
FPL Turkey Point Units 6 & 7/Site					Remnant Canals		
FLUCCs code	Further classificat	tion (optional)		Impac	et or Mitigation Site?	Assessment Area Size	
511					Impact	8.4 acres	
Basin/Watershed Name/Number DA-4/03090202	Affected Waterbody (Clas	s)	Special Classification	on (i.e.0	OFW, AP, other local/state/federa	designation of importance)	
Geographic relationship to and hydr	ologic connection with	wetlands, other su	urface water, uplar	nds			
	Part of a clo	sed loop industria	al cooling water sy	stem.			
Assessment area description							
	Remnant intake/	discharge canals	within surrounding	g mud	flats.		
Significant nearby features			Uniqueness (collandscape.)	nsider	ing the relative rarity in	relation to the regional	
FPL Turkey Point power ge	neration facilities, Bisca	ayne Bay	Artificial system, not unique.				
Functions			Mitigation for prev	vious p	permit/other historic use	}	
Industrial cooling	water management						
Anticipated Wildlife Utilization Based that are representative of the assess be found)				T, SS	by Listed Species (List s C), type of use, and inte		
Wading birds, sho		Occasional use by wading birds such as roseate spoonbill (SSC), white ibis (SSC), wood stork (E), reddish egret (SSC), snowy egret (SSC) and tricolored heron (SSC) as well as white-crowned pigeon (T).					
Observed Evidence of Wildlife Utiliza	ation (List species direc	ctly observed, or o	ther signs such as	s track	s, droppings, casings, ı	nests, etc.):	
Reddish egret, snowy egret, tricolor	•	•	n, white ibis, killde , least tern, and pl	-		owl, sandpipers, lesser	
Additional relevant factors:							
Assessment conducted by:			Assessment date	e(s):			
K. Bullock, C. Cunningham			11/29/2007				

Form 62-345.900(1), F.A.C. [effective date]

PART II – Quantification of Assessment Area (impact or mitigation) (See Sections 62-345.500 and .600, F.A.C.)

Site/Proje	ect Name			Application Number		Assessment Area	a Name or Number		
FPL Turkey Point Units 6 & 7/Site					Remnant Canals				
Impact or	Mitigation			Assessment conducted by:		Assessment date:			
	ū	Impac	ot	•	K. Bullock, C. Cunningham 11/29/2007				
	ing Guidance coring of each		Optimal (10)	Moderate(7)	Mi	nimal (4)	Not Present (0)		
indicator i would be type of w	is based on who e suitable for the retland or surface er assessed	е	Condition is optimal and fully supports wetland/surface water functions	pports wetland/surface maintain most wetland/surface water provide wetl					
	D(6)(a) Location andscape Supp or		habitat associated with coolin wildlife listed in Part 1 by outs surrounding habitat at FPL far outside = 7, decreased slightl	ide habitats = 8 due to proxim cility; b) Invasive exotic specie y due to limitations imposed b tance or barriers = 4 because 8, slightly reduced due to surr rea = 2 due to closed system;	nydrology. In ity of Biscay s = 9, minim y the water In this is a close ounding hal	ndividual paramete one Bay despite ar nal coverage; c) W level control system sed system; e) Importat loss; f) Hydro	er scores: a) Support to tificial nature of ildlife access to and from m; d) functions that bene- pacts to wildlife listed in logically connected areas		
				is reduced due to the artificial					
. ,)(b)Water Environ (n/a for uplands or		N/A; f) vegetation community slightly greater mortality; h) us connection and resultant redu	icators = 4, not consistent with epostion = 4, atypical patterns zonation = 8, appropriate for o se by animal species with specietion in number of fish specie community not characterized 8, very slight discoloration, tu	expected; of indicative of community to cific hydrologis; i) vegetating by species rbidity, or sh	c) soil moisture = 7 f altered flows; e) ype; g) hydrologic gical requirements ive species toleran tolerant of water d neen; k) existing w	7, slightly drier than evidence of fire history = stress on vegetation = 7, = 7, due to lack of tidal at of and associated with degradation; j) direct ater quality data = 5, due		
1.	(c)Community s Vegetation and Benthic Commu	d/or	temperature, and hydrologic shrub, or ground stratum = 8, minimal coverage; c) regener slightly atypical; e) density an	ation and recruitment = 7, nea d quality of coarse woody deb generally good plant condition roperiod; h) topographic featur	r scores: a) b) invasive r normal rec ris, snag, de g) land ma es = 5, less	plant community s exotics or other in cruitment; d) age & en, and cavity = 5, nagement practice	species in the canopy, avasive plant species = 7, a size distribution = 7, due to excavated canal as = 5, due to alteration o		
0		/06 ///	16 mmanay 15 10	tion		Farinana-t			
	sum of above sco plands, divide by		If preservation as mitiga	· ·		For impact assess	oment areas		
current or w/o pre 0.63	es	with 0	Preservation adjustmen Adjusted mitigation delt		FL =	delta x acres = -0	.63 x 8.4 = 5.29		
<u> </u>	1		If mitigation		_				
De	elta = [with-curre	ent]	If mitigation Time lag (t-factor) =		F	or mitigation asse	ssment areas		
	-0.63	•	Risk factor =		RFG	= delta/(t-factor x	risk) =		
			J						

Form 62-345.900(2), F.A.C. [effective date]

PART I – Qualitative Description (See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number			Assessment Area Name or Number		
FPL Turkey Point Units	6 & 7/Site				Open Water a	nd Active Canals
FLUCCs code 531 and 510	Further classifica	tion (optional)		Impact	t or Mitigation Site?	Assessment Area Size 12 acres (FLUCCS 531); 4.1 acres (FLUCCS 510) = 16.1 acres
Basin/Watershed Name/Number DA-4/03090202	Affected Waterbody (Clas	ss)	Special Classification	on (i.e.C	DFW, AP, other local/state/fede	
Geographic relationship to and hydronic	rologic connection with	wetlands, other su	urface water, uplar	nds		
	Part of Turkey Poin	t facility's existing	industrial cooling	waters	system.	
Assessment area description						
	Open water area	associated with in	dustrial cooling wa	ater sy	stem.	
Significant nearby features			Uniqueness (collandscape.)	nsideri	ng the relative rarity in	relation to the regional
FPL Turkey Point power ge	ayne Bay	Artificial system, not unique.				
Functions			Mitigation for pre-	vious p	permit/other historic us	se
Industrial coolin	g water management					
Anticipated Wildlife Utilization Base that are representative of the asses be found)			Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)			
Wading birds, sh	orebirds, forage fishes		Occasional use by wading birds such as roseate spoonbill (SSC), white ibis (SSC), little blue heron (SSC), wood stork (E), reddish egret (SSC), snowy egret (SSC) and tricolored heron (SSC).			
Observed Evidence of Wildlife Utiliz	ation (List species direc	ctly observed, or o	ther signs such as	s track	s, droppings, casings,	nests, etc.):
	Snowy egret, tricolore	d heron, wood sto	ork, white ibis, killd	leer, gr	reat egret.	
Additional relevant factors:						
Assessment conducted by:			Assessment date	e(s):		
K. Bullock, C. Cunningham	11/29/2007					

Form 62-345.900(1), F.A.C. [effective date]

PART II – Quantification of Assessment Area (impact or mitigation) (See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name			Application Number		Assessment Area	a Name or Number	
FPL Turkey Point Units 6 & 7/Site			Application Number		Open Water and Active Canals		
Impact or Mitigation			Assessment conducted by:		Assessment date:		
,	Impad	ct	K. Bullock, C. Cunning	ıham		11/29/2007	
			=			. ,,,	
Scoring Guidance		Optimal (10)	Moderate(7)	Mi	nimal (4)	Not Present (0)	
The scoring of each indicator is based on w		Condition is optimal and fully	Condition is less than optimal, but sufficient to	Minimal le	vel of support of	Condition is insufficient to	
would be suitable for t	he	supports wetland/surface					
type of wetland or surfa water assessed	ace	water functions	wetland/surface waterfunctions	fu	unctions	water functions	
water assessed			waterfullelions				
.500(6)(a) Locatio Landscape Sup w/o pres or current		habitat associated with cool wildlife listed in Part 1 b surrounding habitat at FPL fa outside = 7, decreased slight fish & wildlife downstream-c Part 1 by outside land uses	port variable is reduced due to proximity of existing Turkey Point facility, disturbance of ding canal system, and isolated hydrology. Individual parameter scores: a) Support to by outside habitats = 8 due to proximity of Biscayne Bay despite artificial nature of acility; b) Invasive exotic species = 9, minimal coverage; c) Wildlife access to and from thy due to limitations imposed by the water level control system; d) functions that benefit distance or barriers = 4 because this is a closed system; e) Impacts to wildlife listed in = 8, slightly reduced due to surrounding habitat loss; f) Hydrologically connected areas t area = 2 due to closed system; g) Dependency of downstream areas on assessment				
6	0	1	area = 4, little benefit t	to downstrea	am areas		
.500(6)(b)Water Env	ironment	cooling water.	is reduced due to the artificial a) water levels and flows = 3,	-			
(n/a for upland w/o pres or current	ds) with	the system; b) water level ind expected; d) soil erosion or di N/A; f) vegetation community high mortality; h) use by anim and resultant reduction in nur degradation = 7, community overy slight discoloration, turbi	icators = 3, not consistent with epostion = 3, atypical patterns zonation = 6, due to very spar al species with specific hydrol other of fish species; i) vegetat iconsists of species tolerant of I dity, or sheen; k) existing water	n expected; of indicative of secover; g) ogical requirative species high salinitier quality date	c) soil moisture = 7 f altered flows; e) hydrologic stress rements = 6, due t tolerant of and ass s; j) direct observa a = 3, due to high	7, slightly drier than evidence of fire history = on vegetation = 3, due to o lack of tidal connection sociated with water quality ation of water quality = 8, temperature and salinity;	
5	0	i) water depth wave, wave en	ergy, currents and light penetr	ation = 5, di	ue to drastic chang	ges in water levels.	
.500(6)(c)Community 1. Vegetation a 2. Benthic Comm	nd/or	temperature, and hydrolog shrub, or ground stratum = 4 minimal coverage; c) regener 4, due to high mortality and li	variable is reduced due to low ic isolation. Individual parame, expected composition absenation and recruitment = 4, minack of seedling success; e) demal due to poor community he	eter scores: t; b) invasiv nimal eviden ensity and qu	 a) plant communit e exotics or other ce of recruitment; ality of coarse wo 	ty species in the canopy, invasive plant species = 7, d) age & size distribution = ody debris, snag, den, and	
			management practices = 4, c				
w/o pres or	حلفانين	topographic features = 3, les	s than optimal; i) siltation or al		n submerged aqua	atic plant communities = 5,	
current	with	1	minor alga	ai giowlfi			
4	0						
Score = sum of above so	,	If preservation as mitiga	ation,		For impact assess	sment areas	
uplands, divide by 20)		Preservation adjustmen	t factor =				
current or w/o pres	with	Adjusted mitigation delt	a =	FL =	delta x acres = -0.	50 x 16.1 = 8.05	
0.50	0	, lajastos minganon don		<u> </u>			
		If mitigation					
Dolto fullah	rrantl	If mitigation		F	or mitigation asse	ssment areas	
Delta = [with-cu	rientj	Time lag (t-factor) =		DE0	dolto//t f+-	sield.	
-0.50		Risk factor =		RFG	= delta/(t-factor x	iisk) =	

Form 62-345.900(2), F.A.C. [effective date]

PART I – Qualitative Description (See Section 62-345.400, F.A.C.)

Site/Project Name	Application Numbe	r	A	Assessment Area Name or Number			
FPL Turkey Point Units	6 & 7/Site			Mangrove Heads			
FLUCCs code	Further classifica	tion (optional)		Impact	or Mitigation Site?	Assessment Area Size	
612-A					Impact	12.2 acres	
Basin/Watershed Name/Number DA-4/03090202	Affected Waterbody (Clas	ss)	Special Classificati	ion (i.e.OF	W, AP, other local/state/federa	l designation of importance)	
Geographic relationship to and hydronic	rologic connection with	wetlands, other s	surface water, upla	ands			
	Part of Turkey Poin	t facility's existing	industrial cooling	water s	system.		
Assessment area description							
Remnant manç	grove heads associated	d with remnant tida	al creeks within ar	n indust	rial cooling water syst	em.	
Significant nearby features			Uniqueness (co landscape.)	nsiderir	ng the relative rarity in	relation to the regional	
FPL Turkey Point power ge	neration facilities, Bisc	ayne Bay		Arti	ficial system, not uniq	ue.	
Functions			Mitigation for pre	vious p	ermit/other historic us	e	
Industrial cooling	g water management						
Anticipated Wildlife Utilization Base that are representative of the asses be found)				T, SSC	Listed Species (List:), type of use, and into		
Wading birds, sho	orebirds, forage fishes		Occasional use by wading birds such as roseate spoonbill (SSC), white ibis (SSC), little blue heron (SSC), wood stork (E), reddish egre (SSC), snowy egret (SSC) and tricolored heron (SSC) as well as white-crowned pigeon (T).				
Observed Evidence of Wildlife Utiliz	ation (List species dire	ectly observed, or	other signs such a	as track	s, droppings, casings,	nests, etc.):	
Reddish egret, snowy egret, tricolo			an, white ibis, killd s, least tern, and p		eat egret, great horned	d owl, sandpipers, lessel	
Additional relevant factors:							
Assessment conducted by:			Assessment date	e(s):			
K. Bullock, C. Cunningham	11/29/2007						

PART II - Quantification of Assessment Area (impact or mitigation) (See Sections 62-345.500 and .600, F.A.C.)

Site/Project	et Name			Application Number		Assessment Area	Name or Number		
Site/Project Name FPL Turkey Point Units 6 & 7/Site			Application Number		Assessment Area Name or Number Mangrove Heads				
Impact or I		,		Assessment conducted by:	Assessment date:				
Impact				K. Bullock, C. Cunning	-				
			·		N. Bullock, G. Gulffilligham				
	ng Guidance		Optimal (10)	Moderate(7)	Mi	nimal (4)	Not Present	(0)	
indicator is would be type of we	oring of each s based on wh suitable for the etland or surfa r assessed	ne	Condition is optimal and fully supports wetland/surface water functions	ports wetland/surface maintain most wetland/surface water provide wetl					
	(6)(a) Locatior ndscape Supp		habitat associated with coo wildlife listed in Part 1 by outs habitat at FPL facility; b) Inv decreased slightly due to limi downstream-distance or barri land uses = 8, slightly redu	port variable is reduced due to ling canal system, and isolate- side habitats = 8, due to proxir asive exotic species = 9, mini tations imposed by the water ers = 4, because this is a clos ced due to surrounding habits to closed system; g) Depende benefit to dowr	d hydrology. mity of Bisca; mal coverag level control ed system; e at loss; f) Hydrology	Individual parame yne Bay despite a e; c) Wildlife acces system; d) functio e) Impacts to wildlid drologically connects stream areas on a	eter scores: a) Sup rtificial nature of sui ss to and from outs ons that benefit fish ife listed in Part 1 b cted areas downstre	oport to rrounding ide = 7, & wildlife y outside eam of	
cooling water. .500(6)(b)Water Environment (n/a for uplands) Individual parameter scores: the system; b) water level ind expected; d) soil erosion or d vegetation community zonatic hydrologic regime; h) use by connection and resultant redu water quality degradation = 7 quality = 8, very slight discolor				a) water levels and flows = 4, drastic alterations in water level due to artificial nature of dicators = 4, not consistent with expected; c) soil moisture = 8, slightly drier than deposition = 5, atypical patterns due to altered flows; e) evidence of fire history = N/A; f) on = 7, due to sparse cover; g) hydrologic stress on vegetation = 4, due to altered animal species with specific hydrological requirements = 7, due to lack of tidal uction in number of fish species; i) vegetative species tolerant of and associated with 7, community consists of species tolerant of high salinities; j) direct observation of water pration, turbidity, or sheen; k) existing water quality data = 5, due to high temperature and 1, wave energy, currents and light penetration = 5, due to drastic changes in water levels.					
temperature, and hydrolog shrub, or ground stratum = 5 very minimal coverage; c) reg lack of seedling success; 6 system type; f) plant condition alteration of community structure.				variable is reduced due to low jic isolation. Individual param 0, dominated by native species generation and recruitment = 6 e) density and quality of coars a = 7, due to dead stems and lotture; h) topographic features ubmerged aquatic plant comm	neter scores: s; b) invasiv s, less than e e woody deb ow productiv = 7, slightly l	a) plant communi e exotics or other expected; d) age & ris, snag, den, and vity; g) land managess than optimal;	ty species in the ca invasive plant spec size distribution = d cavity = 7, adequa gement practices = i) siltation or algal g	inopy, ies = 9, 6, due to ate for 5, due to	
	um of above sco		If preservation as mitiga	ation,		For impact assess	sment areas		
current or w/o pres			Preservation adjustmen Adjusted mitigation delt		FL =	delta x acres = -0.	63 x 12.2 = 7.69		
0.63		0					•		
			If mitigation			or mitigation acco	sement aross		
Del	ta = [with-curr	rent]	Time lag (t-factor) =		<u> </u>	or mitigation asse	שטווכווו מולמט		
-0.63 Risk factor =					RFG	= delta/(t-factor x	risk) =		

Form 62-345.900(2), F.A.C. [effective date]

Site/Project Name		Application Numbe	r		Assessment Area Name or Number		
FPL Turkey Point Units 6	& 7/Site				Dwarf M	angroves	
FLUCCs code	Further classificat	tion (optional)		Impact	t or Mitigation Site?	Assessment Area Size	
612-B					Impact	16.9 acres	
Basin/Watershed Name/Number Air DA-4/03090202	ffected Waterbody (Clas	s)	Special Classification	on (i.e.C	DFW, AP, other local/state/federa	I designation of importance)	
Geographic relationship to and hydro	logic connection with	wetlands, other su	urface water, uplar	nds			
	Part of Turkey Point	facility's existing	industrial cooling	waters	system.		
Assessment area description							
	Hypersaline dwarf r	mangroves within	industrial cooling	waters	system.		
Significant nearby features		Uniqueness (considering the relative rarity in relation to the regional landscape.)					
FPL Turkey Point power generation facilities, Biscayne Bay Artificial system, not					iificial system, not uniqu	Je.	
Functions			Mitigation for previous permit/other historic use				
Industrial cooling	water management						
Anticipated Wildlife Utilization Based that are representative of the assess be found)			Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)				
Wading birds, shor	ebirds, forage fishes		white ibis (SSC),	little b	ading birds such as ros lue heron (SSC), wood gret (SSC) and tricolor	stork (E), reddish egret	
Observed Evidence of Wildlife Utilizar	tion (List species direc	ctly observed, or o	I other signs such as	s track	s, droppings, casings, r	nests, etc.):	
Reddish egret, snowy	egret, tricolored heror	n, roseate spoonb	ill, white pelican, v	vhite ib	ois, great egret, and wo	od stork.	
Additional relevant factors:							
Assessment conducted by:			Assessment date	(s):			
K. Bullock, C. Cunningham			11/29/2007				

Site/Project Name			Application Number		Assessment Area	a Name or Number	
-	rkey Point L	Jnits 6 & 7/Site	11			arf Mangroves	
Impact or Mitigation	•		Assessment conducted by:		Assessment date		
,	Impad	ct	K. Bullock, C. Cunning	ham		11/29/2007	
			. ,	•	<u> </u>		
Scoring Guidance		Optimal (10)	Moderate(7)	Mi	nimal (4)	Not Present (0)	
The scoring of each indicator is based on w would be suitable for t type of wetland or surfawater assessed	/hat the	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	wetland	evel of support of /surface water unctions	Condition is insufficient to provide wetland/surface water functions	
.500(6)(a) Location Landscape Sup w/o pres or current 6		habitat associated with cool wildlife listed in Part 1 b surrounding habitat at FPL fa outside = 7, decreased slight fish & wildlife downstream-c Part 1 by outside land uses:	coort variable is reduced due to ing canal system, and isolated by outside habitats = 8 due to pacility; b) Invasive exotic speci by due to limitations imposed by distance or barriers = 4 because = 8, slightly reduced due to su area = 2 due to closed syster area = 4, little benefit to	I hydrology. proximity of les = 9, mining by the water se this is a corrounding ha n; g) Dependent	Individual parame Biscayne Bay des mal coverage; c) V level control syste losed system; e) In abitat loss; f) Hydro dency of downstre	eter scores: a) Support to pite artificial nature of Vildlife access to and from m; d) functions that benefit mpacts to wildlife listed in ologically connected areas	
		The water environment score cooling water.	is reduced due to the artificial	hydrology o	of the assessment	site and use for industrial	
Individual parameter scores: a) water levels and flows = 4, drastic alterations in water level due to artificial nate the system; b) water level indicators = 4, not consistent with expected; c) soil moisture = 7, slightly drier than expected; d) soil erosion or depostion = 4, atypical patterns indicative of altered flows; e) evidence of fire histor N/A; f) vegetation community zonation = 6, due to very sparse cover; g) hydrologic stress on vegetation = 3, due to lack of tidal connect and resultant reduction in number of fish species; i) vegetative species tolerant of and associated with water quality very slight discoloration, turbidity, or sheen; k) existing water quality data = 3, due to high temperature and sality very slight discoloration, turbidity, or sheen; k) existing water quality data = 3, due to high temperature and sality very slight discoloration, turbidity, or sheen; k) existing water quality data = 3, due to drastic changes in water levels.					7, slightly drier than evidence of fire history = on vegetation = 3, due to o lack of tidal connection sociated with water quality ation of water quality = 8, temperature and salinity;		
.500(6)(c)Community 1. Vegetation at 2. Benthic Community w/o pres or current 5	nd/or	temperature, and hydrolog shrub, or ground stratum = 8 minimal coverage; c) regener 4, due to high mortality and la cavity = 4, greater than recruitment; g) land manage	variable is reduced due to low ic isolation. Individual param, dominated by native species ation and recruitment = 4, mir ack of seedling success; e) de normal due to poor communitment practices = 5, due to alte tion or algal growth in submer	eter scores: ; b) invasive nimal evidence ensity and qu y health; f) peration of cor	a) plant communit e exotics or other in ce of recruitment; uality of coarse wo plant condition = 4, mmunity structure;	ty species in the canopy, invasive plant species = 8, d) age & size distribution = ody debris, snag, den, and dead stems and low h) topographic features =	
Score = sum of above so uplands, divide b		If preservation as mitiga	ation,		For impact assess	sment areas	
current or w/o pres 0.53	with 0	Preservation adjustmer Adjusted mitigation delt	FL = delta x acres = -0.53 x 16.9 = 8				
0.00	<u> </u>						
<u> </u>		If mitigation		For mitigation assessment areas			
Delta = [with-cu	rrent]	Time lag (t-factor) =			1.10.110.5		
-0.53		Risk factor =		RFG	= delta/(t-factor x	risk) =	

Site/Project Name		Application Numbe	r		Assessment Area Name	or Number
FPL Turkey Point Units	6 & 7/Site				Mud	Flats
FLUCCs code	Further classificat	tion (optional)		Impac	t or Mitigation Site?	Assessment Area Size
650					Impact	187.5 acres
Basin/Watershed Name/Number DA-4/03090202	Affected Waterbody (Clas	s)	Special Classification	on (i.e.0	DFW, AP, other local/state/federa	designation of importance)
Geographic relationship to and hydro	ologic connection with	wetlands, other su	urface water, uplar	nds		
	Part of Turkey Point	facility's existing	industrial cooling	water	system.	
Assessment area description						
	Hypersaline mud	flats within an inc	dustrial cooling wa	ter sys	stem.	
Significant nearby features		Uniqueness (considering the relative rarity in relation to the regional landscape.)				
FPL Turkey Point power ge	ayne Bay	Artificial system, not unique.				
Functions			Mitigation for pre-	vious p	permit/other historic use	;
Industrial cooling	water management					
Anticipated Wildlife Utilization Based that are representative of the assess be found)			Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)			
Wading bir	ds, shorebirds		spoonbill (SSC), (E), reddish eg	little b	foraging by wading bir blue heron (SSC), white SC), snowy egret (SSC) well as white-crowned p	ibis (SSC), wood stork and tricolored heron
Observed Evidence of Wildlife Utiliza	ation (List species direc	ctly observed, or o	other signs such as	s track	s, droppings, casings, r	nests, etc.):
Reddish egret, snowy egret, tricolor			n, white ibis, killde , least tern, and pl			owl, sandpipers, lesser
Additional relevant factors:						
Assessment conducted by:			Assessment date	e(s):		
K. Bullock, C. Cunningham			11/29/2007			

Site/Proje	ect Name			Application Number		Assessment Area	a Name or Number					
		key Point U	Inits 6 & 7/Site				Mud Flats					
Impact or	Mitigation			Assessment conducted by:		Assessment date	:					
	· ·	Impac	et	K. Bullock, C. Cunning	jham		11/29/2007					
						ļ						
	ing Guidance coring of each		Optimal (10)	Moderate(7) Condition is less than	Mi	nimal (4)	Not Present (0)					
indicator i would be type of w	is based on whe suitable for the retland or surfacer assessed	ne	Condition is optimal and fully supports wetland/surface water functions	optimal, but sufficient to maintain most wetland/surface waterfunctions	wetland	evel of support of l/surface water unctions	Condition is insufficient to provide wetland/surface water functions					
.500(6)(a) Location and Landscape Support habitat associated with wildlife listed in Pa surrounding habitat at F outside = 7, decreased fish & wildlife downstre Part 1 by outside land to				port variable is reduced due to ing canal system, and isolated by outside habitats = 8 due to p acility; b) Invasive exotic speci by due to limitations imposed b distance or barriers = 4 becaus = 8, slightly reduced due to su area = 2 due to closed system area = 4, little benefit t	d hydrology. proximity of es = 9, minimy by the water se this is a c rrounding ha m; g) Dependent	Individual parame Biscayne Bay des mal coverage; c) V level control syste closed system; e) li abitat loss; f) Hydro dency of downstre	eter scores: a) Support to pite artificial nature of Vildlife access to and from m; d) functions that benefit mpacts to wildlife listed in ologically connected areas					
	l		The water environment score cooling water.	e water environment score is reduced due to the artificial hydrology of the assessment site and use for industrial ling water.								
(n/a for uplands) indicators = 4, not consistent deposition = 4, atypical patte zonation = 4, zonation inapp high mortality; h) use by anir and resultant reduction in nu			a) water levels and flows = 2, with expected; c) soil moisturens indicative of altered flows; experiate due to unnatural hydro al species with specific hydrol nber of fish species; i) vegetat nunity consists of species tole	e = 7, slightly e) evidence period; g) hy logical requir rive species erant of high	y drier than expect of fire history = N// ydrologic stress or rements = 7, due t tolerant of and ass salinities; j) direct	ed; d) soil erosion or A; f) vegetation community a vegetation = 3, due to o lack of tidal connection sociated with water quality observation of water						
current	7	with	quality = N/A; k) existing wate energy, currents and light per	er quality data = 5, due to alter netration = N/A	ed temperat	ture and salinity; I) water depth wave, wave					
5		0	onorgy, currente and light per									
1.	(c)Community Vegetation and Benthic Commit	d/or	temperature, and highly a canopy, shrub, or ground stra lack of coverage and high n regeneration and recruitm mortality and lack of seedling	variable is reduced due to low ltered hydroperiod. Individual tum = 5, majority of plant cove nortality; b) invasive exotics o leent = 4, minimal evidence of r success; e) density and qualit, dead stems and low recruitm,	I parameter er is inappro r other invas recruitment; ity of coarse	scores: a) plant co priate for hydrolog sive plant species: d) age & size distr woody debris, sna	mmunity species in the ic conditions, evidenced by = 7, minimal coverage; c) ibution = 4, due to high ag, den, and cavity = 3, not					
w/o pres o	or			ydroperiod; h) topographic fea	atures = 4, le	ess than optimal; i						
current	7	with		submerged aqua	tic plants =	N/A						
4		0										
	sum of above so		If preservation as mitiga	ation,		For impact assess	sment areas					
current or w/o pre 0.50		with 0	Preservation adjustmer Adjusted mitigation delt		FL = 93.75		50 x 187.5 =					
0.00		L										
De	elta = [with-curr	ent]	If mitigation Time lag (t-factor) =		For mitigation assessment areas							
	-0.50		Risk factor =		RFG	= delta/(t-factor x	risk) =					
			a 1									

Site/Project Name		Application Numbe	r		Assessment Area Name or Number		
FPL Turkey Point Units 6 & 7/Site					Wetland	Spoil Piles	
FLUCCs code Further cla	assifica	tion (optional)		Impac	et or Mitigation Site?	Assessment Area Size	
743-Wet Mangr	rove, Aı	ustralian Pine, Bra	azilian Pepper		Impact	9.1 acres	
Basin/Watershed Name/Number Affected Waterbook DA-4/03090202	dy (Clas	s)	Special Classificati	on (i.e.	OFW, AP, other local/state/federa	al designation of importance)	
Geographic relationship to and hydrologic connection	on with	wetlands, other su	urface water, upla	nds			
Part of Turke	ey Point	t facility's existing	industrial cooling	water	system.		
Assessment area description							
Historic sp	ooil pile	s adjacent to remi	nant intake/discha	irge ca	anals.		
Significant nearby features		Uniqueness (considering the relative rarity in relation to the regional landscape.)					
FPL Turkey Point power generation facilities	s, Bisca	ayne Bay	y Artificial system, not unique.				
Functions			Mitigation for pre	vious _l	permit/other historic use	Э	
Industrial cooling water manage	ment						
Anticipated Wildlife Utilization Based on Literature R that are representative of the assessment area and be found)							
Wading birds, raccoon			spoonbill (SSC), whit	esting/cover by wading te ibis (SSC), wood sto SSC), snowy egret (SS (SSC).		
Observed Evidence of Wildlife Utilization (List specie	es dired	ctly observed, or c	ther signs such a	s track	ks, droppings, casings,	nests, etc.):	
Snowy e	egret, tri	icolored heron, gr	eat egret, great ho	orned (owl.		
Additional relevant factors:							
Assessment conducted by:			Assessment date	e(s):			
K. Bullock, C. Cunningham			11/29/2007				

Site/Project Name	e		Application Number		Assessment Area	a Name or Number	
		Units 6 & 7/Site	11		Wetland Spoil Piles		
Impact or Mitigati			Assessment conducted by:			Assessment date:	
,	Impa	act	K. Bullock, C. Cunning	ham		11/29/2007	
			,				
Scoring Guid		Optimal (10)	Moderate(7)	Mi	nimal (4)	Not Present (0)	
The scoring of indicator is based would be suitabl type of wetland o water asses	d on what e for the or surface	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	wetland	vel of support of /surface water unctions	Condition is insufficient to provide wetland/surface water functions	
. , . ,	ocation and e Support	habitat associated with cool wildlife listed in Part 1 ts surrounding habitat at FPL foutside = 7, decreased slight fish & wildlife downstream-orant 1 by outside land uses	port variable is reduced due to ing canal system, and isolated by outside habitats = 8 due to pacility; b) Invasive exotic speci by due to limitations imposed bustance or barriers = 4 becaus = 8, slightly reduced due to su area = 2 due to closed system area = 4, little benefit to	I hydrology. proximity of I es = 9, minir by the water se this is a cl rrounding ha m; g) Depend	Individual parame Biscayne Bay desi mal coverage; c) V level control syste losed system; e) In abitat loss; f) Hydro dency of downstre	eter scores: a) Support to pite artificial nature of Vildlife access to and from m; d) functions that benef mpacts to wildlife listed in plogically connected areas	
. , . ,	er Environment uplands)	cooling water. Individual parameter scores:		extreme dev	viation from natura	al flows; b) water level	
w/o pres or current 4	indicators = 4, not consistent with expected; c) soil moisture = 5, drier than expected; d) soil erosion or deposition 4, atypical patterns indicative of altered flows; e) evidence of fire history = N/A; f) vegetation community zonation 4, zonation inappropriate due to unnatural hydroperiod; g) hydrologic stress on vegetation = 5, due to artificial and highly variable hydroperiod; h) use by animal species with specific hydrological requirements = 5, due to lack of tild connection, exotic vegetation, poor habitat quality; i) vegetative species tolerant of and associated with water quadegradation = 5, sparse community consists of species tolerant of high salinities; j) direct observation of water quality = N/A; k) existing water quality data = 5, due to altered temperature and salinity; I) water depth wave, wave energy, currents and light penetration = N/A.						
1. Vegeta	The community structure variable is reduced due to low species diversity resulting from high salinity, elevation and/or 2. Benthic Community The community structure variable is reduced due to low species diversity resulting from high salinity, elevation and/or lack of coverage and highly altered hydroperiod. Individual parameter scores: a) plant community species in canopy, shrub, or ground stratum = 5, majority of plant cover is inappropriate for hydrologic conditions, evider lack of coverage and high mortality; b) invasive exotics or other invasive plant species = 5, moderate cover australian pine and Brazilian pepper; c) regeneration and recruitment = 4, minimal evidence of recruitment; d size distribution = 5, due to lack of seedling success; e) density and quality of coarse woody debris, snag, de cavity = 5, less than expected; f) plant condition = 5, some dead stems and low recruitment; g) land manage practices = 5, due to alteration of community structure and hydroperiod; h) topographic features = 4, spoil topography is less than optimal; i) siltation or algal growth in submerged aquatic plants = N/A					mmunity species in the ic conditions, evidenced be 5, moderate coverage - cee of recruitment; d) age ody debris, snag, den, and lent; g) land management of features = 4, spoil pile	
		_					
Score = sum of ab	oove scores/30 (i	If preservation as mitigate	ation,		For impact assess	sment areas	
current or w/o pres	with_	Preservation adjustmer Adjusted mitigation delt	FL = delta x acres = -0.50 x 9.1 = 4				
0.00	Ŭ						
Dolto - 5	ith-current]	If mitigation		For mitigation assessment areas			
		Time lag (t-factor) =		REG	= delta/(t-factor x	risk) –	
-0.	.50	Risk factor =		KFG	- ucita/(t-lautur X	iionj =	

Site/Project Name		Application Numbe	r		Assessment Area Name of	or Number			
FPL Turkey Point Units 6 &						_			
Facilities/Nuclear Administration					Mangrove	Swamps			
Building and Parkin									
FLUCCs code	Further classifica	ition (optional)		Impac	t or Mitigation Site?	Assessment Area Size			
612					Impact	18.5 acres			
012					Impact	10.5 acres			
Decin (Mateurshaad Norman/Norman	Affected Metallands (Class)	Canadal Classificati	" 0					
	Affected Waterbody (Clas	SS)	Special Classification	ON (i.e.C	DFW, AP, other local/state/federal	designation of importance)			
DA-4/03090202					None				
Geographic relationship to and hyd	rologic connection with	wetlands, other s	surface water, uplands						
Surrounded by paved parking lots a to adjacent canals and Biscayne Ba		e north, west, and	east, and the Unit	s 6 & '	7 Site to the south. Hyd	drologically connected			
Assessment area description									
Mangrove swamp area located nort	th of the Units 6 & 7 Sit	e and southwest o	of the existing plan	ıt facili	ity, surrounded by parki	ng lots and roadways.			
Receives runoff from the surrounding	ng parking lots, and cor	ntains areas of ope	en water, which lik	ely flo	ows in through culverts t	rom adjacent canals			
and Biscayne Bay. Dominant spec				ick ma	angrove, buttonwood, Br	azilian pepper, sea			
grape, Australian pine, poisonwood	, leather fern, cankerbe	erry, rubber vine, a	nd cocopium.						
Significant nearby features				nsider	ing the relative rarity in	relation to the regional			
,			landscape.)						
EDI Turkov Doin	FPL Turkey Point Plant, Biscayne Bay			Not unique					
FPL Turkey Point Plant, Biscayne Bay					Not unique				
Functions			Mitigation for prev	vious p	permit/other historic use)			
Wate	er storage				N/A				
	or otorago				14/71				
Anticipated Wildlife Utilization Base	ed on Literature Review	(List of species	Anticipated Utiliza	ation b	ov Listed Species (List s	pecies, their legal			
			Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the						
be found)			assessment area)						
					ing birds such as rosea				
Wading birds, sh	orebirds, forage fishes				lue heron (SSC), wood SC) and tricolored heror	stork (E), reddish egret			
			(SSC), SHOWY egi	ei (Sc	oc) and incolored heroi	1 (330)			
Observed Evidence of Wildlife Utiliz	zation (List species dire	ectly observed or o	ther signs such a	s trac	ks droppings casings	nests etc.):			
esserved Evidence of vinding exim	zation (List species and	only obcorved, or	outer eigne eden e	io trao	ito, aroppingo, cacingo,	110010, 0101).			
		None							
Additional relevant factors:									
Assessment conducted by:			Assessment date	(s):					
K. Bullock, S. Rizzo			6/4/2008	. ,					
·			1, _ 5 5 5						

Site/Project Name		Application Number	Ass	sessment Area	Name or Number	
FPL Turkey Point Units 6 & 7/A Administration Building, Trainin				Mangrove Swamps		
Impact or Mitigation		Assessment conducted by:	Ass	sessment date:	:	
Impa	ct	K. Bullock, S. Rizze	0		6/4/2008	
Scoring Guidance	Optimal (10)	Moderate(7)	Minima	al (A)	Not Present	· (n)
The scoring of each		Condition is less than				
indicator is based on what would be suitable for the	Condition is optimal and fully supports wetland/surface	optimal, but sufficient to maintain most	Minimal level of wetland/surf		Condition is insuf provide wetland	
type of wetland or surface	water functions	wetland/surface	functi		water function	
water assessed		waterfunctions				
Location and landscape support variable is reduced due to proximity of existing Turkey Point facility, and disturbance of habitat associated with initial facility construction. Individual parameter scores: a) Support to will disturb ance of habitat associated with initial facility construction. Individual parameter scores: a) Support to will listed in Part 1 by outside habitats = 7, due to proximity of Biscayne Bay despite artificial nature of surrounding habitat at FPL facility; b) Invasive exotic species = 6, moderate coverage; c) Wildlife access to and from outside decreased due to limitations imposed by surrounding roadways and lack of open water connection; d) functions benefit fish & wildlife downstream-distance or barriers = 4, area locationally isolated from other habitats; e) Impart to wildlife listed in Part 1 by outside land uses = 4, slightly reduced due to surrounding habitat loss; f) Hydrologic connected areas downstream of assessment area = 4, apparently connected through culverts, no natural connection; g) Dependency of downstream areas on assessment area = 4, little benefit to downstream areas.						ng side = 6, ons that mpacts logically
The water environment score is reduced due to the artificial hydrology of the surrounding area. Individual para scores: a) water levels and flows = 4, drastic alterations in water level due to artificial nature of the surrounding areas; b) water level indicators = 4, not consistent with expected; c) soil moisture = 8, slightly drier than expect soil erosion or deposition = 5, atypical patterns due to altered flows; e) evidence of fire history = N/A; f) vegetat community zonation = 7, slightly altered; g) hydrologic stress on vegetation = 4, due to altered hydrologic regin use by animal species with specific hydrological requirements = 7, due to lack of open water connection and resultant reduction in number of fish species; i) vegetative species tolerant of and associated with water quality degradation = 7, community consists of species tolerant of high salinities; j) direct observation of water quality very slight discoloration, turbidity, or sheen; k) existing water quality data = N/A; l) water depth wave, wave en current with					ding ected; d) etation gime; h) I lity ty = 8,	
.500(6)(c)Community structure The community structure variable is reduced due to presence of exotics and hydrologic isolation. Individual parameter scores: a) plant community species in the canopy, shrub, or ground stratum = 8, mostly dominated native species; b) invasive exotics or other invasive plant species = 7, minimal coverage; c) regeneration and recruitment = 7, slightly less than expected; d) age & size distribution = 7, slightly less than expected; e) dens quality of coarse woody debris, snag, den, and cavity = 7, adequate for system type; f) plant condition = 7, due dead stems and low productivity; g) land management practices = 5, due to alteration of community structure; topographic features = 7, slightly less than optimal; i) siltation or algal growth in submerged aquatic plant communities = N/A.					ed by nd nsity and lue to	
Score = sum of above scores/30 (if	If preservation as mitiga	ation,	For	impact assess	sment areas	
uplands, divide by 20) current	Preservation adjustmer	nt factor =				
or w/o pres with	Adjusted mitigation delt	a =	FL = delta	a x acres = -0.6	67 x 18.5 = 12.39	
0.67						
	If mitigation		-	- 141 41 -		
Delta = [with-current]	Time lag (t-factor) =		Form	nitigation asses	ssment areas	
-0.67	Risk factor =		RFG = de	elta/(t-factor x r	risk) =	

		Application Number	ımber Assessment Area Name or Number			or Number	
FPL Turkey Point Units 6 & Facilities/Nuclear Administration Building and Parkin	n Building, Training				Mangrov	/e/Willow	
FLUCCs code	Further classifica	ition (optional)		Impac	et or Mitigation Site?	Assessment Area Size	
612/618					Impact	7.6 acres	
Basin/Watershed Name/Number	Affected Waterbody (Clas	SS)	Special Classification	on (i.e.C	DFW, AP, other local/state/federal	designation of importance)	
DA-4/03090202					None		
Geographic relationship to and hyd	rologic connection with	wetlands, other s	urface water, upla	ands			
Surrounded by paved parking lots a to adjacent canals and Biscayne Ba		e north, west, and	east, and the Unit	ts 6 &	7 Site to the south. Hyd	drologically connected	
Assessment area description							
Mangrove swamp area located nort Receives runoff from the surroundir and Biscayne Bay. Dominant spec pepper, and Peruvian primrose willo	ng parking lots, and cor ies present include Car	ntains areas of ope	en water, which liknangrove, white ma	kely flo angro	ows in through culverts to ve, and black mangrove	from adjacent canals e, cattail, Brazilian	
Significant nearby features	-	Uniqueness (considering the relative rarity in relation to the regional landscape.)					
FPL Turkey Point Plant, Biscayne Bay					Not unique		
Functions			Mitigation for prev	vious	permit/other historic use	-	
Wate	er storage	1			N/A		
Anticipated Wildlife Utilization Base that are representative of the asses be found)			Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)				
Wading birds, sh	orebirds, forage fishes	1	Occasional use by wading birds such as roseate spoonbill (SSC), white ibis (SSC), little blue heron (SSC), wood stork (E), reddish egret (SSC), snowy egret (SSC) and tricolored heron (SSC)				
Observed Evidence of Wildlife Utiliz	ration (List species dire	ectly observed, or o	other signs such a	as trac	ks, droppings, casings,	nests, etc.):	
		None					
Additional relevant factors:							
Assessment conducted by:			Assessment date(s):				
K. Bullock, S. Rizzo			6/4/2008				

Site/Proje	ct Name			Application Number	Į.	Assessment Area Name or Number				
	•		ssociated Facilities/Nuclear Building and Parking Area			Ма	ngrove/Willow			
Impact or	Mitigation			Assessment conducted by:	F	Assessment date	:			
		Impa	ct	K. Bullock, S. Rizze	0		6/4/2008			
	0 : 1		0 (1 1/40)	10 1 (/=\)			N (B	(0)		
	ng Guidance coring of each	-	Optimal (10)	Moderate(7) Condition is less than	Mini	imal (4)	Not Present	t (0)		
	s based on wh	nat	Condition is optimal and fully	condition is optimal and fully optimal, but sufficient to Minimal level of support of Condition is in:						
	suitable for th		supports wetland/surface	maintain most		surface water	provide wetland			
	etland or surfa	ce	water functions	wetland/surface	fun	nctions	water functi	ions		
wate	er assessed			waterfunctions						
Location and landscape support variable is reduced due to proximity of existing Turkey Point facility, and disturbance of habitat associated with initial facility construction. Individual parameter scores: a) Support to w disturbance of habitat associated with initial facility construction. Individual parameter scores: a) Support to w listed in Part 1 by outside habitats = 7, due to proximity of Biscayne Bay despite artificial nature of surrounding habitat at FPL facility; b) Invasive exotic species = 6, moderate coverage; c) Wildlife access to and from outsid decreased due to limitations imposed by surrounding roadways and lack of open water connection; d) function benefit fish & wildlife downstream-distance or barriers = 4, area locationally isolated from other habitats; e) Important of the proximity of existing Turkey Point facility, and disturbance of habitat associated with initial facility construction. Individual parameter scores: a) Support to w listed in Part 1 by outside land use of the proximity of existing Turkey Point facility, and disturbance of habitat associated with initial facility construction. Individual parameter scores: a) Support to wilding the part of the proximity of existing Turkey Point facility, and disturbance of habitat associated with initial facility construction. Individual parameter scores: a) Support to wilding the part of the proximity of existing Turkey Point facility.							ing side = 6, ons that mpacts logically			
The water environment score is reduced due to the artificial hydrology of the surrounding area. Individual para scores: a) water levels and flows = 4, drastic alterations in water level due to artificial nature of the surrounding areas; b) water level indicators = 4, not consistent with expected; c) soil moisture = 8, slightly drier than expected soil erosion or deposition = 5, atypical patterns due to altered flows; e) evidence of fire history = N/A; f) vegetated community zonation = 7, slightly altered; g) hydrologic stress on vegetation = 4, due to altered hydrologic regiments by animal species with specific hydrological requirements = 7, due to lack of open water connection and resultant reduction in number of fish species; i) vegetative species tolerant of and associated with water quality degradation = 7, community consists of species tolerant of high salinities; j) direct observation of water quality every slight discoloration, turbidity, or sheen; K) existing water quality data = N/A; I) water depth wave, wave encurrents and light penetration = N/A.					ding ected; d) etation gime; h) d dity ety = 8,					
.500(6)((c)Community	structure	The community structure vari	able is reduced due to presend	ce of exotics a	and hydrologic is	olation. Individual			
2. B	Vegetation an Benthic Commi		parameter scores: a) plant community species in the canopy, shrub, or ground stratum = 8, mostly dominated by native species; b) invasive exotics or other invasive plant species = 7, minimal coverage; c) regeneration and recruitment = 7, slightly less than expected; d) age & size distribution = 7, slightly less than expected; e) density and quality of coarse woody debris, snag, den, and cavity = 7, adequate for system type; f) plant condition = 7, due to dead stems and low productivity; g) land management practices = 5, due to alteration of community structure; h) topographic features = 7, slightly less than optimal; i) siltation or algal growth in submerged aquatic plant							
w/o pres o	Г		communities = N/A.	, , , zz zpamon, , omane	gar gro		· · · · · · · · · · · · · · · · · · ·			
current	1	with	ł							
6		0			<u> </u>					
								_		
	um of above sco	,	If preservation as mitiga	ation,	F	or impact assess	sment areas			
current	ands, aivide by	20)	Preservation adjustmen	nt factor =						
or w/o pres	S	with	Adjusted mitigation delt	a =	FL = de	elta x acres = -0.	63 x 7.6 = 4.79			
0.63		0	,							
			4 					•		
	_	_	If mitigation		Fo	r mitigation asse	ssment areas			
Del	lta = [with-curr	ent]	Time lag (t-factor) =		REG -	delta/(t-factor x	risk) =			
1	-0.63		Pick factor -		KEG =	Guilar (1-1aulul X	1101() -			

Site/Project Name		Application Numbe	r	P	Assessment Area Name	or Number	
FPL Turkey Point Units 6 & 7/Asso					Mangrove	e Swamps	
Collector Well Delivery	Pipelines						
FLUCCs code	Further classifica	tion (optional)		Impact	or Mitigation Site?	Assessment Area Size	
612					Impact	3 acres	
Basin/Watershed Name/Number	Affected Waterbody (Clas	ss)	Special Classificati	ion (i.e.OF	FW, AP, other local/state/federal	designation of importance)	
DA-4/03090202					OFW (Biscayne Bay)		
Geographic relationship to and hyd	rologic connection with	wetlands, other s	urface water, upla	ands			
Located along shoreline of Biscayn	e Bay.						
Assessment area description							
Mangrove shoreline of Turkey Poin mangrove and buttonwood, as well					with subdominant spe	ecies including white	
Significant nearby features			Uniqueness (considering the relative rarity in relation to the regional landscape.)				
FPL Turkey Poir	Not unique						
Functions			Mitigation for previous permit/other historic use				
Water sto	rage, drainage				N/A		
Anticipated Wildlife Utilization Base that are representative of the asses be found)			Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)				
Wading bir	ds, forage fishes		Occasional use by wading birds such as roseate spoonbill (SSC), white ibis (SSC), little blue heron (SSC), wood stork (E), reddish egre (SSC), snowy egret (SSC) and tricolored heron (SSC) as well as white-crowned pigeon (T).				
Observed Evidence of Wildlife Utiliz	zation (List species dire	ectly observed, or	other signs such a	as track	s, droppings, casings,	nests, etc.):	
		None					
Additional relevant factors:							
Assessment conducted by:			Assessment date	e(s):			
S. Rizzo			2/1/2009				

Site/Project Name Application Number Assessment Area Name or Number						
FPL Turkey Point Units 6 & 7/A				Man	grove Swamps	
Collector Well Deliv Impact or Mitigation	very Pipelines	Assessment conducted by		Assassment data		
Impact or Mitigation		Assessment conducted by:	ľ	Assessment date	:	
Impac	t	S. Rizzo			2/1/2009	
			•			
Scoring Guidance	Optimal (10)	Moderate(7)	Min	imal (4)	Not Present	(0)
The scoring of each		Condition is less than				
indicator is based on what	Condition is optimal and fully	optimal, but sufficient to		el of support of	Condition is insu	
would be suitable for the type of wetland or surface	supports wetland/surface water functions	maintain most wetland/surface		surface water nctions	provide wetland water functi	
water assessed	water functions	waterfunctions	iui	ictions	water furicii	0115
			I			
Landscape Support	to wildlife listed in Part 1 by o some present within assessm that benefit fish & wildlife dow outside land uses = 9, surrou	ort is high due to location within utside habitats = 9, due to location ent area; c) Wildlife access to mostream-distance or barriers = nding habitats undisturbed with of assessment area = 9, oper efits downstream areas.	ation within Bi and from out 9, open syst n exception o	iscayne Bay; b) Ir tside = 9, open to tem; e) Impacts to f Turkey Point Po	nvasive exotic spec Biscayne Bay; d) o wildlife listed in Power Plant; f) Hydro	cies = 7, functions Part 1 by ologically
8 0						
The water environment (n/a for uplands) The water environment score is high due to location within Biscayne Bay. Individual parameter scores: a) levels and flows = 9, consistent with expected; b) water level indicators = 9, consistent with expected; c) soil = 9, consistent with expected; d) soil erosion or deposition = 9, typical patterns; e) evidence of fire history = vegetation community zonation = 9, appropriate for community type; g) hydrologic stress on vegetation = 9, h) use by animal species with specific hydrological requirements = 9, consistent with expected; i) vegetative tolerant of and associated with water quality degradation = 9, none present; j) direct observation of water quoties of the property of the prope					h expected; c) soil ce of fire history = on on vegetation = 9, acted; i) vegetative rvation of water qu	moisture N/A; f) minimal; species ality = 9,
Vegetation and/or Benthic Community	a) plant community species ir other invasive plant species = age & size distribution = 9, ty plant condition = 9, generally	able is slightly reduced due to the canopy, shrub, or ground 7, some coverage; c) regenerolical; e) density and quality of good plant condition; g) land nowth in submerged aquatic pla	stratum = 7, ration and red coarse wood nanagement	some exotic spec cruitment = 9, nea y debris, snag, de practices = N/A; h	cies; b) invasive ear normal recruitment, and cavity = 9, h) topographic feat	xotics or ent; d) typical; f)
	-					
	,					1
Score = sum of above scores/30 (if uplands, divide by 20)	If preservation as mitiga	ation,		For impact assess	sment areas	1
	Preservation adjustmer	nt factor =	E1 -3	lolto y agree	07 v 2 _ 2 £ /4a	1
current or w/o pres with	be restored in-situ)				i	
	Adjusted mitigation delt	a =	De les	norea m-sna)		i
0.87 0						1
						•
	If mitigation		Fo	or mitigation asses	ssment areas	i
Delta = [with-current]	Time lag (t-factor) =		<u> </u>			1
-0.87	Risk factor =		RFG =	e delta/(t-factor x i	risk) =	

Site/Project Name		Application Numbe	r		Assessment Area Name	or Number	
FPL Turkey Point Units 6 &					Dwarf Mangroves	s/Sawgrass Marsh	
Facilities/Reclaimed Water To		tion (antional)				I	
FLUCCs code	Further classificat	tion (optional)		Impac	et or Mitigation Site?	Assessment Area Size	
612-B/6411					Impact 31.8 acres		
Basin/Watershed Name/Number	Affected Waterbody (Clas	ss)	Special Classificati	on (i.e.C	DFW, AP, other local/state/federal	designation of importance)	
DA-4/03090202					None		
Geographic relationship to and hydr	ologic connection with v	wetlands, other su	ırface water, uplan	nds			
Hydrologically isolated from Biscayr	ne Bay due to roadways	3.					
Assessment area description							
The proposed location for the FPL revaluations, and currently consists a sawgrass marsh/ dwarf mangroves, dwarf mangrove community contain and increased salinity. Other veget myrtle, poisonwood, cocoplum, and	of upland spoil piles dor , and exotic wetland har is red mangroves typica ation includes sawgrass	minated by Austra dwoods. The are ally less than 24 in	lian pine, excavate a is hydrologically ches in height, stu	ed ope isolate inted in	en water canals, an upla ed due to existing roadw n response to decreased	nd access pathway, vays and berms. The d nutrient availability	
Significant nearby features			Uniqueness (considering the relative rarity in relation to the regional landscape.)				
FPL Turkey Point Plant, Bi	scayne Bay, Model Lan	ds Basin	Not unique				
Functions			Mitigation for prev	vious p	permit/other historic use		
Water storaç	ge, wildlife habitat				N/A		
Anticipated Wildlife Utilization Base that are representative of the asses be found)				T, SS	by Listed Species (List s C), type of use, and inte		
Wading bire	ds, forage fishes		white ibis (SSC),	little b ret (SS	ing birds such as roseat lue heron (SSC), wood SC) and tricolored heron		
Observed Evidence of Wildlife Utiliz	ation (List species direc	ctly observed, or o	ther signs such as	track	s, droppings, casings, n	ests, etc.):	
		None					
Additional relevant factors:							
Assessment conducted by:			Assessment date	e(s):			
S. Rizzo, K. Bullock			2/24/2011				

		T				
Site/Project Name FPL Turkey Point Units 6 & 7/Ass Water Treatme		Application Number		Assessment Area Name or Number Dwarf Mangroves/Sawgrass Marsh		
Impact or Mitigation	ent racinty	Assessment conducted by:		Assessment date):	
Impac	ct	S. Rizzo/K. Bullock			2/24/2011	
Scoring Guidance The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Optimal (10) Condition is optimal and fully supports wetland/surface water functions	Moderate(7) Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal lev	vel of support of surface water nctions	Condition is insuf provide wetland/ water function	ficient to /surface
.500(6)(a) Location and Landscape Support w/o pres or current with 7	and industrial wastewater trea outside habitats = 7, due to p present; c) Wildlife access to roadways; d) functions that be isolation from other habitats c surrounding habitats relatively downstream of assessment a	ort variable is slightly reduced atment facility. Individual para roximity of nearby roadways; be and from outside = 7, decreas enefit fish & wildlife downstreadue to roadways; e) Impacts to y undisturbed with exception ourea = 7, hydrologically connected at the control of th	meter scores b) Invasive ex ed due to slig m-distance o wildlife listed f roadways; f ted but some	a: a) Support to wootic species = 7, ght isolation from or barriers = 7, deed in Part 1 by outs () Hydrologically compacts due to residue to re	vildlife listed in Part some exotics spec other habitats due creased due to slig side land uses = 7, connected areas	1 by sies to ht
.500(6)(b)Water Environment (n/a for uplands) w/o pres or current with 8 0	water levels and flows = 7, slightly less than expected; b) water level indicators = 7, slightly less than expected; osoil moisture = 9, consistent with expected; d) soil erosion or deposition = 9, typical patterns; e) evidence of fire history = N/A; f) vegetation community zonation = 6, due to sparse cover; g) hydrologic stress on vegetation = stress from high salinity; h) use by animal species with specific hydrological requirements = 7, slighly less than expected; i) vegetative species tolerant of and associated with water quality degradation = 7, species tolerant of and associated with water quality degradation = 7, species tolerant of high salinities present; j) direct observation of water quality = 8, no sheen or discoloration; K) existing water quality data = 6, due to high salinity; l) water depth wave, wave energy, currents and light penetration = N/A.					ed; c) fire = 6, an nt of
.500(6)(c)Community structure	The community structure vari	able is slightly reduced due to	elevated sali	inity. Individual pa	arameter scores: a	ı) plant
The community structure variable is slightly reduced due to elevated salinity. Individual parameter scores: a) plate community species in the canopy, shrub, or ground stratum = 9, mostly all desirable species; b) invasive exotice other invasive plant species = 9, very few present; c) regeneration and recruitment = 7, near normal recruitment age & size distribution = 7, atypical due to high salinity; e) density and quality of coarse woody debris, snag, derection and cavity = N/A; f) plant condition = 7, generally good plant condition; g) land management practices = 8, h) topographic features = 9, slightly less than optimal; i) siltation or algal growth in submerged aquatic plant communities = N/A.					otics or nent; d) den,	
8 0	<u> </u>					
	1					
Score = sum of above scores/30 (if uplands, divide by 20)	If preservation as mitigate	ation,	F	or impact assess	sment areas	
current or w/o pres with	Preservation adjustmer Adjusted mitigation delt		FL = d	delta x acres = 0.7	77 x 31.8 = 24.49	
0.77 0]		4			
	If mitigation					
Delta = [with-current]	Time lag (t-factor) =		Fo	or mitigation asses	ssment areas	
-0.77	Risk factor =		RFG =	= delta/(t-factor x ı	risk) =	

Site/Project Name		Application Number	r	Assessment Area Name or Number		
FPL Turkey Point Units 6 8					Canals a	nd Ditches
Facilities/Reclaimed Water T				ı		ı
FLUCCs code	Further classificat	tion (optional)		Impac	t or Mitigation Site?	Assessment Area Size
510, 511					Impact	3.37 acres
Basin/Watershed Name/Number	Affected Waterbody (Clas	ss)	Special Classificati	on (i.e.0	DFW, AP, other local/state/federa	al designation of importance)
DA-4/03090202					None	
Geographic relationship to and hydi	ologic connection with	wetlands, other su	urface water, uplai	nds		
Excavated canals/ditches within sur	rounding sawgrass and	I dwarf mangrove	wetlands; hydrolo	gically	visolated from Biscayne	Bay by roadways
Assessment area description						
The proposed location for the FPL revaluations, and currently consists assawgrass marsh/dwarf mangroves, excavated canals and ditches are re	of upland spoil piles dor and exotic wetland har	minated by Austra dwoods. The are	ilian pine, excavat a is hydrologically	ed ope	en water canals, an upla	and access pathway,
Significant nearby features			Uniqueness (co landscape.)	nsider	ing the relative rarity in	relation to the regional
FPL Turkey Poir	FPL Turkey Point Plant, Biscayne Bay Not unique					
Functions			Mitigation for pre-	vious p	permit/other historic use)
Water storage, historica	l test cooling canal eva	lution	N/A			
Anticipated Wildlife Utilization Base that are representative of the asses be found)			Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)			
Wading bird	ds, forage fishes		Occasional use by wading birds such as roseate spoonbill (SSC), white ibis (SSC), little blue heron (SSC), wood stork (E), reddish egret (SSC), snowy egret (SSC) and tricolored heron (SSC) as well as white-crowned pigeon (T). Reptiles such as American alligator (TSA).			
Observed Evidence of Wildlife Utiliz	ation (List species direc	ctly observed, or o	other signs such a	s track	s, droppings, casings, i	nests, etc.):
		None				
Additional relevant factors:						
Assessment conducted by:			Assessment date	e(s):		
S. Rizzo, K. Bullock			2/24/2011			

Site/Project Name			Application Number	Assessment Area Name or Number	
1	ts 6 & 7/Ass iter Treatme	sociated Facilities/Reclaimed		Car	nals and Ditches
Impact or Mitigation	itor rrodine	one i domey	Assessment conducted by:	Assessment dat	e:
	Impac	ot	S. Rizzo, K. Bulloc	k	2/24/2011
		ī.			
Scoring Guidance	\Box	Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
The scoring of each indicator is based on w		Condition is optimal and	Condition is less than optimal, but sufficient to	Minimal level of support of	Condition is insufficient to
would be suitable for t		fully supports	maintain most	wetland/surface water	provide wetland/surface
type of wetland or surfa	ace	wetland/surface water functions	wetland/surface	functions	water functions
water assessed		Tariotions	waterfunctions		
.500(6)(a) Locatio Landscape Sup		Turkey Point Plant, surround in Part 1 by outside habitats occurrence within assessment) functions that benefit fish 8	port variable is reduced due to ing roadways, and spoil piles. = 5, due to proximity of nearby nt area; c) Wildlife access to a & wildlife downstream-distance anding habitats disturbed by ro	Individual parameter scores roadways; b) Invasive exoti nd from outside = 5, decreas e or barriers = 5; e) Impacts t	: a) Support to wildlife listed c species = 5, common ed due to roadway barriers; o wildlife listed in Part 1 by
w/o pres or			ependency of downstream are		
current	with	areas.			
6	0				
.500(6)(b)Water Env (n/a for upland w/o pres or current		The water environment score is somewhat reduced due to the artificial nature of the canal/ditch system. Indiviparameter scores: a) water levels and flows = 4, no flow evident; b) water level indicators = 6, consistent with expected; c) soil moisture = 6, consistent with expected; d) soil erosion or deposition = 4, erosion evident; e) evidence of fire history = N/A; f) vegetation community zonation = 6, appropriate for community type; g) hydrol stress on vegetation = 6, relatively minimal; h) use by animal species with specific hydrological requirements = consistent with expected; i) vegetative species tolerant of and associated with water quality degradation = 6, s pollution tolerant species present; j) direct observation of water quality = 6, no sheen or discoloration; K) existing water quality data = N/A; I) water depth wave, wave energy, currents and light penetration = N/A.			
.500(6)(c)Community		scores: a) plant community s slopes, presence of exotic sp	iable is reduced due to artificia pecies in the canopy, shrub, o pecies on banks; b) invasive e	or ground stratum = 4, sparse exotics or other invasive plant	ly vegetated due to steep species = 4, compose
Vegetation as Benthic Comm			neration and recruitment = 7, independent of coarse woody deb		•
	,		generally good plant condition		
w/o pres or			Iroperiod; h) topographic featu		
current	with	submerged aquatic plant con	nmunities = 7, minor algal grov	wth.	
		1			
5	0				
Score = sum of above so uplands, divide by		If preservation as mitig	ation,	For impact asses	ssment areas
current	,,	Preservation adjustmen	nt factor =	FL = delta x acres = -() 5 x 3 37 – 1 60
or w/o pres	with	Adjusted mitigation del	ta =	1 = ucita x acies = -(7.0 A 0.07 - 1. 03
0.50	0				
		If mitigation			
Delta = [with-cui	rrent]	Time lag (t-factor) =		For mitigation ass	essment areas
-0.50	-	Risk factor =		RFG = delta/(t-factor)	(risk) =

Site/Project Name		Application Number	er	,	Assessment Area Name	or Number
FPL Turkey Point Units 6 8 Facilities/Reclaimed Water T					Exotic Wetlar	nd Hardwoods
FLUCCs code	Further classifica	tion (ontional)		Impost	or Mitigation Sito?	Assessment Area Size
	utilet classifica	don (optional)		ппрасі	or Mitigation Site?	
619					Impact	0.17 acres
Basin/Watershed Name/Number	Affected Waterbody (Clas	ss)	Special Classificati	on (i.e.O	FW, AP, other local/state/federa	al designation of importance)
DA-4/03090202					None	
Geographic relationship to and hydr	ologic connection with	wetlands, other su	urface water, upla	nds		
Hydrologically isolated from Biscayr	ne Bay due to roadways	s; adjacent to saw	grass marsh and	dwarf re	ed mangrove wetlands	
Assessment area description						
The proposed location for the FPL revaluations, and currently consists sawgrass marsh/ dwarf mangroves, classified as exotic wetland hardwo	of upland spoil piles don and exotic wetland han	minated by Austra	alian pine, excavat a is hydrologically c species Australia	ed ope isolate an pine	n water canals, an upla ed due to existing road , with Brazilian pepper	and access pathway, ways and berms. Areas also prevalent.
Significant nearby features			Uniqueness (co landscape.)	nsiderii	ng the relative rarity in	relation to the regional
FPL Turkey Point Plant, Biscayne Bay			Not unique			
Functions			Mitigation for pre	vious p	ermit/other historic use	9
Water storaç	ge, wildlife habitat				N/A	
Anticipated Wildlife Utilization Base that are representative of the asses be found)				T, SSC	/ Listed Species (List s ;), type of use, and inte	
Wading birds, sh	orebirds, forage fishes		white ibis (SSC),	little bli ret (SS	ng birds such as rosea ue heron (SSC), wood C) and tricolor heron (stork (E), reddish egret
Observed Evidence of Wildlife Utiliz	ation (List species direc	ctly observed, or o	other signs such a	s tracks	s, droppings, casings,	nests, etc.):
		None				
		None				
Additional relevant factors:						
Assessment conducted by:			Assessment date	/e):		
K. Bullock, S. Rizzo			2/24/2011	(S).		
•			1			

Site/Project Name		Application Number	/	Accoccment Area	a Name or Number	
FPL Turkey Point Units 6 & 7/Ass Water Treatme		Application Number			Vetland Hardwoods	
Impact or Mitigation	STICT domey	Assessment conducted by:	F	Assessment date):	
Impa	ct	K. Bullock, S. Rizz	0		2/24/2011	
Scoring Guidance	Optimal (10)	Moderate (7)	Min	imal (4)	Not Presen	t (0)
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	wetland/s	el of support of surface water actions	Condition is insui provide wetland water functi	/surface
	-					
.500(6)(a) Location and Landscape Support w/o pres or current with 6 0	Turkey Point Plant, surround in Part 1 by outside habitats occurrence within assessmed) functions that benefit fish outside land uses = 5, surrounds.	port variable is reduced due to ing roadways, and spoil piles. = 5, due to proximity of nearby nt area; c) Wildlife access to a & wildlife downstream-distance anding habitats disturbed by ropependency of downstream are	Individual pa roadways; b nd from outsi e or barriers = adways; f) Hy	arameter scores: i) Invasive exotic de = 5, decrease = 5; e) Impacts to ydrologically coni	a) Support to wild species = 5, common ed due to roadway wildlife listed in P nected areas down	dlife listed mon barriers; art 1 by nstream
.500(6)(b)Water Environment (n/a for uplands) w/o pres or current with 5	scores: a) water levels and f moisture = 5, less than exper N/A; f) vegetation community relatively minimal; h) use by vegetative species tolerant of direct observation of water q	e is reduced due to ditching, spilows = 4, no flow evident; b) worted; d) soil erosion or deposit or zonation = 5, dominance by eanimal species with specific hyf and associated with water quality = 6, no sheen or discolourrents and light penetration =	vater level ind ion = 4, erosion exotic species ydrological re- uality degrada ration; K) exis	licators = 6, cons on evident; e) ev s; g) hydrologic si quirements = 5, I ation = 5, dominal	sistent with expected idence of fire history tress on vegetation less than expected note by exotic specific spe	ed; c) soil ory = n = 6, d; i) cies; j)
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community w/o pres or current with 3	exotic Australian pine. Indivi stratum = 3, dominated by ex regeneration and recruitmen possibly affecting age distrib Australian pine poor quality v	riable is reduced due to low sp dual parameter scores: a) plar kotic species; b) invasive exot t = 4, some evidence of recruit ution; e) density and quality of woody debris; f) plant conditior A; h) topographic features = 3, communities = N/A.	nt community ics or other in ment; d) age coarse wood n = 3, low reci	species in the canvasive plant spe & size distribution by debris, snag, druitment of other	anopy, shrub, or grecies = 3, dominanon = 4, lower water den, and cavity = 4 species; g) land	round t; c) r levels
Score = sum of above scores/30 (if	If preservation as mitig	ation,	F	or impact assess	sment areas	
uplands, divide by 20) current br w/o pres with 0.47 0	Preservation adjustme Adjusted mitigation del		FL = d	elta x acres = 0.4	47 x 0.17 = 0.08	
	If mitigation					
Delta = [with-current]	Time lag (t-factor) =		Fo	r mitigation asse	ssment areas	
-0.47	Risk factor =		RFG =	delta/(t-factor x	risk) =	

Site/Project Name		Application Number	er	Assess	sment Area Name	or Number
FPL Turkey Point Units 6 & 7/Ass Reclaimed Water Treatr					Mixed Wetlar	nd Hardwoods
FLUCCs code	Further classifica	tion (ontional)		Impact or Mit	igation Sito?	Assessment Area Size
	T dittior olassinoa	don (optional)		-		
617				Ir	mpact	0.78 acres
Basin/Watershed Name/Number	Affected Waterbody (Clas	ss)	Special Classificat	on (i.e.OFW, AP,	, other local/state/federa	al designation of importance)
DA-4/03090202					None	
Geographic relationship to and hyd	rologic connection with	wetlands, other so	urface water, upla	nds		
Hydrologically isolated from Biscay wetlands.	ne Bay due to roadways	s. Connected to a	idjacent sawgrass	marsh, man	grove wetlands,	and exotic hardwood
Assessment area description						
A parcel of mixed wetland hardwood water treatment facility. The area is mixture of red mangroves, black m	s hydrologically isolated	from Biscayne Ba	ay due to existing	roadways an		
Significant nearby features			Uniqueness (considering the relative rarity in relation to the reclandscape.)			
FPL Turkey Poi	nt Plant, Biscayne Bay		Not unique			
Functions			Mitigation for previous permit/other historic use			9
Water stora	ge, wildlife habitat				N/A	
Anticipated Wildlife Utilization Base that are representative of the assesbe found)				T, SSC), type		species, their legal ensity of use of the
Wading birds, sh	orebirds, forage fishes		white ibis (SSC),	little blue her ret (SSC) and	ron (SSC), wood	ate spoonbill (SSC), stork (E), reddish egret in (SSC). Also white-
Observed Evidence of Wildlife Utiliz	zation (List species direc	ctly observed, or o	other signs such a	s tracks, drop	opings, casings,	nests, etc.):
		None				
Additional relevant factors:						
Assessment conducted by:			Assessment date	e(s):		
S. Rizzo			1/9/2009			

Site/Project Name	Appointed Equilities/EDI	Application Number	Assessment A	Assessment Area Name or Number		
FPL Turkey Point Units 6 & 7/ Reclaimed Water Tr			Mixe	d Wetland Hardwoods		
Impact or Mitigation	,	Assessment conducted by:	Assessment of	ate:		
Impac	et	S. Rizzo		1/9/2009		
L						
Scoring Guidance	Optimal (10)	Moderate (7)	Minimal (4)	Not Present (0)		
The scoring of each		Condition is less than				
indicator is based on what would be suitable for the	Condition is optimal and fully supports wetland/surface	optimal, but sufficient to maintain most	Minimal level of support wetland/surface water	of Condition is insufficient to provide wetland/surface		
type of wetland or surface	water functions	wetland/surface	functions	water functions		
water assessed		waterfunctions				
.500(6)(a) Location and Landscape Support w/o pres or current with 7 0	Individual parameter scores: Biscayne Bay; b) Invasive ex- limitations; d) functions that b wildlife listed in Part 1 by outs Hydrologically connected are	ort variable is slightly reduced a) Support to wildlife listed in otic species = 7, minimal cove enefit fish & wildlife downstrea side land uses = 7, slightly red as downstream of assessmen areas on assessment area = 7	Part 1 by outside habitats rage; c) Wildlife access to am-distance or barriers = 7 uced due to proximity of Tut area = 7, some hydrologic	= 7, due to proximity of and from outside = 7, some some barriers; e) Impacts to irkey Point facility; f) al impairments; g)		
.500(6)(b)Water Environment (n/a for uplands) w/o pres or current with 0	and increased salinity. Indivi- water level indicators = 8, slig- or deposition = 9, typical patti sparse cover; g) hydrologic si specific hydrological requiren- with water quality degradation	is slightly reduced due to the dual parameter scores: a) way thatly less than expected; c) so terns; e) evidence of fire history tress on vegetation = 6, stress nents = 7, slightly less than expenser, species tolerant of high K) existing water quality data enetration = N/A.	ter levels and flows = 8, slit I moisture = 9, consistent v \(= N/A; f) vegetation common from increased salinity; h) tected; i) vegetative species alinities present; j) direct of	ghtly less than expected; b) with expected; d) soil erosion nunity zonation = 6, due to use by animal species with s tolerant of and associated abservation of water quality =		
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community w/o pres or current with 9 0	Individual parameter scores: dominated by native species; regeneration and recruitment possibly affecting age distribu consistent with expected; f) p	able is high due to species div a) plant community species in b) invasive exotics or other ir = 7, some evidence of recruit ution; e) density and quality of lant condition = 7, low recruitn res = 7, some present; i) siltati	the canopy, shrub, or groundsive plant species = 7, sment; d) age & size distributions would be would be would be sized in the coarse woody debris, snagment; g) land management	nd stratum = 7, mostly come coverage; c) tion = 7, lower water levels , den, and cavity = 7, slightly practices = 7, some alteration		
Score = sum of above scores/30 (if	If preservation as mitiga	ation	For impact ass	essment areas		
uplands, divide by 20)	Preservation adjustmen		i oi iiiipact ass	occinont areas		
current	1 16361 VALIOTI AUJUSTITIET	11 140101 =	FL = delta x acres =	-0.8 x 0.78 = 0.62		
or w/o pres with	Adjusted mitigation delt	ta =				
0.80						
- 	If mailtimation					
	If mitigation		For mitigation as	ssessment areas		
Delta = [with-current]	Time lag (t-factor) =		DEO 111111111111111111111111111111111111			
-0.80	Risk factor =		RFG = delta/(t-factor x risk) =			

Site/Project Name		Application Number	r		Assessment Area Name of	or Number
FPL Turkey Point Units 6 & Facilities/Treated Reclaimed Water					Dwarf Ma	angroves
FLUCCs code	Further classification	tion (optional)		Impac	ct or Mitigation Site?	Assessment Area Size
612-B			1		Impact	3.1 acres
Basin/Watershed Name/Number A	Affected Waterbody (Clas	ss)	Special Classification	on (i.e.C	OFW, AP, other local/state/federal	designation of importance)
Geographic relationship to and hydro	ologic connection with	wetlands, other s	urface water, upla	ands		
This area currently drains north and	east through mangrov	e swamps toward	l Biscayne Bay.			
Assessment area description						
The area consists of dwarf red many flushing of tidal waters, and exhibits community contains mangroves less vegetation includes black mangrove Australian pine.	increased salinity with the than 24 inches in heigh	n decreased nitrog ght, stunted in res	gen and phosphorusponse to decrease	us ava	ailable for plant uptake. Trient availability and inc	The dwarf mangrove creased salinity. Other
Significant nearby features	Uniqueness (considering the relative rarity in relation to the landscape.)				relation to the regional	
FPL Turkey Point Plant, Bis	cayne Bay, Model Lan	e Bay, Model Lands Basin Not unique				
Functions			Mitigation for pre	vious	permit/other historic use	
Water stor	rage, drainage				N/A	
Anticipated Wildlife Utilization Based that are representative of the assess be found)			Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)			
Wading bird	ls, forage fishes		white ibis (SSC),	little b ret (S	SC) and tricolored heror	stork (E), reddish egret
Observed Evidence of Wildlife Utiliza	ation (List species dire	ctly observed, or	other signs such a	as trac	ks, droppings, casings,	nests, etc.):
		None				
Additional relevant factors:						
Assessment conducted by:			Assessment date	e(s):		
S. Rizzo		ļ	9/23/2008			

Site/Project Name FPL Turkey Point Units 6 & 7/A Reclaimed Water D		Application Number	Assessment	Assessment Area Name or Number Dwarf Mangroves		
Impact or Mitigation	elivery Pipelines	Assessment conducted by:	Assessment	t date:		
, ,	ot	S. Rizzo	7.00000	9/23/2008		
Impa	CI.	3. KIZZU		9/23/2006		
Seering Cuidence	Ontimal (10)	Madarata/7\	Minimal (4)	Not Present	(0)	
Scoring Guidance The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Optimal (10) Condition is optimal and fully supports wetland/surface water functions	Moderate(7) Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal (4) Minimal level of suppo wetland/surface wate functions	rt of Condition is insuf	fficient to	
	T					
.500(6)(a) Location and Landscape Support w/o pres or current with 7	Landscape Support listed in Part 1 by outside habitats = 7, due to proximity of nearby roadways; b) Invasive exotic species = 7, exotics species present; c) Wildlife access to and from outside = 7, decreased due to slight isolation from on habitats due to roadways; d) functions that benefit fish & wildlife downstream-distance or barriers = 7, decreased to slight isolation from other habitats due to roadways; e) Impacts to wildlife listed in Part 1 by outside land surrounding habitats relatively undisturbed with exception of roadways; f) Hydrologically connected areas downstream of assessment area = 7, hydrologically connected but some impacts due to roadways; g) Deproof downstream areas on assessment area = 6, some benefit to downstream areas.					
.500(6)(b)Water Environment (n/a for uplands) w/o pres or current with 8 0	roadways and increased salir expected; b) water level indic soil erosion or deposition = 9, due to sparse cover; g) hydro specific hydrological requirer with water quality degradation no sheen or discoloration; K)	water environment score is somewhat reduced due to the slight hydrological isolation from surrounding lways and increased salinity. Individual parameter scores: a) water levels and flows = 7, slightly less than exted; b) water level indicators = 7, slightly less than expected; c) soil moisture = 9, consistent with expected; d) erosion or deposition = 9, typical patterns; e) evidence of fire history = N/A; f) vegetation community zonation = to sparse cover; g) hydrologic stress on vegetation = 6, stress from high salinity; h) use by animal species with clific hydrological requirements = 7, slighly less than expected; i) vegetative species tolerant of and associated water quality degradation = 7, species tolerant of high salinities present; j) direct observation of water quality = heen or discoloration; K) existing water quality data = 6, due to high salinity; l) water depth wave, wave energy, ents and light penetration = N/A.				
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community w/o pres or current with 8 0	community species in the car other invasive plant species = age & size distribution = 7, at cavity = N/A; f) plant condition	able is slightly reduced due to lopy, shrub, or ground stratum so 9, very few present; c) regencypical due to high salinity; e) do n = 7, generally good plant con to optimal; i) siltation or algal gr	= 9, mostly all desirable eration and recruitment = ensity and quality of coal dition; g) land managem	species; b) invasive exc 7, near normal recruitm rse woody debris, snag, ent practices = 8, h) topo	otics or lent; d) den, and ographic	
Score = sum of above scores/30 (if	If preservation as mitiga	ation.	For impact a	ssessment areas		
uplands, divide by 20)		•				
current	Preservation adjustment factor = FL = delta x acres = -0.77 x 3.1 =					
or w/o pres with	Adjusted mitigation delt	itigation delta = be restored in-situ)				
0.77 0	.,g					
	_					
	If mitigation		Easterilles (150	accommont =====		
Delta = [with-current]	Time lag (t-factor) =		For mitigation	assessment areas		
-0.77	Risk factor =		RFG = delta/(t-fac	tor x risk) =		

Site/Project Name		Application Number	er		Assessment Area Name or Number		
FPL Turkey Point Units 6 8					Mixed Wetlar	nd Hardwoods	
Facilities/Treated Reclaimed Wat	ter Delivery Pipelines						
FLUCCs code	Further classifica	ition (optional)		Impac	t or Mitigation Site?	Assessment Area Size	
617					Impact	0.3 acres	
Basin/Watershed Name/Number	Affected Waterbody (Clas	ss)	Special Classification	on (i.e.C	DFW, AP, other local/state/federal	designation of importance)	
DA-4/03090202			·		None		
Geographic relationship to and hyd	rologic connection with	wetlands, other s	urface water, uplar	nds			
Hydrologically connected to surrou	nding mangrove swamp	os, exotic wetlands	s and freshwater m	arshe	S.		
Assessment area description							
Several areas of mixed wetland han a variety of canopy species, includi							
Significant nearby features			Uniqueness (collandscape.)	nsider	ing the relative rarity in	relation to the regional	
FPL Turkey Poir	nt Plant, Biscayne Bay				Not unique		
Functions			Mitigation for prev	vious p	permit/other historic use)	
Water stora	ge, wildlife habitat				N/A		
Anticipated Wildlife Utilization Base that are representative of the asses be found)		•		T, SSC	y Listed Species (List s C), type of use, and inte		
Wading birds, sh	orebirds, forage fishes		white ibis (SSC),	little b ret (SS	ing birds such as rosea lue heron (SSC), wood SC) and tricolored heror	stork (E), reddish egret	
Observed Evidence of Wildlife Utiliz	zation (List species dire	ctly observed, or o	other signs such as	s track	s, droppings, casings, r	nests, etc.):	
		None	3				
Additional relevant factors:							
Assessment conducted by:			Assessment date	(s):			
S. Rizzo			1/9/2009				

Site/Project Name		Application Number	Δ	Assessment Area	Name or Number	
FPL Turkey Point Units 6 & 7/As	ssociated Facilities/Treated	, ipplication runnico	ĺ		/etland Hardwoods	
Reclaimed Water De	elivery Pipelines					1
Impact or Mitigation		Assessment conducted by:	A	Assessment date	•	
Impac	ct	S. Rizzo			1/9/2009	
			ļ-			
Scoring Guidance	Optimal (10)	Moderate (7)	Mini	imal (4)	Not Present	t (0)
The scoring of each	One distance in anti-	Condition is less than	Naississ at Laure	-1 -6	0	£:-:
indicator is based on what would be suitable for the	Condition is optimal and fully supports wetland/surface	optimal, but sufficient to maintain most		el of support of urface water	Condition is insuf provide wetland/	
type of wetland or surface	water functions	wetland/surface		ictions	water function	
water assessed		waterfunctions				
.500(6)(a) Location and Landscape Support w/o pres or current with	Individual parameter scores: Biscayne Bay; b) Invasive ex- limitations; d) functions that b wildlife listed in Part 1 by outs Hydrologically connected are	ort variable is slightly reduced a) Support to wildlife listed in lotic species = 7, minimal cover enefit fish & wildlife downstreaside land uses = 7, slightly reduas downstream of assessment areas on assessment area = 7	Part 1 by outs rage; c) Wildlit m-distance or uced due to pot area = 7, sor	ide habitats = 7, fe access to and r barriers = 7, so roximity of Turke me hydrological i	due to proximity of from outside = 7, s me barriers; e) Imp y Point facility; f) mpairments; g)	some
The water environment score is slightly reduced due to water levels lower than expected. Individual parametr scores: a) water levels and flows = 7, slightly lower than expected; b) water level indicators = 7, slightly lower than expected; c) soil erosion or deposition = 7, some observed evidence of fire history = N/A; f) vegetation community zonation = 7, slightly consistent with expected; g) hydrostress on vegetation = 7, due to lower water levels; h) use by animal species with specific hydrological require = 7, some evidence observed; j) vegetative species tolerant of and associated with water quality degradation some observed; j) direct observation of water quality = N/A; k) existing water quality data = N/A; l) water dept wave, wave energy, currents and light penetration = N/A.					er than rved; e) Irologic rements n = 7,	
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community w/o pres or current with 7	The community structure The community structure variable is high due to species diversity and presence of natural, native vegetation. Individual parameter scores: a) plant community species in the canopy, shrub, or ground stratum = 7, mostly dominated by native species; b) invasive exotics or other invasive plant species = 7, some coverage; c) regeneration and recruitment = 7, some evidence of recruitment; d) age & size distribution = 7, lower water lev possibly affecting age distribution; e) density and quality of coarse woody debris, snag, den, and cavity = 7, sliver consistent with expected; f) plant condition = 7, low recruitment; g) land management practices = 7, some alter evident; h) topographic features = 7, some present; i) siltation or algal growth in submerged aquatic plant communities = N/A.					evels slightly
Score = sum of above scores/30 (if	If preservation as mitigate	ation.	F	or impact assess	sment areas	
uplands, divide by 20)		·	<u> </u>			
current	Preservation adjustmen	nt factor =	FL = de	elta x acres = -0.	7 x 0.3 = 0.21 (to	
or w/o pres with	Adjusted mitigation delt	a =		tored <i>in-situ</i>)	,	
0.70 0	- 1.j. 2.2.2 3 magaaan don					
	ı					
	If mitigation		F	r mitigation acces	coment areas	
Delta = [with-current]	Time lag (t-factor) =		F0I	r mitigation asses	someni areas	
-0.70	Risk factor =		RFG =	delta/(t-factor x ı	risk) =	

Site/Project Name		Application Numbe	:r		Assessment Area Name	or Number
FPL Turkey Point Units 6 & 7//				Canals, Ditches, a		, and Reservoirs
Facilities/Reclaimed Water F						
FLUCCs code	Further classifica	tion (optional)		Impac	ct or Mitigation Site?	Assessment Area Size
510, 511, 530					Impact	5.4 acres
Basin/Watershed Name/Number Affe	ected Waterbody (Clas	SS)	Special Classificati	ion (i.e.0	OFW, AP, other local/state/federal	designation of importance)
C-1, DA-4, C-102, C-103, North					None	
Canal, Florida City/03090202						
Geographic relationship to and hydrolo	gic connection with	wetlands, other s	urface water, upla	ands		
Hydrologically connected to surroundin	g mangrove swamp	os, mixed wetland	hardwoods and fi	reshwa	ater marshes.	
Assessment area description						
A total of seven crossings of man-made						
borders of roadside rights-of-way, fresh made canals along the proposed reclai						
leaved species typical of the canals inc	clude spatterdock, w					
Brazilian pepper, willow, and ragweed.			Turismone (ac	a do		
Significant nearby features			Uniqueness (co landscape.)	nsiaei	ring the relative rarity in	relation to the regional
FPL Turkey Point PI	lant, Biscayne Bay				Not unique	
•						
Functions			Mitigation for pre	vious	permit/other historic use	-
Turiotions			Wildgatton 101 p. 0	VIOGE	politing out of Thotolic 200	Ź
Water storage	e, drainage				N/A	
Anticipated Wildlife Utilization Based or	n Literature Review	(List of species	Anticipated Utiliza	ation b	by Listed Species (List s	species, their legal
that are representative of the assessme be found)	ent area and reasor	nably expected to	classification (E, assessment area		C), type of use, and inte	ensity of use of the
					ding birds such as rosea	
Wading birds, f	forage fishes				olue heron (SSC), wood SC) and tricolored heror	
					(T). Reptiles such as A	
Observed Evidence of Wildlife Utilization	on (List species dire	ectly observed, or	other signs such a	as trac	cks. droppings, casings,	nests, etc.):
	(======	, , , , , , , , , , , , , , , , , , ,	5			, ,
		N.				
		None	!			
Additional relevant factors:						
Assessment conducted by:			Assessment date	-(e)·		
S. Rizzo			1/9/2009	/(3).		
O. 1(1220			1/3/2003			

Site/Project Name FPL Turkey Point Units 6 & 7/Ass		Application Number	Asse		Name or Number ches, and Reserve	
Water Pipe Impact or Mitigation	elines	Assessment conducted by:		Assessment date:		
		•	ASSE	essinent date.		
Impac	et	S. Rizzo			1/9/2009	
Seering Cuidenes	0(1 (40)	M = d = = (7)	88::	1.(4)	Not Berein	(0)
Scoring Guidance The scoring of each	Optimal (10)	Moderate(7) Condition is less than	Minima	1 (4)	Not Present	(0)
indicator is based on what	Condition is optimal and fully	optimal, but sufficient to	Minimal level of	f support of	Condition is insuf	fficient to
would be suitable for the	supports wetland/surface	maintain most	wetland/surfa		provide wetland	
type of wetland or surface water assessed	water functions	wetland/surface waterfunctions	functio	ons	water functi	ons
water assessed		wateriurictions				
.500(6)(a) Location and Landscape Support w/o pres or current with 5 0 .500(6)(b)Water Environment (n/a for uplands)	Individual parameter scores: roadways; b) Invasive exotic: from outside = 5, decreased of barriers = 5; e) Impacts to will roadways; f) Hydrologically coareas on assessment area = The water environment score parameter scores: a) water le expected; c) soil moisture = 6	ort variable is reduced due to a) Support to wildlife listed in species = 5, common occurrer due to roadway barriers; d) fun dlife listed in Part 1 by outside onnected areas downstream o 4, little benefit to downstream is somewhat reduced due to the evels and flows = 4, no flow evels, consistent with expected; d) f) vegetation community zone	Part 1 by outside noe within assess ctions that benefiland uses = 5, sut assessment are areas. The artificial naturident; b) water le soil erosion or de	habitats = 5, ment area; c) it fish & wildlif urrounding ha a = 5; g) Dep e of the canal vel indicators eposition = 4,	due to proximity of Wildlife access to be downstream-distributed by the modern of downs of do	f nearby and tance or tream dividual th
w/o pres or current with 5	consistent with expected; i) verbollution tolerant species pres	tively minimal; h) use by anima egetative species tolerant of a sent; j) direct observation of wa ater depth wave, wave energy	nd associated wit ater quality = 6, n	h water qualit o sheen or di	ty degradation = 6, scoloration; K) exis	, some
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community w/o pres or current with 5	scores: a) plant community sp invasive exotics or other inva- = 7, near normal recruitment; debris, snag, den, and cavity condition; g) land manageme	able is reduced due to artificia pecies in the canopy, shrub, or sive plant species = 4, compos d) age & size distribution = 7, = 5, due to excavated canal but practices = 5, due to alteration than optimal; i) siltation or alg	ground stratum : se majority of cov slightly atypical; anks; f) plant con on of community	= 4, dominate rerage; c) rege e) density and dition = 7, gel structure and	ed by exotic species eneration and recr d quality of coarse nerally good plant d hydroperiod; h)	es; b) uitment woody
	-					
Score - sum of above access/20 ///	If proconcation as mistage	ation	Ear:	mnact cases	emont areas	
Score = sum of above scores/30 (if uplands, divide by 20)	If preservation as mitiga	auon,	FOLI	mpact assess	जाासार वास्त्रड	
current	Preservation adjustmer	nt factor =	FL = delta	x acres = -0.5	5 x 5.4 = 2.7 (to	
or w/o pres with	Adjusted mitigation delt	a =		ed in-situ)	,	
0.50 0	- isjacica minganom den					
	J					
	If mitigation		For mi	itigation asses	ssment areas	
Delta = [with-current]	Time lag (t-factor) =		FOLIM	ingation asses	Sometil areas	
-0.50	Risk factor =		RFG = del	ta/(t-factor x r	risk) =	

Site/Project Name		Application Number	er	A	ssessment Area Name	or Number
FPL Turkey Point Units 6 & 7/A Facilities/Reclaimed Water Pi					Mangrov	e Swamps
FLUCCs code	Further classifica	ation (optional)		Impact of	or Mitigation Site?	Assessment Area Size
612					Impact	18.6 acres
Basin/Watershed Name/Number Affect C-1, DA-4, C-102, C-103, North Canal, Florida City/03090202	ted Waterbody (Clas	ss)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance) None			
Geographic relationship to and hydrolog	ic connection with	wetlands, other s	surface water, upla	ands		
Hydrologically connected to surrounding	mixed wetland ha	ardwoods and fres	shwater marshes.			
Assessment area description						
Areas of coastal mangroves occur within areas are dominated by a mixture of red include white mangrove buttonwood, Bra	mangrove and bla	ack mangrove whi	ich are present in	pure or	predominant stands.	Subdominant species
Significant nearby features			Uniqueness (co landscape.)	nsiderin	ng the relative rarity in	relation to the regional
FPL Turkey Point Pla	nt, Biscayne Bay				Not unique	
Functions			Mitigation for pre	vious pe	ermit/other historic us	e
Water sto	rage				N/A	
Anticipated Wildlife Utilization Based on that are representative of the assessment be found)				T, SSC)	Listed Species (Lists), type of use, and into	
Passerine birds and other wil	dlife typical to the	region	white ibis (SSC), (SSC), snowy eg	little blu ret (SSC	C) and tricolored hero	l stork (E), reddish egret
Observed Evidence of Wildlife Utilization	(List species dire	ectly observed, or	other signs such a	as tracks	s, droppings, casings,	nests, etc.):
		None				
Additional relevant factors:						
Assessment conducted by:			Assessment date	e(s):		
S. Rizzo			1/9/2009			

Site/Project Name FPL Turkey Point Units 6 & 7/Ass Water Pipe		Application Number	/		Name or Number grove Swamps	
Impact or Mitigation	Cililes	Assessment conducted by:		Assessment date	:	
Impac	ot	S. Rizzo			1/9/2009	
		· · · · · · · · · · · · · · · · · · ·				
Scoring Guidance The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Optimal (10) Condition is optimal and fully supports wetland/surface water functions	Moderate(7) Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal lev	vel of support of surface water nctions	Not Present Condition is insuf provide wetland, water function	fficient to /surface
	1					
.500(6)(a) Location and Landscape Support w/o pres or current with 7	roadways. Individual parame of roadways and Turkey Poin outside = 7, mostly unlimited impedences to downstream a to proximity of Turkey Point fa	ort variable is slightly reduced ter scores: a) Support to wildl t Plant; b) Invasive exotic spec access; d) functions that bene ireas; e) Impacts to wildlife liste acility; f) Hydrologically connec eas; g) Dependency of downst	ife listed in Pa cies = 7, some fit fish & wildl ed in Part 1 b eted areas do	art 1 by outside he coverage; c) Wi ife downstream-dry outside land us wnstream of asse	abitats = 7, due to ildlife access to and listance or barriers es = 7, slightly red essment area = 7, f	proximity d from = 7, few uced due few
.500(6)(b)Water Environment (n/a for uplands) w/o pres or current with	of exotic species. Individual p indicators = 8, consistent with 8, consistent with expected; e habitat; g) hydrologic stress o requirements = 8, consistent degradation = 8, none observ	is slightly reduced due to the aparameter scores: a) water level expected; c) soil moisture = 8 e) evidence of fire history = N/A on vegetation = 8, no stress now with expected; i) vegetative spred; j) direct observation of water gy, currents and light penetrates	vels and flows s, consistent va; f) vegetatio ted; h) use by ecies tolerant ter quality = N	s = 8, consistent v with expected; d) on community zon y animal species v t of and associate	with expected; b) w soil erosion or dep lation = 8, typical fo with specific hydrol ed with water qualit	vater level cosition = or the logical
1. Vegetation and/or 2. Benthic Community w/o pres or current with 8 0	Individual parameter scores: a exotic species; b) invasive ex recruitment = 8, consistent wi quality of coarse woody debri with expected; g) land manag	able is reduced due to low spe a) plant community species in cotics or other invasive plant sp th expected; d) age & size dist s, snag, den, and cavity = 8, a pement practices = 8, limited all or algal growth in submerged a	the canopy, species = 8, matribution = 8, dequate for steration of co	shrub, or ground s ninimal coverage; consistent with ex system type; f) pla nommunity structure	stratum = 8, few to c) regeneration an expected; e) density ant condition = 8, co e; h) topographic fe	no d and onsistent
	•					
Score = sum of above scores/30 (if uplands, divide by 20) current or w/o pres with 0.77 0	If preservation as mitigated Preservation adjustmented Mitigation delt	nt factor =	FL = d	For impact assess lelta x acres = -0. restored in-situ	77 x 18.6 = 14.3	
	If mitigation					
Delta = [with-current]	Time lag (t-factor) =		Fo	or mitigation asse	ssment areas	
-0.77	Risk factor =		RFG =	e delta/(t-factor x i	risk) =	

Site/Project Name		Application Number	er		Assessment Area Name	or Number
FPL Turkey Point Units 6					Mangrove/Exotic V	Vetland Hardwoods
Facilities/Reclaimed Wa	ter Pipelines				3	
FLUCCs code	Further classifica	tion (optional)		Impac	t or Mitigation Site?	Assessment Area Size
612/619					Impact	5.2 acres
Basin/Watershed Name/Number	Affected Waterbody (Clas	39)	Special Classification	on (i.e.C	DFW, AP, other local/state/federal	designation of importance)
C-1, DA-4, C-102, C-103, North	,	,	openal classificati	OTT (O.C	None	assignation of importance,
-	Irologic connection with	wetlands, other s	urface water, uplar	nds		
Hydrologically connected to surrou	nding mangrove swamp	os, mixed wetland	hardwoods and fre	eshwa	ter marshes.	
Assessment area description						
						•
Significant nearby features			Uniqueness (collandscape.)	nsideri	ing the relative rarity in	relation to the regional
FPL Turkey Poi	nt Plant, Biscayne Bay				Not unique	
Functions			Mitigation for pre-	vious p	permit/other historic use	1
Water stora	ge, wildlife habitat				N/A	
Anticipated Wildlife Litilization Base	ed on Literature Review	(List of species	Anticipated Utiliza	ation h	by Listed Species (List s	necies their legal
				T, SSC	C), type of use, and inte	
Basin/Watershed Name/Number C-1, DA-4, C-102, C-103, North Canal, Florida City/03090202 Geographic relationship to and hydrologic connection with wetlands, other surf. Hydrologically connected to surrounding mangrove swamps, mixed wetland has Assessment area description Areas of exotic wetland hardwoods occur within the corridor, intermixed with mexotic species Brazilian pepper, with subdominant species including Australian paragrass, and torpedo grass. Significant nearby features FPL Turkey Point Plant, Biscayne Bay Functions Water storage, wildlife habitat Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found) Wading birds, shorebirds, forage fishes Observed Evidence of Wildlife Utilization (List species directly observed, or oth None Additional relevant factors:			Occasional use by wading birds such as roseate spoonbill (SSC), white ibis (SSC), little blue heron (SSC), wood stork (E), reddish egret (SSC), snowy egret (SSC) and tricolor heron (SSC). Also white-crowned pigeon (T).			
Observed Evidence of Wildlife Utili.	zation (List species dire	ctly observed, or o	other signs such as	s track	s, droppings, casings, r	nests, etc.):
		None)			
Additional relevant factors:						
Assessment conducted by:			Assessment date	(e)·		
			1/9/2009	(σ).		
U. INIZZU			1/3/2003			

Site/Project Name FPL Turkey Point Units 6 & 7/Ass	ociated Facilities/Reclaimed	Application Number		a Name or Number
Water Pipe				otic Wetland Hardwoods
Impact or Mitigation		Assessment conducted by:	Assessment date	
Impac	ct	S. Rizzo		1/9/2009
Scoring Guidance	Optimal (10)	Moderate (7)	Minimal (4)	Not Present (0)
The scoring of each	Optimal (10)	Condition is less than	Hillina (4)	Not i resent (0)
indicator is based on what would be suitable for the	Condition is optimal and fully supports wetland/surface	optimal, but sufficient to maintain most	Minimal level of support of wetland/surface water	Condition is insufficient to provide wetland/surface
type of wetland or surface	water functions	wetland/surface	functions	water functions
water assessed		waterfunctions		
	I			
.500(6)(a) Location and Landscape Support w/o pres or current with 0	roadways, mining, and transn Part 1 by outside habitats = 6 Wildlife access to and from or distance or barriers = 6, some to proximity of Turkey Point fa areas downstream of assessi	ort variable is slightly reduced nission line right-of-way. Indivi, due to adjacent disturbances utside = 6, some limitations; d) a barriers; e) Impacts to wildlife acility, roadways, mining, and the nent area = 6, several hydrologe benefits to downstream area	idual parameter scores: a) S; b) Invasive exotic species = functions that benefit fish & ve listed in Part 1 by outside la ransmission line right-of-way. gical impairments; g) Dependent	upport to wildlife listed in 6, many present; c) wildlife downstream- nd uses = 6, reduced due ; f) Hydrologically connected
.500(6)(b)Water Environment (n/a for uplands) w/o pres or current with 6	Individual parameter scores: 6, slightly lower than expecter observed; e) evidence of fire stress on vegetation = 6, due = 6, few evidence observed; i	is slightly reduced due to water a) water levels and flows = 6, d; c) soil moisture = 6, drier that history = N/A; f) vegetation cort to lower water levels; h) use b) vegetative species tolerant on of water quality = N/A; k) exist the penetration = N/A.	slightly lower than expected; an expected; d) soil erosion o mmunity zonation = 6, exotics y animal species with specifi f and associated with water q	b) water level indicators = r deposition = 6, some r present; g) hydrologic c hydrological requirements uality degradation = 6, few
.500(6)(c)Community structure				
Vegetation and/or Benthic Community w/o pres or current with 0	plant community species in the exotics or other invasive plan recruitment; d) age & size dis quality of coarse woody debrig) land management practice	able is reduced due to present to canopy, shrub, or ground stitt species = 6, many present; of tribution = 6, lower water level; s, snag, den, and cavity = 6, let s = 6, alteration evident; h) top quatic plant communities = N/A	ratum = 6, dominated by exot) regeneration and recruitmer s possibly affecting age distri ess than expected; f) plant co prographic features = 6, less th	ic species; b) invasive nt = 6, some evidence of bution; e) density and ndition = 6, low recruitment;
Score = sum of above scores/30 (if	If preservation as mitiga	ation,	For impact asses	sment areas
uplands, divide by 20)	Preservation adjustmen			
current or w/o pres with	l 		FL = delta x acres = -0 be restored in-situ)	.60 x 5.2 = 3.1 (to
0.60 0	Adjusted mitigation delt	a =	,	
	J			
	If mitigation		For mitigation asse	essment areas
Delta = [with-current]	Time lag (t-factor) =			
-0.60	Risk factor =		RFG = delta/(t-factor x	risk) =

Site/Project Name		Application Number	er	A	Assessment Area Name	or Number
FPL Turkey Point Units 6 8	& 7/Associated				Mixed Wetler	nd Hardwoods
Facilities/Reclaimed Wa					wiixeu vveilai	iu naiuwoous
FLUCCs code	Further classifica	ntion (optional)		Impact	or Mitigation Site?	Assessment Area Size
. 20000 0000	T di ilitor diadoliida			IIIIpact	or willigation ofte:	ASSESSITIETIT ATEA OIZE
617					Impact	8.6 acres
Basin/Watershed Name/Number	Affected Waterbody (Clas	26)	Special Classificati	on (: • O	FW, AP, other local/state/federal	designation of importance)
C-1, DA-4, C-102, C-103, North	Allected Waterbody (Clas	55)	Special Classificati	OII (i.e.Oi		designation of importance)
Canal, Florida City/03090202					None	
	landa ain ann an Aine an Isla					
Geographic relationship to and hyd	irologic connection with	wetiands, other si	urrace water, upiar	nas		
I bedaala sia albera araa aka dika assaasa						
Hydrologically connected to surrou	nding mangrove swamp	os, exotic wetiands	s and freshwater m	narsnes	i.	
Assessment area description						
1						
Several areas of mixed wetland ha	rdwood/mixed forested	wetland communi	ties are present wi	thin the	corridor. These areas	s are comprised of a
variety of canopy species, including	g buttonwood, Australiar	n pine, cocoplum,	red mangrove, Bra	azilian p	pepper, cabbage palm	, and willow.
			I 11=1=================================	! . ! ! .		
Significant nearby features				nsiderir	ng the relative rarity in	relation to the regional
			landscape.)			
EDI Turkun Dai	at Diagt Diagram - Day				Nat	
FPL Turkey Poli	nt Plant, Biscayne Bay				Not unique	
Functions			Mitigation for prev	vious n	ermit/other historic use	1
i dilottorio			Willigation for pre-	vious p	emiliother matoric dae	•
Water stora	ge, wildlife habitat				N/A	
Anticipated Wildlife Utilization Base	ed on Literature Review	(List of species	Anticipated Utiliza	ation by	Listed Species (List s	pecies, their legal
that are representative of the asses	ssment area and reason	nably expected to	classification (E,	T, SSC), type of use, and inte	nsity of use of the
be found)			assessment area	1)		
			Occasional use b	di	ag hirda ayah aa raasa	to anocabill (SSC)
				•	ng birds such as rosea	stork (E), reddish egret
Wading birds, sh	norebirds, forage fishes				C) and tricolored heror	
			crowned pigeon (-,	(000)
			<u> </u>		 	
Observed Evidence of Wildlife Utiliz	zation (List species dire	ctly observed, or o	other signs such as	s tracks	s, droppings, casings, r	nests, etc.):
		None	•			
Additional relevant factors:						
Assessment conducted by:			Assessment date	e(s):		
S. Rizzo			1/9/2009			

Site/Project Name FPL Turkey Point Units 6 & 7/Ass Water Pip		Application Number		rea Name or Number Wetland Hardwoods	
Impact or Mitigation	Cirico	Assessment conducted by:	Assessment da	nte:	
Impa	ct	S. Rizzo		1/9/2009	
Scoring Guidance	Optimal (10)	Moderate (7)	Minimal (4)	Not Present (0)	
The scoring of each indicator is based on what	Condition is optimal and fully	Condition is less than optimal, but sufficient to	Minimal level of support o	f Condition is insufficient to	
would be suitable for the	supports wetland/surface	maintain most	wetland/surface water	provide wetland/surface	
type of wetland or surface	water functions	wetland/surface	functions	water functions	
water assessed	Water rametierie	waterfunctions	Tarrottorio	Water ramoners	
.500(6)(a) Location and Landscape Support w/o pres or current with	Individual parameter scores: Biscayne Bay; b) Invasive exc limitations; d) functions that b wildlife listed in Part 1 by outs Hydrologically connected area	ort variable is slightly reduced a) Support to wildlife listed in otic species = 7, minimal cove enefit fish & wildlife downstreaside land uses = 7, slightly redias downstream of assessment area = 7	Part 1 by outside habitats = rage; c) Wildlife access to a m-distance or barriers = 7, uced due to proximity of Turt area = 7, some hydrological	7, due to proximity of nd from outside = 7, some some barriers; e) Impacts to key Point facility; f) al impairments; g)	
.500(6)(b)Water Environment (n/a for uplands) w/o pres or current with 0	scores: a) water levels and fl expected; c) soil moisture = 7 evidence of fire history = N/A; stress on vegetation = 7, due = 7, some evidence observed	is slightly reduced due to watows = 7, slightly lower than exf., slightly consistent with experts of the state of the stat	pected; b) water level indicated; d) soil erosion or deposition = 7, slightly consistent by animal species with species of and associated with wat	ators = 7, slightly lower than sition = 7, some observed; e) with expected; g) hydrologic fic hydrological requirements er quality degradation = 7,	
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community w/o pres or current with 7 0	Individual parameter scores: dominated by native species; regeneration and recruitment possibly affecting age distributionsistent with expected; f) p	able is high due to species div a) plant community species in b) invasive exotics or other ir = 7, some evidence of recruitr tion; e) density and quality of lant condition = 7, low recruitm es = 7, some present; i) siltation	the canopy, shrub, or ground avasive plant species = 7, soment; d) age & size distribut coarse woody debris, snag, ment; g) land management p	d stratum = 7, mostly ome coverage; c) ion = 7, lower water levels den, and cavity = 7, slightly ractices = 7, some alteration	
0	16 manage - 16 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	ation	Facilities and	and areas	
Score = sum of above scores/30 (if uplands, divide by 20)	If preservation as mitiga	ation,	For impact asse	essment areas	
	Preservation adjustmen	nt factor =	E1 4.9	0.70 0.0 0.0	
current			FL = delta x acres =		
or w/o pres with	Adjusted mitigation delt	a =	be restored in-situ)		
0.70 0					
	4				
	If mitigation		F-1 20 0		
Delte field	1		For mitigation as	sessment areas	
Delta = [with-current]	Time lag (t-factor) =		RFG = delta/(t-factor	x risk) =	
-0.70	Risk factor =	1	ra o denda (crasion x non)		

Site/Project Name		Application Number	r		Assessment Area Name	or Number
FPL Turkey Point Units 6 & 7/A					Freshwate	er Marshes
Facilities/Reclaimed Water Pi	,					1
FLUCCs code	Further classifica	tion (optional)		Impac	t or Mitigation Site?	Assessment Area Size
641					Impact	4.1 acres
Basin/Watershed Name/Number Affect	ted Waterbody (Clas	ss)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)			
C-1, DA-4, C-102, C-103, North Canal, Florida City/03090202			·		None	
Geographic relationship to and hydrolog	ic connection with	wetlands, other si	urface water, uplar	nds		
Hydrologically connected to surrounding	mangrove swamp	s, exotic wetlands	and mixed forest	ed we	tlands.	
Assessment area description						
Areas of freshwater marsh occur within t These areas are vegetated with predomi shrub and canopy species such as willow	inantly herbaceous	s species, includin	g primrose willow,	sawg	rass, and torpedo grass	
Significant nearby features			Uniqueness (cor landscape.)	nsider	ing the relative rarity in	relation to the regional
FPL Turkey Point Pla	nt, Biscayne Bay				Not unique	
Functions			Mitigation for prev	/ious p	permit/other historic use	9
Water storage, w	ildlife habitat				N/A	
Anticipated Wildlife Utilization Based on that are representative of the assessmen be found)				T, SSC	y Listed Species (List s C), type of use, and inte	
Wading birds, shorebi	rds, forage fishes		white ibis (SSC),	little b ret (SS	ing birds such as rosea lue heron (SSC), wood SC) and tricolor heron (stork (E), reddish egret
Observed Evidence of Wildlife Utilization	(List species direct	ctly observed, or o	ther signs such as	s track	s, droppings, casings,	nests, etc.):
		None				
Additional relevant factors:						
Assessment conducted by:			Assessment date	(s):		
S. Rizzo			1/9/2009			

Site/Project Name		Application Number	l.	Assessment Area	Name or Number	
FPL Turkey Point Units 6 & 7/Ass	sociated Facilities/Reclaimed	, ipprication rumber	ĺ		hwater Marshes	
Water Pip	elines					
Impact or Mitigation		Assessment conducted by:	1	Assessment date	:	
Impa	ct	S. Rizzo			Jun-08	
Scoring Guidance	Optimal (10)	Moderate (7)	Mini	imal (4)	Not Present	: (0)
The scoring of each indicator is based on what	Condition is optimal and fully	Condition is less than optimal, but sufficient to	Minimal leve	el of support of	Condition is insuf	ficient to
would be suitable for the	supports wetland/surface	maintain most		surface water	provide wetland/	
type of wetland or surface	water functions	wetland/surface	fun	nctions	water function	ons
water assessed		waterfunctions				
	1					
.500(6)(a) Location and Landscape Support w/o pres or current with 7	Individual parameter scores: Biscayne Bay; b) Invasive ex- limitations; d) functions that b wildlife listed in Part 1 by outs Hydrologically connected are	oort variable is slightly reduced a) Support to wildlife listed in lotic species = 7, minimal cover enefit fish & wildlife downstreaside land uses = 7, slightly reduas downstream of assessment area = 7	Part 1 by outs rage; c) Wildli am-distance ou uced due to p t area = 7, sor	side habitats = 7, ife access to and or barriers = 7, so proximity of Turke me hydrological i	due to proximity of from outside = 7, s me barriers; e) Imp ey Point facility; f) impairments; g)	some
.500(6)(b)Water Environment (n/a for uplands) w/o pres or current with 0	scores: a) water levels and fl expected; c) soil moisture = 7 evidence of fire history = N/A stress on vegetation = 7, due = 7, some evidence observed	is slightly reduced due to water lows = 7, slightly lower than ext, slightly consistent with expect, f) vegetation community zone to lower water levels; h) use but; i) vegetative species tolerant ervation of water quality = N/A; and light penetration = N/A.	spected; b) wa cted; d) soil er ation = 7, sligh by animal spec t of and assoc	ater level indicato rosion or depositi ntly consistent wi cies with specific ciated with water	ors = 7, slightly lowers ion = 7, some obseth expected; g) hydrological required quality degradation	er than erved; e) drologic rements n = 7,
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community w/o pres or current with 7 0	Individual parameter scores: dominated by native species; regeneration and recruitment possibly affecting age distribu consistent with expected; f) p	able is high due to species div a) plant community species in b) invasive exotics or other in = 7, some evidence of recruitr ution; e) density and quality of lant condition = 7, low recruitm res = 7, some present; i) siltation	the canopy, so nvasive plant soment; d) age & coarse woody nent; g) land n	shrub, or ground a species = 7, som & size distribution y debris, snag, de management prac	stratum = 7, mostly the coverage; c) the = 7, lower water le then, and cavity = 7, some alto	v evels slightly
Score = sum of above scores/30 (if	If preservation as mitiga	ation,	F	or impact assess	sment areas	
uplands, divide by 20)	Preservation adjustmer	nt factor =				
current	1 10301 Valion aujustinei	it lactor =			70 x 4.1 = 2.9 (to	
or w/o pres with	Adjusted mitigation delt	ta =	be res	tored in-situ)		
0.70 0			-			
	If mitigation				-	
	7		Fo	r mitigation asse	ssment areas	
Delta = [with-current]	Time lag (t-factor) =		RFG =	delta/(t-factor x	risk) =	
-0.70	Risk factor =		N 0 =	acita/(t lactor X		

Site/Project Name		Application Number	er		Assessment Area Name	or Number
FPL Turkey Point Units 6	& 7/Associated				Canala/Ditah	es/Reservoirs
Facilities/Roadway Im	provements				Canais/Ditch	es/Reservoirs
FLUCCs code	Further classifica	ation (optional)		Impoo	et or Mitigation Site?	Assessment Area Size
1 2000 0000	l ditilor blacomod	ation (optional)		ппрас	a or willigation Site!	Assessment Area Size
510/511/534					Impact	7.3 acres
					•	
Basin/Watershed Name/Number	Affected Waterbody (Clas	20)	Cassial Classificati	on (; .)	DEM AD all and a late of the late of	Linda of the Comment
DA-4/Florida City/North	Affected Waterbody (Class	55)	Special Classificati	Off (i.e.d	DFW, AP, other local/state/federal	designation of importance)
Canal/03090202					None	
Geographic relationship to and hyd	drologic connection with	wetlands, other s	surface water, upla	ands		
Adjacent to roadways. Hydrologica	ally connected to surrous	nding mixed wetla	and hardwoods an	d fresl	nwater marshes: howev	er does not annear to
connect to a canal system or other			ina narawoodo an	u 11001	iwator maroneo, nowev	or, does not appear to
-		-				
Assessment area description						
Canals and ditches are relatively for	ree of emergent aquatic	vegetation altho	ugh submerged a	nuatic	vegetation is common	Most of the canals
contain submerged aquatic vegeta						Woot of the bands
god aquano regena	mon, principally migoons	g. a.o.o, ooa		gao a.	oo p. ooo	
Cignificant paceby factures			Uniqueness (co	nside	ring the relative rarity in	relation to the regional
Significant nearby features			landscape.)			•
FPL Turkev Poi	int Plant, Biscayne Bay				Not unique	
The rankey Femilians, Bloodyne Bay					'	
Functions			Mitigation for pre	vious	permit/other historic use	Э
Water st	orage, drainage				N/A	
Anticipated Wildlife Utilization Base	ed on Literature Review	(List of species	Anticipated Utiliz	ation b	y Listed Species (List s	species, their legal
that are representative of the asse	ssment area and reason	nably expected to	classification (E,	T, SS	C), type of use, and inte	ensity of use of the
be found)			assessment area)			
			Occasional		ling hinda ayah as usasa	ota anaanhiii (CCC)
			Uccasional use t	y wac	ling birds such as rosea	stork (E), reddish egret
Wading bi	rds, forage fishes				SC) and tricolored hero	
						merican alligator (TSA).
			The state of the	3	() ,	g (· · · ·)
Observed Evidence of Wildlife Utili	zation (List species dire	ectly observed, or	other signs such a	as trac	ks, droppings, casings,	nests, etc.):
	America	an alligator was ol	bserved in the can	ıal.		
Additional relevant factors:						
Additional relevant lactore.						
Assessment conducted by:			Assessment date)(c)·		
				(S).		
K. Bullock, S. Rizzo			6/2/2008			

Site/Proje				Application Number		Assessment Area	a Name or Number	
FPL Tu	rkey Point Unit	ts 6 & 7/As: Improvem	sociated Facilities/Roadway nents			Canals/Ditches		
mpact or	Mitigation			Assessment conducted by: Assessment date:				
		Impac	ct	K. Bullock, S. Rizz	0	Assessment date: 6/2/2008 Inimal (4) Not Present Condition is insuf provide wetland/ water function F Palm Drive and lack of connectivity of Idifferent connectivity to other surface waters; d) fun- use this is a closed system; e) Impacts elatively undisturbed with exception of the a = N/A due to closed system; g)		
	ng Guidance		Optimal (10)	Moderate(7)	Mi	nimal (4)	Not Present	(0)
ndicator would be type of w	coring of each is based on whe suitable for the etland or surfacer assessed	ne	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	wetland	/surface water	provide wetland/	/surface
	0(6)(a) Location andscape Supp or		to other surface waters. Indiv due to proximity of nearby roa Wildlife access to and from or that benefit fish & wildlife dow wildlife listed in Part 1 by outs Drive; f) Hydrologically conne	ridual parameter scores: a) Suadways; b) Invasive exotic spe utside = 5, decreased due to la rnstream-distance or barriers = side land uses = 5, surrounding	upport to will ecies = 5, con ack of conne = N/A becau g habitats re sessment are	dlife listed in Part of the most occurrence was trivity to other surse this is a closed latively undisturbe as = N/A due to closed.	1 by outside habita within assesment a face waters; d) fun system; e) Impacts ad with exception of osed system; g)	ts = 5, rea; c) ections s to
5		0						
. ,)(b)Water Envi (n/a for upland		or canal system. Individual p indicators = 5, mostly consist or deposition = 5, typical pattrappropriate for community typ with specific hydrological requassociated with water quality	arameter scores: a) water levent with expected; c) soil mois erns for canal; e) evidence of foe; g) hydrologic stress on veguirements = 5, due to artificial degradation = 5, some pollutioloration; K) existing water qua	els and flow ture = 5, mo rire history = petation = 5, hydroperiod on tolerant s	s = 5, no flow evid stly consistent with N/A; f) vegetation relatively minimal; ; i) vegetative spec pecies present; j) o	lent; b) water level h expected; d) soil community zonation; h) use by animal soices tolerant of and direct observation of	erosion on = 5, species l of water
	l							
1.	(c)Community Vegetation and Benthic Common	id/or	parameter scores: a) plant co invasive exotics or other inva- recruitment; d) age & size dis and cavity = 5, due to excava management practices = 4, d	mmunity species in the canop sive plant species = 5, present tribution = 6, slightly atypical; of ted canal banks; f) plant condi- ue to alteration of community:	y, shrub, or t; c) regener e) density ar ition = 7, ger structure and	ground stratum = ation and recruitm nd quality of coars nerally good plant d hydroperiod; h) t	4, few species pres lent = 6, near norm e woody debris, sn condition; g) land topographic feature	sent; b) al ag, den
	sum of above so		If preservation as mitiga	ation,		For impact assess	sment areas	
current or w/o pre 0.50	es 1	with 0	Preservation adjustmer Adjusted mitigation delt		FL =	delta x acres = 0.5	50 x 7.3 = 3.65	
			If mitigation		F	or mitigation asse	ssment areas	
De	elta = [with-curr	rent]	Time lag (t-factor) =					
	-0.50		Risk factor =		RFG	= delta/(t-factor x	risk) =	

Site/Project Name FPL Turkey Point Units 6 & Facilities/Roadway Impr		Application Number	er	Ass		ne or Number es and Mixed Wetland reshwater Marshes			
FLUCCs code	Further classifica	ation (optional)		Impact or	Mitigation Site?	Assessment Area Size			
612-B, 617/641		,			Impact	7.5 acres (612-B) 5.6 acres (617/641)			
Basin/Watershed Name/Number DA-4/Florida City/North Canal/03090202	Affected Waterbody (Class	ss)	Special Classificati	ion (i.e.OFW,	, AP, other local/state/fede	eral designation of importance)			
Geographic relationship to and hydro	ologic connection with	wetlands, other s	surface water, upla	ands					
Adjacent to roadways and exotic we	tland hardwoods. Hyd	drologically conne	ected to Biscayne E	Bay throu	gh adjacent wetlar	nds.			
Assessment area description									
Areas of mangroves occur within the mangrove and black mangrove, alor and occasional Australian pine. Sev and adjacent to the roadway improve buttonwood, Australian pine, cocople	ng with subdominant selected with subdominant selected were transfer and selected with subdominant selected with sel	species white man vetland hardwood se areas are com	grove, buttonwood communities interiorised of a variety bbage palm, willow	d, Brazilia mixed wit of native w, and he	in pepper, cocoplu th freshwater mars and exotic canopy erbaceous species	im, sea grape, half-flower, shes are present within / species, including such as sawgrass.			
Significant nearby features	gnificant nearby features FPL Turkey Point Plant, Biscayne Bay				Uniqueness (considering the relative rarity in relation to the regional landscape.)				
FPL Turkey Point				Not unique					
Functions			Mitigation for pre	vious per	mit/other historic u	ıse			
Water stor	age, drainage				N/A				
Anticipated Wildlife Utilization Based that are representative of the assess be found)				T, SSC),		st species, their legal ntensity of use of the			
Wading bird	s, forage fishes		Occasional use by wading birds such as roseate spoonbill (SSC), white ibis (SSC), little blue heron (SSC), wood stork (E), reddish egre (SSC), snowy egret (SSC) and tricolored heron (SSC) as well as white-crowned pigeon (T).						
Observed Evidence of Wildlife Utiliza	ation (List species dire	ectly observed, or	other signs such a	as tracks,	droppings, casing	js, nests, etc.):			
		None	•						
Additional relevant factors:									
Assessment conducted by:			Assessment date	e(s):					
K. Bullock, S. Rizzo			6/2/2008						

PART II - Quantification of Assessment Area (impact or mitigation) (See Sections 62-345.500 and .600, F.A.C.)

			I		 					
Site/Project Name FPL Turkey Point Un	its 6 & 7/As	sociated Facilities/Roadway	Application Number	F	Assessment Area Name or Number Dwarf Mangroves and Mixed Wetland					
,	Improvem	•			Hardwoods/Freshwater Marshes					
Impact or Mitigation			Assessment conducted by:	F	Assessment date:					
	Impac	et	K. Bullock, S. Rizz	0		6/2/2008				
Scoring Guidance		Optimal (10)	Moderate(7)	Min	imal (4)	Not Present	(0)			
The scoring of each		On a little at the section of the little	Condition is less than	Minima I I a		On a little as in in a set	· · · · · · · · · · · ·			
indicator is based on w would be suitable for t		Condition is optimal and fully supports wetland/surface	optimal, but sufficient to maintain most		el of support of surface water	Condition is insuf provide wetland/				
type of wetland or surfa		water functions	wetland/surface		nctions	water function				
water assessed			waterfunctions							
.500(6)(a) Locatio Landscape Sup		road and slight isolation from listed in Part 1 by outside hab exotics species present; c) W habitats due to roadways; d) t to slight isolation from other h	ort variable is slightly reduced surrounding mangrove swamp itats = 7, due to proximity of n ildlife access to and from outs functions that benefit fish & will abitats due to roadways; e) Imy undisturbed with exception o	os. Individual earby roadwa ide = 7, decre Idlife downstre npacts to wildl	parameter score lys; b) Invasive e eased due to sligh eam-distance or b life listed in Part	es: a) Support to wi xotic species = 7, s ht isolation from oth barriers = 7, decrea 1 by outside land us	ildlife some ier ased due			
w/o pres or	20.		rea = 7, hydrologically connec				ndency			
current	with	of downstream areas on asse	tream areas on assessment area = 6, some benefit to downstream areas.							
7	0									
.500(6)(b)Water Env (n/a for upland w/o pres or current 8		roadways and increased salir expected; b) water level indic soil erosion or deposition = 9, due to sparse cover; g) hydro specific hydrological requirer with water quality degradatior	is somewhat reduced due to thity. Individual parameter scorators = 7, slightly less than explored and the strain of the strain o	res: a) water I pected; c) soil of fire history : stress from h pected; i) vege salinities preso	levels and flows a moisture = 9, co = N/A; f) vegetatingh salinity; h) us etative species tolent; j) direct obse	= 7, slightly less that posistent with expection community zona se by animal speciellerant of and assocervation of water que	oted; d) ation = 6, es with iated uality = 8,			
.500(6)(c)Community	structure									
Vegetation ar Benthic Comm		The community structure variable is slightly reduced due to high salinity. Individual parameter scores: a) plant community species in the canopy, shrub, or ground stratum = 9, mostly all desirable species; b) invasive exotics or other invasive plant species = 9, very few present; c) regeneration and recruitment = 7, near normal recruitment; d) age & size distribution = 7, atypical due to high salinity; e) density and quality of coarse woody debris, snag, den, and savity = N/A; f) plant condition = 7, generally good plant condition; g) land management practices = 8, h) topographic eatures = 9, slightly less than optimal; i) siltation or algal growth in submerged aquatic plant communities = N/A.								
w/o pres or	:41=	icatares = 5, siignity iess trial	r optimal, ij silialion of algar gr	OWEN IN SUDIN	cryca aquatic pic	ant communities = 1	4 // 1 .			
current	with	1								
8	0									
		1								
Score = sum of above so uplands, divide by		If preservation as mitiga	ation,	F	or impact assess	sment areas				
current		Preservation adjustmen	nt factor =	tor = FL = delta x acres = 0.77 x 7.5 = 5.78						
or w/o pres	with	Adjusted mitigation delt	a =	(612-B	s), 0.77 x 5.6 = 4.	31 (617/641)				
0.77	0]								
		If mitigation								
Delta = [with-cur	rent]	Time lag (t-factor) =		For mitigation assessment areas						
-0.77	-	Risk factor =		RFG = delta/(t-factor x risk) =						
		J								

Form 62-345.900(2), F.A.C. [effective date]

Site/Project Name	Application Numbe	mber Assessment Area Name of			or Number		
FPL Turkey Point Units 6 & 7/					Mixed Wetlar	nd Hardwoods	
Facilities/Roadway Improv	ements						
FLUCCs code	Further classifica	ition (optional)		Impact	or Mitigation Site?	Assessment Area Size	
617					Impact	9.1 acres	
Basin/Watershed Name/Number Affe DA-4/Florida City/North	ected Waterbody (Clas	SS)	Special Classification	on (i.e.OF	FW, AP, other local/state/federal	designation of importance)	
Canal/03090202					None		
Geographic relationship to and hydrolo	gic connection with	wetlands, other s	urface water, upla	ands			
Adjacent to roadways. Surrounded by	reshwater marshes	. Hydrologically o	onnected to Bisca	ayne Ba	ay through adjacent we	etlands.	
Assessment area description							
Several areas of mixed wetland hardwo hardwoods are comprised of a variety Brazilian pepper, cabbage palm, and w	of native and exotic						
Significant nearby features			Uniqueness (collandscape.)	nsiderii	ng the relative rarity in	relation to the regional	
FPL Turkey Point Plant, Biscayne Bay			Not unique				
Functions			Mitigation for prev	vious p	permit/other historic use	-	
Water s	orage				N/A		
Anticipated Wildlife Utilization Based of that are representative of the assessment be found)			Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)				
Passerine birds and other w	ildlife typical to the	region	Occasional use by white-crowned pigeon (T).				
Observed Evidence of Wildlife Utilization	n (List species dire	ectly observed, or	Lother signs such a	as track	s, droppings, casings,	nests, etc.):	
	White-cro	wned pigeon obso	erved flying overho	ead.			
Additional relevant factors:							
Assessment conducted by:			Assessment date	e(s):			
K. Bullock, S. Rizzo			6/2/2008				

Form 62-345.900(1), F.A.C. [effective date]

PART II - Quantification of Assessment Area (impact or mitigation) (See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name FPL Turkey Point Units 6 & 7/Ass Improvem	•	Application Number		Assessment Area Name or Number Mixed Wetland Hardwoods				
Impact or Mitigation		Assessment conducted by:		Assessment date	:			
Impac	xt	K. Bullock, S. Rizz	0	6/2/2008				
	0 11 1110					(0)		
Scoring Guidance The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Optimal (10) Condition is optimal and fully supports wetland/surface water functions	Moderate(7) Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal lev	nimal (4) vel of support of surface water nctions	Not Present Condition is insu provide wetland water functi	fficient to /surface		
						1		
.500(6)(a) Location and Landscape Support w/o pres or current with 0	Individual parameter scores: Biscayne Bay; b) Invasive exc unlimited access; d) functions downstream areas; e) Impact Turkey Point facility; f) Hydrol	ocation and landscape support variable is slightly reduced due to proximity of existing Turkey Point facility. dividual parameter scores: a) Support to wildlife listed in Part 1 by outside habitats = 8, due to proximity of iscayne Bay; b) Invasive exotic species = 4, moderate coverage; c) Wildlife access to and from outside = 8, mostly nlimited access; d) functions that benefit fish & wildlife downstream-distance or barriers = 8, no impedence to ownstream areas; e) Impacts to wildlife listed in Part 1 by outside land uses = 7, slightly reduced due to proximity of urkey Point facility; f) Hydrologically connected areas downstream of assessment area = 8, no impedence to ownstream areas; g) Dependency of downstream areas on assessment area = 6, some benefit to downstream reas.						
.500(6)(b)Water Environment (n/a for uplands) w/o pres or current with	of exotic species. Individual p indicators = 8, consistent with 8, consistent with expected; e habitat due to presence of ex- with specific hydrological requ with water quality degradation	is slightly reduced due to the aparameter scores: a) water level expected; c) soil moisture = 8 e) evidence of fire history = N/A otics; g) hydrologic stress on valirements = 8, consistent with n = 8, none observed; j) direct epth wave, wave energy, curre	vels and flow s, consistent s; f) vegetation egetation = 8 expected; i) vobservation of	s = 8, consistent v with expected; d) on community zon 8, no stress noted vegetative species of water quality =	with expected; b) we soil erosion or depetation = 4, atypical; h) use by animal is tolerant of and as N/A; K) existing we	vater level position = for the species ssociated		
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community w/o pres or current with 7 0 The community structure variable is reduced due to low species diversity resulting from presence of exotics. Individual parameter scores: a) plant community species in the canopy, shrub, or ground stratum = 6, dominated be exotic species; b) invasive exotics or other invasive plant species = 4, moderate to high coverage; c) regeneration and recruitment = 7, typical; d) age & size distribution = 7, typical; e) density and quality of coarse woody debris, snag, den, and cavity = 7, adequate for system type; f) plant condition = 7, due to dead stems and low productivity than optimal; i) siltation or algal growth in submerged aquatic plant communities = N/A.								
Score = sum of above scores/30 (if uplands, divide by 20) current or w/o pres with 0.70 0	If preservation as mitigated Preservation adjustment Adjusted mitigation delt	nt factor =		For impact assess				
	If mitigation					Ī		
Delta = [with-current]	If mitigation Time lag (t-factor) =		Fo	or mitigation asse	ssment areas			
-0.70	Risk factor =		RFG =	= delta/(t-factor x ı	risk) =			

Form 62-345.900(2), F.A.C. [effective date]

Site/Project Name	Application Number	r		Assessment Area Name or Number				
FPL Turkey Point Units 6 & Facilities/Roadway Imp					Exotic Wetlar	nd Hardwoods		
FLUCCs code	Further classifica	tion (optional)		Impac	t or Mitigation Site?	Assessment Area Size		
619					Impact	4.2 acres		
Basin/Watershed Name/Number DA-4/Florida City/North Canal/03090202	Affected Waterbody (Clas	ss)	Special Classification	on (i.e.C	DFW, AP, other local/state/federal	designation of importance)		
Geographic relationship to and hyd	rologic connection with	wetlands, other so	urface water, uplar	nds				
Adjacent to roadways; intermixed w	ith freshwater marshes	and mixed wetlar	nd hardwoods.					
Assessment area description								
Areas of exotic wetland hardwoods nuisance exotic species Brazilian p elderberry, primrose willow, cattail,	epper, additional specie	es commonly obse						
Significant nearby features			Uniqueness (considering the relative rarity in relation to the regional landscape.)					
FPL Turkey Point Plant, Biscayne Bay			Not unique					
unctions			Mitigation for prev	vious p	permit/other historic use	•		
Water storaç	functions Water storage, wildlife habitat			N/A				
Anticipated Wildlife Utilization Base that are representative of the asses be found)		•	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)					
Wading birds, sh	orebirds, forage fishes		Occasional use by wading birds such as roseate spoonbill (SSC), white ibis (SSC), little blue heron (SSC), wood stork (E), reddish egret (SSC), snowy egret (SSC) and tricolor heron (SSC). Also white-crowned pigeon (T).					
Observed Evidence of Wildlife Utiliz	ation (List species dire	ctly observed, or o	ther signs such as	s track	s, droppings, casings, r	nests, etc.):		
		None						
Additional relevant factors:								
Assessment conducted by:			Assessment date	e(s):				
K. Bullock, S. Rizzo			6/2/2008					

Form 62-345.900(1), F.A.C. [effective date]

PART II – Quantification of Assessment Area (impact or mitigation) (See Sections 62-345.500 and .600, F.A.C.)

0: /0 :		la recent								
Site/Project Name FPL Turkey Point Units 6 & 7/Ass Improvem	•	Application Number	ľ	Assessment Area Name or Number Exotic Wetland Hardwoods						
Impact or Mitigation	icitis	Assessment conducted by:		Assessment date	:					
Impac	et	K. Bullock, S. Rizzo	0		6/2/2008					
Scoring Guidance	Optimal (10)	Moderate (7)	Min	imal (4)	Not Presen	t (0)				
The scoring of each	Condition is optimal and fully	Condition is less than	Minimal lov	el of support of	Condition is insuf	ficient to				
indicator is based on what would be suitable for the	supports wetland/surface	optimal, but sufficient to maintain most		surface water	provide wetland					
type of wetland or surface	water functions	wetland/surface		nctions	water functi					
water assessed		waterfunctions								
.500(6)(a) Location and Landscape Support	Individual parameter scores: Point facility b) Invasive exoti limitations; d) functions that b	ort variable is slightly reduced a) Support to wildlife listed in l c species = 6, prevalent covera enefit fish & wildlife downstrea	Part 1 by outs age; c) Wildlit m-distance c	side habitats = 6, fe access to and b or barriers = 6, roa	due to proximity o from outside = 6, s adway barriers; e)	ome Impacts				
w/o pres or		utside land uses = 6, slightly re onnected areas downstream of								
current with	g) Dependency of downstream areas on assessment area = 6, some benefits to downstream areas.									
6 0										
0										
The water environment score is slightly reduced due to water levels lower than expected. Individual parameter scores: a) water levels and flows = 6, slightly lower than expected; b) water level indicators = 6, slightly lower than expected; c) soil erosion or deposition = 6, some observed; evidence of fire history = N/A; f) vegetation community zonation = 6, exotics present; g) hydrologic stress on vegetation = 6, due to lower water levels; h) use by animal species with specific hydrological requirements = 6, some evidence observed; i) vegetative species tolerant of and associated with water quality degradation = 6, some observed; j) direct observation of water quality = 6, mostly normal; K) existing water quality data = N/A; I) water depth wave, wave energy, currents and light penetration = N/A.										
.500(6)(c)Community structure										
Vegetation and/or Benthic Community //o pres or current with 0	Individual parameter scores: exotic species; b) invasive exofic species; b) invasive exofic some evidence of recruitment expectation and quality of coars condition = 6, low recruitment	able is high due to species div a) plant community species in cotics or other invasive plant spent; d) age & size distribution = se woody debris, snag, den, ar ;; g) land management practice omerged aquatic plant commun	the canopy, species = 6, ple = 6, lower wand cavity = 6, es = N/A; h) to	shrub, or ground a revalent; c) regen ter levels possibly , mostly consisten	stratum = 6, domin neration and recruit y affecting age dist nt with expected; f)	ated by ment = ribution; plant				
Coore gum of all and a local a	If proportion as in the	ation		For impact assist	amont organ					
Score = sum of above scores/30 (if uplands, divide by 20)	If preservation as mitiga		F	or impact assess	sment areas					
current pr w/o pres with	Preservation adjustmer		FL = d	lelta x acres = 0.6	60 x 4.2 = 2.52					
0.60 0	Adjusted mitigation delt	a =								
	J					ı				
	If mitigation		Fo	or mitigation asses	ssment areas					
Delta = [with-current]	Time lag (t-factor) =									
-0.60 Risk factor = RFG = delta/(t-factor x risk) =										

Form 62-345.900(2), F.A.C. [effective date]

ite/Project Name Application			per Assessment Area Name or Num			or Number	
FPL Turkey Point Units 6					Freshwate	er Marshes	
Facilities/Roadway Im	provements						
FLUCCs code	Further classifica	tion (optional)		Impac	et or Mitigation Site?	Assessment Area Size	
641					Impact	47.9 acres	
Basin/Watershed Name/Number	Affected Waterbody (Class	ss)	Special Classificati	on (i.e.0	OFW, AP, other local/state/federal	I designation of importance)	
DA-4/Florida City/North Canal/03090202					None		
Geographic relationship to and hyd	drologic connection with	wetlands, other s	urface water, uplar	nds			
The freshwater marsh wetlands wi Biscayne Bay. The freshwater ma			•			ologically connected to	
Assessment area description							
Areas of freshwater marsh are pre subdominant species including cat pine, musky mint, silktree, and net	tail, willow, primrose will	•				, ,	
ignificant nearby features			Uniqueness (collandscape.)	nsider	ing the relative rarity in	relation to the regional	
FPL Turkey Point Plant, Biscayne Bay					Not unique		
Functions			Mitigation for pre-	vious p	permit/other historic use	}	
Water stora	age, wildlife habitat		N/A				
Anticipated Wildlife Utilization Base that are representative of the assebe found)		•	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)				
Wading birds, sł	norebirds, forage fishes		Occasional use by wading birds such as roseate spoonbill (SSC), white ibis (SSC), little blue heron (SSC), wood stork (E), reddish egret (SSC), snowy egret (SSC) and tricolor heron (SSC). Also white-crowned pigeon (T).				
Observed Evidence of Wildlife Utili	zation (List species direct	ctly observed, or o	other signs such as	s track	s, droppings, casings, r	nests, etc.):	
	White-cro	wned pigeon obs	erved flying overhe	ead.			
Additional relevant factors:							
Assessment conducted by:	-		Assessment date	(s):			
K. Bullock, S. Rizzo			6/2/2008				

Form 62-345.900(1), F.A.C. [effective date]

PART II – Quantification of Assessment Area (impact or mitigation) (See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name		Application Number	٨٥٥٥	accmont Aron	Name or Number	
FPL Turkey Point Units 6 & 7/As	sociated Facilities/Roadway	Application Number	Asse			
Improven	nents				nwater Marshes	
Impact or Mitigation		Assessment conducted by:	Asse	essment date:	:	
Impa	ct	K. Bullock, S. Rizze	0	6/2/2008		
	2 11 1//2	·				(2)
Scoring Guidance The scoring of each	Optimal (10)	Moderate (7) Condition is less than	Minima	1 (4)	Not Present	i (U)
indicator is based on what	Condition is optimal and fully	optimal, but sufficient to	Minimal level of	f support of	Condition is insuf	ficient to
would be suitable for the	supports wetland/surface	maintain most	wetland/surfa		provide wetland/	
type of wetland or surface water assessed	water functions	wetland/surface waterfunctions	functio	ons	water function	ons
	•					
.500(6)(a) Location and Landscape Support w/o pres or current with 0	Individual parameter scores: Biscayne Bay; b) Invasive exi limitations; d) functions that b wildlife listed in Part 1 by outs Hydrologically connected are	nort variable is slightly reduced a) Support to wildlife listed in lotic species = 8, minimal cover enefit fish & wildlife downstreaside land uses = 8, slightly reduced as downstream of assessment essment area = 8, benefits to describe the significant will be supported by the significant wild be supported by the significant will be supported by the significant wild be supported by the significant will be supported	Part 1 by outside rage; c) Wildlife a m-distance or bauced due to proximarea = 8, no hyd	habitats = 8, access to and arriers = 8, no mity of Turkey drological impa	due to proximity of from outside = 8, r barriers; e) Impact y Point facility; f)	no ts to
.500(6)(b)Water Environment (n/a for uplands) w/o pres or current with 0	scores: a) water levels and fl expected; c) soil moisture = 9 evidence of fire history = 9, ai expected; g) hydrologic stress hydrological requirements = 9 quality degradation = 9, none	is slightly reduced due to water lows = 7, slightly lower than exponent of the consistent with expected; d) rea was burned 2-3 years ago; so no vegetation = 7, due to low lower and the conserved; j) direct observed; j) observed; j) direct observation epth wave, wave energy, current	pected; b) water soil erosion or de f) vegetation cor er water levels; h vegetative specien of water quality	level indicator eposition = 9, in munity zona n) use by animes tolerant of a = 9, appears	rs = 7, slightly lower none observed; e) tion = 9, consistenthal species with species with species did normal; K) existing	er than at with ecific h water
.500(6)(c)Community structure						
Vegetation and/or Enthic Community w/o pres or current with 8 0	Individual parameter scores: native species; b) invasive ex recruitment = 8, some eviden age distribution; e) density ar f) plant condition = 7, low recr	able is high due to species div a) plant community species in xotics or other invasive plant s ce of recruitment; d) age & siz ind quality of coarse woody deb ruitment; g) land management on or algal growth in submerge	the canopy, shrul pecies = 9, minim e distribution = 7, ris, snag, den, an practices = 9, no	b, or ground s nal coverage; , lower water l nd cavity = 9, alteration evi	stratum = 9, domin- c) regeneration an levels possibly affe consistent with exp ident; h) topograph	ated by id ecting pected;
Score = sum of above scores/30 (if	If preservation as mitiga	ation,	For in	mpact assess	ment areas	
uplands, divide by 20)	Preservation adjustmer					
current or w/o pres with			FL = delta	x acres = 0.8	0 x 47.9 = 38.32	
0.80 0	Adjusted mitigation delt	ta =				
5.00]		-			
	If mitigation		Fax	tigation ass -	noment eress	
Delta = [with-current]	Time lag (t-factor) =		For mi	tigation asses	ssment areas	
-0.80	Risk factor =		RFG = del	ta/(t-factor x r	risk) =	

Form 62-345.900(2), F.A.C. [effective date]



Site/Project Name		Application Numbe	r		Assessment Area Name of	a Name or Number	
FPL Turkey Point Units 6	8 & 7 Project				Northwest Res Sawgrass Marsh a	storation Site - and Periphyton Mat	
FLUCCs code	Further classifica	ation (optional)		Impac	et or Mitigation Site?	Assessment Area Size	
6411 and 655					Mitigation	102.7 acres	
	Affected Waterbody (Clas	ss)	Special Classification	on (i.e.C	DFW, AP, other local/state/federal	designation of importance)	
North Canal/Florida City/03090202					None		
Geographic relationship to and hyd	· ·	·	• •				
Sawgrass marsh, exotic wetland ha Canal; further east lie mangrove we City Canal lies to the south.							
Assessment area description The Northwest Restoration Site cor	nsists of several FPL-ov	wned parcels total	ing 240 acres loca	ated ac	diacent to the L-31E can	nal hetween 328th	
Street and 344th Street/Palm Drive area is impacted due to historic hydin reduced quality of wildlife habitat exotic Australian pine scattered throapproximatley 7 acres within the Sit	e, approximately two mile drologic alteration in the and vegetative species oughout. Relatively ope	es northwest of the form of a network s diversity. The ma	e Units 6&7 Site a c of mosquito ditch ajority of the Site (ated areas suppor	and directions as (approximate) as the contraction of the contraction	ectly west of the Biscayr well as prevalence of ex ximately 95 acres) is san ick periphyton commun	ne National Park. The xotic species, resulting wgrass marsh, with ities comprise	
ignificant nearby features			Uniqueness (considering the relative rarity in relation to the regional landscape.)				
Roadways, L-31E Canal, FPL Turkey Point Plant, Biscayne Bay					Not unique		
Functions			Mitigation for prev	vious p	permit/other historic use		
Wildlife habi	itat, water storage		N/A				
Anticipated Wildlife Utilization Base that are representative of the asses be found)			Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)				
Wading birds, sh	norebirds, forage fishes		Occasional use by wading birds such as roseate spoonbill (SSC), white ibis (SSC), little blue heron (SSC), wood stork (E), reddish egret (SSC), snowy egret (SSC) and tricolored heron (SSC)				
Observed Evidence of Wildlife Utiliz	zation (List species dire	ectly observed, or o	other signs such a	s track	ks, droppings, casings,	nests, etc.):	
	white i	ibis, great egret, c	ricket frog, pig frος	g			
Additional relevant factors:							
Assessment conducted by:			Assessment date	e(s):			
K. Bullock, S. Rizzo			7/14/2010				

PART II A – Quantification of Assessment Area (impact or mitigation) (See Sections 62-345.500 and .600. F.A.C.)

Site/Proje	ct Name			Application Number		Assessment Aro	Assessment Area Name or Number			
Sile/P10je		y Point Un	nits 6 & 7 Project	Application Number		Northwe	st Restoration Site - arsh and Periphyton	-		
Impact or	Mitigation			Assessment conducted by:		Assessment date		1 IVIAL		
impact of	wiligation	Mitigati	ion	K. Bullock, S. Rizz	0	Assessment date	7/14/2010			
Coorie	aa Cuidanaa	_	Ontimal (40)	Madagete/7)		-i	Not Descent	(0)		
The so	oring of each		Optimal (10)	Moderate(7) Condition is less than		nimal (4)	Not Present Condition is insuff			
would be type of we	s based on wh suitable for the etland or surfa er assessed	ne	Condition is optimal and fully supports wetland/surface water functions	optimal, but sufficient to maintain most wetland/surface waterfunctions	wetland	evel of support of /surface water unctions	provide wetland/s water function	surface		
			Current: Location and landso	cape support variable slightly	educed due	to prevalence of	exotic vegetation in	mosquito		
	(6)(a) Locatior ndscape Supp		ditches and spoil piles, and s listed in Part 1 by outside hat coverage; c) Wildlife access roadways and lack of native v barriers = 6, area somewhat 6, slightly reduced due to sur	urrounding roadways and can vitats = 6, due to proximity of r to and from outside = 6, decre vegetative communities; d) fur solated from other habitats; e rounding habitat degradation; ted through culverts to L31E;	als. Individuo adways; b) assed due to actions that I Impacts to f) Hydrologi	ual parameter sco Invasive exotic s Ilmitations impos- benefit fish & wildl wildlife listed in Pacally connected at	res: a) Support to v pecies = 6, modera ed by surrounding ife downstream-dist art 1 by outside land reas downstream of	wildlife ate tance or d uses = f		
				e support variable slightly incr	eased due t	o removal of histo	rical disturbances			
v/o pres o	r		(mosquito ditches and spoil p	iles), eradication of exotic veg	etation, and	preservation of p	arcel. Individual pa			
current	1	with		listed in Part 1 by outside hat noval within Site; c) Wildlife ac						
				ounding roadways; d) function						
				ue to removal fo exotic vegeta						
7		8								
				restoration of habitats surrounding sawgrass marsh and periphyton mat communities; f) Hydrologically d areas downstream of assessment area = 7, connected through culverts to L31E, removal of ditches will hydrology; g) Dependency of downstream areas on assessment area = 8, more benefit to downstream						
			areas due to exotic removal a							
			Current: The water environm	ent score is reduced due to the	ne prevalenc	ce of ditching on th	ne site. Individual			
				evels and flows = 5, altered w						
				pisture = 6, drier than expecte ess than typical; f) vegetation						
				g) hydrologic stress on vegeta						
	(b)Water Envi			ic hydrological requirements =						
(n/a for uplands	s)		ive species tolerant of and ass						
				n of water quality = 8, no disco wave energy, currents and ligh			() existing water qua	ality data		
				score is increased due to the evels and flows = 8, more typi						
v/o pres o				e = 8, consistent with expecte						
current	1	with	evidence of fire history = 8, re	estoration will incorporate pres	cribed fire;	f) vegetation com	munity zonation = 8	, due to		
current	1	*****		ogic stress on vegetation = 8,						
_				gical requirements = 8, due to degradation = 7, minimal; j) di						
5		8		water quality data = N/A; I) v						
			penetration = N/A.							
				cture variable is reduced due						
.500(6)	c)Community	structure		 a) plant community species in we exotics or other invasive p 						
				han expected; d) age & size of						
				s, snag, den, and cavity = 7, a						
				vity; g) land management prac						
	Vegetation an		topographic features = 6, less N/A.	s than optimal; i) siltation or al	gal growth ir	n submerged aqua	atic plant communiti	ies =		
2. 8	Senthic Commi	unity						distribution of		
				re variable is increased due to ommunity species in the canon						
w/o pres o	r			isive plant species = 9, minima						
current		with	consistent with expected; d) a	age & size distribution = 7, slig	htly less tha	an expected; e) de	ensity and quality of	coarse		
]			cavity = 7, adequate for systems						
6		8		ent practices = 8, due to remo n or algal growth in submerged				0		
			removal of ditering, i) situation	Tor algar grown in Submorger	a aquatio pic	ant commandes =	1471.			
	um of above sco		If preservation as mitigate	ation,		For impact asses	sment areas			
upl	ands, divide by	20)	Preservation adjustmer	ot factor –	—					
current	_		r reservation adjustmen	it iact01 =	FL =	delta x acres =				
or w/o pre	5]	with	Adjusted mitigation delt	a =						
0.60		0.80] ———							
			If mitigation							
		_	1		F	or mitigation asse	ssment areas			
De	ta = [with-curr	ent]	Time lag (t-factor) = 1.0	or) = 1.07 (3 years)						
	0.20		Risk factor = 1.25		RFG	= delta/(t-factor x	risk) = 0.15			
	0.20		11.01 14.0101 - 1.20							

Credits = RFG x acreage = 15.4

Site/Project Name	Application Number	nber Assessment Are			rea Name or Number			
FPL Turkey Point Units (3 & 7 Project	t					storation Site - groves	
FLUCCs code	Furthe	er classifica	tion (optional)		Impac	et or Mitigation Site?	Assessment Area Size	
612						Mitigation	42.2 acres	
Basin/Watershed Name/Number	Affected Wat	erbody (Clas	ss)	Special Classificati	on (i.e.0	DFW, AP, other local/state/federa	I designation of importance)	
North Canal/Florida City/03090202				None				
Geographic relationship to and hyd	rologic conn	ection with	wetlands, other su	urface water, uplai	nds			
Sawgrass marsh, exotic wetland hat Canal; further east lie mangrove we City Canal lies to the south.								
Assessment area description The Northwest Restoration Site cor Street and 344th Street/Palm Drive area is impacted due to historic hyd in reduced quality of wildlife habitat with additional species including the	, approximat Irologic alter and vegetat	ely two mile ation in the ive species	es northwest of the form of a network diversity. Areas	e Units 6&7 Site a c of mosquito ditch dominated by red s, buttonwood, dah	nd dire les as mang loon h	ectly west of the Biscayı well as prevalence of ex roves occur in the north olly, and wax myrtle.	ne National Park. The xotic species, resulting ern portion of the Site,	
Significant nearby features				Uniqueness (considering the relative rarity in relation to the regional landscape.)				
Roadways, L-31E Canal, FPL Turkey Point Plant, Biscayne Bay			scayne Bay			Not unique		
Functions				Mitigation for pre-	vious p	permit/other historic use	•	
Wildlife habi	tat, water sto	orage				N/A		
Anticipated Wildlife Utilization Base that are representative of the asses be found)				Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)				
Wading bir	ds, forage fis	shes		Occasional use by wading birds such as roseate spoonbill (SSC), white ibis (SSC), little blue heron (SSC), wood stork (E), reddish egret (SSC), snowy egret (SSC) and tricolored heron (SSC)				
Observed Evidence of Wildlife Utiliz	ation (List s	pecies dire	ctly observed, or c	other signs such a	s track	s, droppings, casings, r	nests, etc.):	
			None					
Additional relevant factors:								
Assessment conducted by:				Assessment date	e(s):			
K. Bullock, S. Rizzo				7/14/2010				

PART II A – Quantification of Assessment Area (impact or mitigation) (See Sections 62-345.500 and .600, F.A.C.)

Site/Proje	ct Name			Application Number	ı	Assessment Area	Name or Number				
		ev Point Un	its 6 & 7 Project			Northwe	st Restoration Site -				
Impact or	Mitigation			Assessment conducted by:		Assessment date	Mangroves				
impact of	wiiigation	Mitigati	on	K. Bullock, S. Rizzo			7/14/2010				
	ng Guidance coring of each		Optimal (10)	Moderate(7) Condition is less than	Mir	nimal (4)	Not Present (0	0)			
indicator i would be type of w	is based on whe suitable for the etland or surfa er assessed	ie	Condition is optimal and fully supports wetland/surface water functions	optimal, but sufficient to maintain most wetland/surface waterfunctions	wetland/	vel of support of surface water nctions	Condition is insufficie provide wetland/sur water functions	rface			
	r(6)(a) Location Indscape Supp r		ditches and spoil piles, and su listed in Part 1 by outside hab coverage; c) Wildlife access t and lack of native vegetative 6, area somewhat isolated fror reduced due to surrounding he 6, connected through culve benefit to downstream areas. With: Location and landscape ditches and spoil piles), erad Support to wildlife listed in Pa = 9, exotic removal within Site	itats = 6, due to proximity of ro o and from outside = 6, decrei- communities; d) functions that m other habitats; e) Impacts to abitat degradation; f) Hydrolog rts to L31E; g) Dependency of e support variable slightly incre- cation of exotic vegetation, an- rt 1 by outside habitats = 8, du c; c) Wildlife access to and fror	als. Individua padways; b) li ased due to I benefit fish & o wildlife liste gically conne downstream passed due to d preservation te to increase m outside = 7	al parameter scon nvasive exotic sp imitations impose & wildlife downstre d in Part 1 by out- cted areas downs a areas on assess removal of histor n of parcel. Indivi- e in native habitat f, somewhat decre	es: a) Support to wildlecies = 6, moderate d by surrounding road pam-distance or barrieside land uses = 6, sligtream of assessment ment area = 6, some ical disturbances (mos dual parameter scores; b) Invasive exotic speased due to limitation	life dways ers = ghtly area squito s: a) ecies ns			
7		8	increase due to removal fo ex restoration of habitats surrour areas downstream of assessi hydrology; g) Dependency of	, exotic removal within Site; c) Wildlife access to and from outside = 7, somewhat decreased due to limitations losed by surrounding roadways; d) functions that benefit fish & wildlife downstream-distance or barriers = 7, slight rease due to removal fo exotic vegetation; e) Impacts to wildlife listed in Part 1 by outside land uses = 7, to ration of habitats surrounding sawgrass marsh and periphyton mat communities; f) Hydrologically connected as downstream of assessment area = 7, connected through culverts to L31E, removal of ditches will improve drology; g) Dependency of downstream areas on assessment area = 8, more benefit to downstream areas due to tic removal and ditch removal.							
	(b)Water Envi		Current: The water environm reduced number of mosquito and flows = 6, somewhat alter moisture = 6, drier than exper 6, less than typical; f) vegetat connections; g) hydrologic strewith specific hydrological requivegetative species tolerant of observation of water quality = depth wave, wave energy, cu	ditches in northeastern portior red water level due to ditching sted; d) soil erosion or depositi on community zonation = 6, a ess on vegetation = 6, some c irrements = 6, less than expec and associated with water qu 8, no discoloration, turbidity, o	n of Site. Ind (b) water lev ion = 6, some Itered due to Iue to altered ted due to di ality degrada or sheen; k) 6	ividual parameter el indicators = 5, e spoil deposits; e ditching, reduction I hydrologic regimatching and limited tion = 7, typical of	scores: a) water leveless than expected; c) ovidence of fire historian in hydrologic le; h) use by animal spopen water connection expected; j) direct	els) soil ory = pecies ons; i)			
w/o pres o current 6	ı	with 8		evels and flows = 8, more typic = 8, consistent with expectec storation will incorporate press gic stress on vegetation = 8, c ical requirements = 8, due to i degradation = 7, minimal; j) dir	eal water flow d; d) soil eros cribed fire; f) due to improv mproved hyd ect observat	s; b) water level in ion or deposition vegetation comm red hydrologic reg drology; i) vegetat ion of water quality	ndicators = 8, consiste = 7, typical patterns; e unity zonation = 8, dur time; h) use by animal tive species tolerant of ty = 8, no discoloration	e) le to I f and			
1.	(c)Community Vegetation and Benthic Comm	d/or	isolation. Individual paramete primarily native species, but e coverage; c) regeneration an expected; e) density and qual condition = 7, due to dead ste	ructure variable is reduced somewhat due to presence of Australian pine and hydrologic ster scores: a) plant community species in the canopy, shrub, or ground stratum = 7, t exotic species present; b) invasive exotics or other invasive plant species = 7, moderate and recruitment = 7, slightly less than expected; d) age & size distribution = 8, typical with uality of coarse woody debris, snag, den, and cavity = 7, adequate for system type; f) plant stems and low productivity; g) land management practices = 6, due to historical ditching, poographic features = 7, less than optimal due to mosquito ditches; i) siltation or algal				, derate I with) plant ning,			
w/o pres o current 7	r	with 9	With: The community structur parameter scores: a) plant co community; b) invasive exotive recruitment = 8, consistent wi of coarse woody debris, snag improved hydrology; g) land r to removal of ditching; i) siltati	mmunity species in the canop cs or other invasive plant spec th expected; d) age & size dist , den, and cavity = 8, adequat nanagement practices = 8, du	y, shrub, or g ies = 9, minii ribution = 8, e for system e to removal	ground stratum = 9 mal coverage; c) 9 typical with expect type; f) plant cond of ditching; h) top	9, native mangrove regeneration and sted; e) density and quedition = 8, improved duagraphic features = 9,	uality ue to			
	um of above so		If preservation as mitiga	ation,		For impact assess	sment areas				
up current or w/o pres	lands, divide by	20) with 0.83	Preservation adjustmer Adjusted mitigation delt		FL = c	delta x acres =					
0.07	<u> </u>	0.00]								
			If mitigation		Fo	or mitigation asse	ssment areas				
De	lta = [with-curr	ent]	Time lag (t-factor) = 1.0	7 (3 years)	RFG =	= delta/(t-factor x i	risk) = 0.12				
	0.16		Risk factor = 1.25		RFG = delta/(t-factor x risk) = 0.12						

Site/Project Name		Application Numbe	r		Assessment Area Name of	or Number	
FPL Turkey Point Units 6	; & 7 Project				Northwest Restoration Wetland H	Site - Mixed lardwoods	
FLUCCs code	Further classifica	ition (optional)		Impac	t or Mitigation Site?	Assessment Area Size	
617					Mitigation 16.23 acr		
Basin/Watershed Name/Number	Affected Waterbody (Clas	SS)	Special Classification	on (i.e.O	FW, AP, other local/state/federal	designation of importance)	
North Canal/Florida City/03090202					None		
Geographic relationship to and hydromorphic sawgrass marsh, exotic wetland ha Canal; further east lie mangrove we	rdwoods, and mosquito	ditches lie to the	west of the Northw	est Re			
City Canal lies to the south. Assessment area description		onar 1 and 011 020	,			or rain database ionida	
The Northwest Restoration Site con and 344th Street/Palm Drive, appro impacted due to historic hydrologic reduced quality of wildlife habitat an sawgrass marsh, vegetated with a r species Australian pine.	ximately two miles north alteration in the form of d vegetative species div	nwest of the Units of a network of moso versity. Scattered	6&7 Site and direct quito ditches as we tree islands comp s, buttonwood, coc	tly wes Il as prised o	st of the Biscayne Natior revalence of exotic spec of mixed wetland hardwo , pond apple, willow, an	nal Park. The area is cies, resulting in lods occur within the d the nuisance exotic	
Significant nearby features		Uniqueness (considering the relative rarity in relation to the regional landscape.)					
Roadways, L-31E Canal, FPI	scayne Bay			Not unique			
Functions			Mitigation for prev	/ious p	permit/other historic use		
Wildlife hab	tat, water storage		N/A				
Anticipated Wildlife Utilization Base that are representative of the asses be found)			Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)				
Wading bir	ds, forage fishes		Occasional use by wading birds such as roseate spoonbill (SSC), white ibis (SSC), little blue heron (SSC), wood stork (E), reddish egret (SSC), snowy egret (SSC) and tricolored heron (SSC)				
Observed Evidence of Wildlife Utiliz	ation (List species direc	ctly observed, or ot	her signs such as	tracks	, droppings, casings, ne	sts, etc.):	
		None					
Additional relevant factors: Assessment conducted by:			Assessment date	(a):			

PART II A – Quantification of Assessment Area (impact or mitigation) (See Sections 62-345.500 and .600, F.A.C.)

Cir - /D .	at Na			And Continue Name		A	Name of Nicola		
Site/Proje		u Deimi II	ito C 9 7 Droinet	Application Number		Assessment Area Name or Number Northwest Restoration Site -			
		y Point Un	its 6 & 7 Project			Mixed Wetland Hardwoods			
Impact or	Mitigation	Mitiact	on	Assessment conducted by: K. Bullock, S. Rizz		Assessment date	9: 7/14/2010		
		Mitigati	UII	N. DUIIOCK, S. RIZZ	U		1/ 14/2010		
	ng Guidance		Optimal (10)	Moderate(7)	Min	nimal (4)	Not Present (0)		
	oring of each s based on wh	nat	Condition is optimal and fully	Condition is less than optimal, but sufficient to	Minimal lev	vel of support of	Condition is insufficient to		
	suitable for the	-	supports wetland/surface water functions	maintain most wetland/surface		surface water nctions	provide wetland/surface water functions		
,,	r assessed	ce	water functions	waterfunctions	iui	TICTIONS	water functions		
			Current: Location and lander	cape support variable slightly	reduced due	to prevalence of	exotic vegetation		
			mosquito ditches and spoil pi	les, and surrounding roadway	s and canals	s. Individual para	meter scores: a) Support		
			to wildlife listed in Part 1 by o moderate coverage; c) Wildlif						
	(6)(a) Location		surrounding roadways and la downstream-distance or barri						
Lai	cocape oup		Part 1 by outside land uses =	6, slightly reduced due to sur	rrounding ha	bitat degradation	; f) Hydrologically		
			connected areas downstream downstream areas on assess				o i ⊏; g) Dependency of		
	_		With: Location and landscape	e support variable slightly incr	eased due to	o removal of histo			
w/o pres o current		with	(mosquito ditches and spoil p scores: a) Support to wildlife						
			exotic species = 9, exotic ren to limitations imposed by surr						
			barriers = 7, slight increase d	ue to removal fo exotic vegeta	ation; e) Imp	acts to wildlife list	ted in Part 1 by outside		
7		8	land uses = 7, restoration of I Hydrologically connected area						
			of ditches will improve hydrologoustream areas due to exc	ogy; g) Dependency of downs		on assessment a	area = 8, more benefit to		
		ļ				a a faillealaine an a	haratea hadeddaal		
			Current: The water environm parameter scores: a) water le						
			less than expected; c) soil moisture = 6, drier than expected; d) soil erosion or deposition = 5, spoil deposits; e) evidence of fire history = 6, less than typical; f) vegetation community zonation = 5, altered due to presence of spoil						
.500(6)((b)Water Envi	ronment	deposits supporting exotics;	g) hydrologic stress on vegeta	ation = 6, sor	ne due to altered	hydrologic regime; h) use		
	n/a for upland		by animal species with specif water connections; i) vegetati						
			expected; j) direct observation data = N/A; l) water depth water	n of water quality = 8, no disc	oloration, tur	bidity, or sheen; I			
			With: The water environment				out the Site Individual		
	_		parameter scores: a) water le	evels and flows = 8, more typ	ical water flo	ws; b) water leve	l indicators = 8, consistent		
w/o pres o current	ı	with	with expected; c) soil moisture = 8, consistent with expected; d) soil erosion or deposition = 7, typical patterns; e) evidence of fire history = 8, restoration will incorporate prescribed fire; f) vegetation community zonation = 8, due to						
			removal of exotics; g) hydrologic stress on vegetation = 8, due to improved hydrologic regime; h) use by animal species with specific hydrological requirements = 8, due to improved hydrology; i) vegetative species tolerant of						
5		8	species with specific hydrological requirements = 6, due to improved hydrology; i) vegetative species tolerant of and associated with water quality degradation = 7, minimal; j) direct observation of water quality = 8, no discoloration, turbidity, or sheen; k) existing water quality data = N/A; l) water depth wave, wave energy, currents						
			and light penetration = N/A.	en, n existing water quality o	aia = IV/A; I)	, water depth wav	ve, wave energy, currents		
.500(6)(c)Community	structure	Current: The community stru Individual parameter scores:	cture variable is reduced due					
			and native species; b) invasi	ve exotics or other invasive p	lant species	= 6, moderate co	overage; c) regeneration		
			and recruitment = 7, slightly le density and quality of coarse						
	Vegetation an		= 7, due to dead stems and lo structure; h) topographic feat	ow productivity; g) land manage	gement pract	tices = 5, due to	alteration of community		
2. B	enthic Comm	unity	communities = N/A.	a. 55 – 6, 1555 triair optimal, I)	omanon on a	gai growui iii sul	sorgod aquatio piarit		
			With: The community structu						
w/o pres o	r	with	preservation. Individual para 9, native species; b) invasive						
current	Ì	with		ith expected; d) age & size dis	stribution = 8	B; e) density and o	quality of coarse woody		
6		9	hydrology; g) land manageme	ent practices = 9, due to remo	val of ditchin	ng and preservation	on; h) topographic features		
	= 8, due to removal of ditching; i) siltation or algal growth in submerged aquatic plant communities = N/A.								
Score = su	um of above so	ores/30 (if	If preservation as mitiga	ation,	F	For impact assess	sment areas		
upl current	ands, divide by	20)	Preservation adjustmer	nt factor =					
or w/o pres	5 1	with	Adjusted mitigation delt	a =	FL = 0	delta x acres =			
0.60		0.83							
		_	If mitigation	1					
Del	ta = [with-curr	entl	Time lag (t-factor) = 1.1	4 (5 years)	Fo	or mitigation asse	ssment areas		
- 561				. (5)55.5/	RFG =	= delta/(t-factor x	risk) = 0.16		
	0.23		Risk factor = 1.25						

Site/Project Name		Application Numbe	r	A	ssessment Area Name o	or Number	
FPL Turkey Point Units 6	3 & 7 Project			1	Northwest Restoration Wetland F	Site - Exotic lardwoods	
FLUCCs code	Further classifica	ition (optional)		Impact of	or Mitigation Site?	Assessment Area Size	
619			Mitigation 66.19			66.19 acres	
Basin/Watershed Name/Number	Affected Waterbody (Clas	ss)	Special Classification	ion (i.e.OFV	V, AP, other local/state/federal	designation of importance)	
North Canal/Florida City/03090202					None		
Geographic relationship to and hydr Sawgrass marsh, exotic wetland ha Canal; further east lie mangrove we City Canal lies to the south.	rdwoods, and mosquito	ditches lie to the	west of the Northw	est Rest			
Assessment area description The Northwest Restoration Site con Street and SW 344th Street/Palm D The area is impacted due to historic resulting in reduced quality of wildlif Australian pine occur primarily along poisonwood, myrsine, buttonwood,	Prive, approximately two c hydrologic alteration in fe habitat and vegetative g the northern and south	miles northwest of the form of a network e species diversity.	f the Units 6&7 Site vork of mosquito d . Approximately 66	te and dir litches as 6 acres d	rectly west of the Bisca s well as prevalence of of exotic wetland hards	ayne National Park. f exotic species, woods dominated by	
Significant nearby features			Uniqueness (collandscape.)	nsidering	g the relative rarity in r	elation to the regional	
Roadways, L-31E Canal, FPL	_ Turkey Point Plant, Bi	scayne Bay			Not unique		
Functions			Mitigation for prev	vious pe	rmit/other historic use		
Wate	er storage		N/A				
Anticipated Wildlife Utilization Based that are representative of the assess be found)			Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)				
Fora	age fishes		Occasional use by wading birds such as roseate spoonbill (SSC), white ibis (SSC), little blue heron (SSC), wood stork (E), reddish egret (SSC), snowy egret (SSC) and tricolored heron (SSC)				
Observed Evidence of Wildlife Utiliz	ation (List species direc	ctly observed, or ot	her signs such as	tracks, c	droppings, casings, ne	sts, etc.):	
		None					
Additional relevant factors:							
Assessment conducted by:			Assessment date	e(s):			
K. Bullock, S. Rizzo			7/14/2010				

PART II A – Quantification of Assessment Area (impact or mitigation) (See Sections 62-345.500 and .600, F.A.C.)

Site/Proje	ct Name			Application Number		Assessment Area Name or Number		
	FPL Turk	ey Point Un	nits 6 & 7 Project			Northwest Resto Wetl	ration Site - and Hardwoods	Exoti
Impact or	Mitigation			Assessment conducted by:		Assessment date	:	
		Mitigati	ion	K. Bullock, S. Rizz	0		7/14/2010	
Coori	og Cuidonoo	_	Ontimal (10)	Moderate/7\	NA:	nimal (4)	Not Procent	(0)
	ng Guidance coring of each		Optimal (10)	Moderate(7) Condition is less than	IVII	nimal (4)	Not Present	(0)
	s based on wl		Condition is optimal and fully supports wetland/surface	optimal, but sufficient to maintain most		evel of support of l/surface water	Condition is insuf provide wetland	
	etland or surfa		water functions	wetland/surface		unctions	water function	
wate	er assessed			waterfunctions				
	(6)(a) Location ndscape Supp		ditches and spoil piles, and so listed in Part 1 by outside hat coverage; c) Wildlife access t and lack of native vegetative 6, area somewhat isolated fror reduced due to surrounding he, connected through culve benefit to downstream areas.		als. Individu padways; b) ased due to benefit fish o wildlife list gically conne downstrean	al parameter scor Invasive exotic sp limitations impose & wildlife downstr ed in Part 1 by out ected areas downs n areas on assess	es: a) Support to voccies = 6, moderard by surrounding ream-distance or batiside land uses = 6 stream of assessment area = 6, sor	vildlife te padways arriers = , slightly ent area ne
w/o pres o current	r	with	ditches and spoil piles), eradi Support to wildlife listed in Pa	e support variable slightly incre cation of exotic vegetation, an irt 1 by outside habitats = 8, do	d preservations de to increas	on of parcel. Indivi se in native habitat	idual parameter scott; b) Invasive exotic	ores: a) species
				e; c) Wildlife access to and from ways; d) functions that benefit				
_		_		cotic vegetation; e) Impacts to				ootod
7		8	areas downstream of assessr	ment area = 7, connected thro	narsh and periphyton mat communities; f) Hydrologically connecte onnected through culverts to L31E, removal of ditches will improve			
			hydrology; g) Dependency of due to exotic removal and dite	downstream areas on assess ch removal.	ment area =	8, increased bene	efit to downstream	areas
	(b)Water Envi n/a for upland		scores: a) water levels and fl expected; c) soil moisture = 6; history = 6, less than typical; supporting exotics; g) hydrolo species with specific hydrolog connections; i) vegetative spe	ent score is reduced due to th ows = 5, altered water level di i, drier than expected; d) soil e f) vegetation community zonat igic stress on vegetation = 6, s gical requirements = 6, less th ceies tolerant of and associate lality = 8, no discoloration, turt	ue to ditching rosion or de ion = 5, alte some due to an expected d with water	g; b) water level in position = 5, spoil red due to presen- altered hydrologic due to ditching ar quality degradation	dicators = 4, less ti deposits; e) evider ce of spoil deposits regime; h) use by di limited open wat on = 7, typical of ex	han nce of fin animal er pected;
				gy, currents and light penetrat		. , .	. ,	
				score is increased due to the evels and flows = 8, more typic				
w/o pres o	r		with expected; c) soil moisture	e = 8, consistent with expected	d; d) soil ero	sion or deposition	= 7, typical pattern	ıs; e)
current	1	with		estoration will incorporate pres gic stress on vegetation = 8, o				
5		8	associated with water quality	gical requirements = 8, due to degradation = 7, minimal; j) di water quality data = N/A; l) w	rect observa	ation of water qual	ity = 8, no discolora	ation,
		1		cture variable is reduced due	to extensive	coverage of Austr	ralian pine. Individ	ual
.500(6)	(c)Community	structure	parameter scores: a) plant co	mmunity species in the canop or other invasive plant species	y, shrub, or	ground stratum =	4, dominance of ex	otic
			= 5, less than expected; d) ag	ge & size distribution = 5, less	than expecte	ed; e) density and	quality of coarse w	
	Manager of	1/		 = 5, Australian pine poor woodes native plant extent and con 				
	Vegetation an Benthic Comm		alteration natural topography	and hydrology; h) topographic				al growt
		,	in submerged aquatic plant co					
,				re variable is increased due to ividual parameter scores: a) p				
w/o pres o current	r _	with		tive species; b) invasive exoti ent = 8, consistent with expect				
]		expected; e) density and qual	lity of coarse woody debris, sn	ag, den, and	d cavity = 7, adequ	uate for system typ	e; f) pla
4		7		o improved hydrology; g) land ohic features = 8, due to remov				
	<u> </u>		aquatic plant communities = 1					3-4
Score	um of above sc	ores/30 (#	If preconvetion as misses	ation		For impact coses	ement areas	
up	lands, divide by		If preservation as mitigated Preservation adjustment			For impact assess	जानदार बादवर	
current or w/o pre	\$	with			FL =	delta x acres =		
0.53	Ĭ	0.77	Adjusted mitigation delt	a =				
0.00	<u> </u>	0.11]					
			If mitigation		F	or mitigation asse	ssment areas	
De	Ita = [with-cur	rent]	Time lag (t-factor) = 1.1	4 (5 years)	<u> </u>			
	0.24		Risk factor = 1.25		RFG	= delta/(t-factor x	risk) = 0.17	
	V.2-7		1.101.10101 - 1.20		, , ,			

Site/Project Name		Application Number	er		Assessment Area Name	or Number	
FPL Turkey Point Units 6 & 7	7 Project					storation Site - o Ditches	
FLUCCs code	Further classifica	tion (optional)		Impact	or Mitigation Site?	Assessment Area Size	
511					Mitigation	10.5 acres	
Basin/Watershed Name/Number Affe	ected Waterbody (Clas	SS)	Special Classificati	on (i.e.O	FW, AP, other local/state/federa	I designation of importance)	
North Canal/Florida City/03090202					None		
Geographic relationship to and hydrolog Sawgrass marsh, exotic wetland hardw Canal; further east lie mangrove wetlan City Canal lies to the south.	oods, and mosquite	ditches lie to the	west of the Northy	west R			
Assessment area description The Northwest Restoration Site consist Street and 344th Street/Palm Drive, ap area is impacted due to historic hydrolo in reduced quality of wildlife habitat and	proximately two mile ogic alteration in the	es northwest of the form of a network	e Units 6&7 Site a	nd dire	ctly west of the Biscay	ne National Park. The	
Significant nearby features			Uniqueness (considering the relative rarity in relation to the regional landscape.)				
Roadways, L-31E Canal, FPL Tu	scayne Bay			Not unique			
Functions		Mitigation for prev	vious p	ermit/other historic use	,		
Water st	orage				N/A		
Anticipated Wildlife Utilization Based or that are representative of the assessme be found)			Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)				
Forage	fishes		Occasional use by wading birds such as roseate spoonbill (SSC), white ibis (SSC), little blue heron (SSC), wood stork (E), reddish egret (SSC), snowy egret (SSC) and tricolored heron (SSC)				
Observed Evidence of Wildlife Utilization	n (List species direc	ctly observed, or o	other signs such as	s tracks	s, droppings, casings, r	nests, etc.):	
		None					
Additional relevant factors:							
Assessment conducted by:			Assessment date	e(s):			
K. Bullock, S. Rizzo		7/14/2010					

PART II A – Quantification of Assessment Area (impact or mitigation) (See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name				Application Number		Assessment Area Name or Number Northwest Restoration Site -		
	FPL Turke	y Point Un	its 6 & 7 Project			Mosquito Ditches		
mpact or	Mitigation			Assessment conducted by:		Assessment date	Assessment date:	
		Mitigati	on	K. Bullock, S. Rizz	0		7/14/2010	
Scorin	g Guidance	1	Optimal (10)	Moderate(7)	Mi	nimal (4)	Not Present (0)	
indicator is would be type of we	oring of each s based on wh suitable for the tland or surfa r assessed	ie	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	wetland	evel of support of /surface water unctions	Condition is insufficient t provide wetland/surface water functions	
	6)(a) Locatior		mosquito ditches and spoil pi to wildlife listed in Part 1 by o extensive coverage; c) Wildlife surrounding roadways and la downstream-distance or barr Part 1 by outside land uses connected areas downstream downstream areas on assess With: Location and landscap (mosquito ditches and spoil p scores: a) Support to wildlife exotic species = 9, exotic ren to limitations imposed by surr barriers = 7, slight increase d land uses = 7, restoration of l-hydrologically connected are.	ck of native vegetative comm lers = 6, area somewhat isola c 6, slightly reduced due to su en of assessment area = 6, con sment area = 6, some benefit e support variable slightly incr illes), eradication of exotic veg listed in Part 1 by outside ha noval within Site; c) Wildlife au founding roadways; d) function	is and canal oximity of ro = 6, decrea unities; d) fu ted from oth trounding hannected thre to downstre eased due ejetation, and bitats = 7, d coess to and s that bene attion; e) Imp s marsh and t area = 7,	is. Individual para adways; b) Invasis ased due to limitat unctions that bene her habitats; e) Impabitat degradation bugh culverts to Loam areas. Ito removal of history to the company of the company o	meter scores: a) Support ve exotic species = 4, ions imposed by fit fish & wildlife pacts to wildlife listed in f () Hydrologically s1E; g) Dependency of prical disturbances parcel. Individual parametr native habitat; b) Invasive f somewhat decreased downstream-distance or ted in Part 1 by outside communities; f) for culverts to L31E, remov	
	b)Water Envi n/a for uplands		parameter scores: a) water I less than expected; c) soil me vidence of fire history = 6, le deposits supporting exotics; of the value of value of the value of th	pisture = 6, drier than expecte ses than typical; f) vegetation g) hydrologic stress on vegeta ic hydrological requirements = ive species tolerant of and as n of water quality = 8, no disc ave, wave energy, currents and	rater level di d; d) soil er community a ation = 6, so e 6, less tha sociated wit oloration, tu and light pender e removal of	ue to ditching; b) vosion or depositio zonation = 5, alter me due to altered nexpected due to the water quality de trbidity, or sheen; letration = N/A.	water level indicators = 4, n = 5, spoil deposits; e) ed due to presence of spot hydrologic regime; h) use o ditching and limited open gradation = 7, typical of k) existing water quality but the Site. Individual	
current 5	r	with 8	with expected; c) soil moistur evidence of fire history = 8, re removal of exotics; g) hydrolo species with specific hydrolog and associated with water qu	evels and flows = 8, more typ e = 8, consistent with expecte estoration will incorporate pre- ogic stress on vegetation = 8, gical requirements = 8, due to ality degradation = 7, minimal en; k) existing water quality d	ed; d) soil er scribed fire; due to impro improved h ; j) direct ob	rosion or deposition f) vegetation compoved hydrologic resydrology; i) vegeta servation of water	n = 7, typical patterns; e) munity zonation = 8, due egime; h) use by animal ative species tolerant of r quality = 8, no	
1. \	c)Community Vegetation an enthic Commu	d/or	mosquito ditches. Individual stratum = 4, dominance of ex coverage; c) regeneration an expected; e) density and qua debris, no cavities; f) plant cc land management practices =	icture variable is reduced due parameter scores: a) plant co cotic species; b) invasive exo d recruitment = 5, less than e lity of coarse woody debris, si modition = 5, near monoculture = 5, due to alteration natural to or algal growth in submerged	mmunity sp tics or other xpected; d) nag, den, ar of exotics of ppography a	ecies in the canop invasive plant sp age & size distributed active = 5, Austreduces native pla and hydrology; h) t	by, shrub, or ground ecies = 4, extensive ution = 5, less than tralian pine poor woody ant extent and condition; goopgraphic features = 6,	
w/o pres or current with worasive plant species = 9, minimal coverage; c) regeneration and recruitment = 7, consistent with expected; d) age & size distribution = 7, slightly le than expected; e) density and quality of coarse woody debris, snag, den, and cavity = 7, adequate for system typ f) plant condition = 7, improved due to improved hydrology; g) land management practices = 8, due to removal of ditching and preservation; h) topographic features = 8, due to removal of ditching; i) siltation or algal growth in submerged aquatic plant communities = N/A.								
	im of above sco ands, divide by		If preservation as mitig Preservation adjustmer Adjusted mitigation delt	nt factor =		For impact assess delta x acres =	sment areas	
			If mitigation		For mitigation assessment areas RFG = delta/(t-factor x risk) = 0.13			

Site/Project Name		Application Numbe	r		Assessment Area Name	or Number
FPL Turkey Point Units	6 & 7 Project					Restoration Site - Nurseries
FLUCCs code	Further classifica	ation (optional)		Impac	et or Mitigation Site?	Assessment Area Size
241					Mitigation	42 acres
Basin/Watershed Name/Number	Affected Waterbody (Class	ss)	Special Classificati	on (i.e.C	DFW, AP, other local/state/federal	designation of importance)
C-103/North Canal/03090202			·		None	
Geographic relationship to and hyd	drologic connection with	wetlands, other s	surface water, upla	nds		
Tree nurseries lie to the north and the L-31E canal and Biscayne Bay		wetland forests a	nd exotic hardwoo	d wet	lands lie to the east and	south. Further east is
Assessment area description						
The SW 320 th Street Restoration S	ite encompasses a tota	al of 574 acres, inc	cluding parcels loc	ated c	on the north and south o	of the C-103 Canal,
extending east towards SFWMD-overtlands dominated by Brazilian pe						
exotic species, and approximately						
acres of historical palm tree nurser			marsh.			
Significant nearby features			Uniqueness (co landscape.)	nsider	ring the relative rarity in	relation to the regional
Homestead Air Force Base, Fl	Biscayne Bay			Not unique		
Functions			Mitigation for pre	vious	permit/other historic use	9
Current: Agricultural production restoration: Wildlif	fe habitat, water storage	Post-	N/A			
Anticipated Wildlife Utilization Base that are representative of the assesbe found)				T, SS	by Listed Species (List s C), type of use, and inte	
Post-restoration: Wading	birds, shorebirds, foraç	ge fishes	Occasional use by wading birds such as roseate spoonbill (SSC), white ibis (SSC), little blue heron (SSC), wood stork (E), reddish egre (SSC), snowy egret (SSC) and tricolored heron (SSC)			
Observed Evidence of Wildlife Utili.	zation (List species dire	ectly observed, or	other signs such a	as trac	ks, droppings, casings,	nests, etc.):
		None				
Additional relevant factors:						
Accompant			A	(a):		
Assessment conducted by:			Assessment date	e(S):		
K. Bullock			6/1/2011			

PART II – Quantification of Assessment Area (impact or mitigation) (See Sections 62-345.500 and .600, F.A.C.)

Site/Proje	ect Name			Application Number			a Name or Number	
	FPL Turke	ey Point Ur	nits 6 & 7 Project				et Restoration Site - Tr Nurseries	ree
Impact or	Mitigation			Assessment conducted by:		Assessment date:		
		Mitigat	ion	K. Bullock			6/1/2011	
Scorii	ng Guidance	7	Optimal (10)	Moderate(7)	Mi	nimal (4)	Not Present (0))
The so indicator i would be type of we	coring of each is based on whe suitable for the etland or surfa er assessed	ne	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most Minimal le		evel of support of /surface water unctions	Condition is insufficie provide wetland/surf water functions	
	i(6)(a) Location andscape Supp		presence of exotic vegetation outside habitats = 6, due to p to and from outside = 6, due downstream-distance or barr uses = 6, slightly reduced du assessment area = 6, connec	cape support variable is reduce, and ditching. Individual para lanted palms; b) Invasive exorto surrounding roadways and ters = 6, provides no functions to surrounding habitat loss; toted through ditches to surroune benefit to downstream area.	meter score tic species = tree nurserie s; e) Impacts f) Hydrologio nding tree fa	es: a) Support to v = 6, due to planted es; d) functions the s to wildlife listed in cally connected ar	wildlife listed in Part 1 b I palms; c) Wildlife accorat benefit fish & wildlife in Part 1 by outside land leas downstream of	ess e d
w/o pres o current 6	or	With: Location and landscape support variable is higher because area will be preserved. Individual parameter scores: a) Support to wildlife listed in Part 1 by outside habitats = 6, due to proximity of roadways; b) Invasive exot species = 8, little coverage; c) Wildlife access to and from outside = 6, decreased due to limitations imposed by surrounding roadways and lack of open water connection; d) functions that benefit fish & wildlife downstream-distance or barriers = 6, area somewhat isolated from other habitats; e) Impacts to wildlife listed in Part 1 by outsid land uses = 7, little to no surrounding habitat loss; f) Hydrologically connected areas downstream of assessment area = 6, connected through culverts to L31E; g) Dependency of downstream areas on assessment area = 7, more benefit to downstream areas due to exotic removal. Current: The water environment score is reduced due to the prevalence of ditching on the site. Individual						/ ıtside nt
	(b)Water Envi n/a for upland		parameter scores: a) water I less than expected; c) soil m operations; e) evidence of fir on vegetation = 1, due to alte = 1, very few; i) vegetative sp observation of water quality =	nent score is reduced due to the evels and flows = 1, altered wo pisture = 1, drier than expecte a history = N/A; f) vegetation cred hydrologic regime; h) use eccies tolerant of and associate N/A, no discoloration, turbidiferents and light penetration =	ater level du d; d) soil erc community z by animal s red with wate ty, or sheen	ue to ditching; b) we posion or deposition on ation = 1, not position = 1, not posit	vater level indicators = n = 1, due to nursery resent; g) hydrologic stic hydrological required tion = N/A; j) direct	tress ment
w/o pres o current 1	or	with 5	scores: a) water levels and f expected; c) soil moisture = 6 patterns; e) evidence of fire h hydrologic stress on vegetati hydrological requirements = 6 vegetative species tolerant of observation of water quality =	score is increased due to the lows = 6, more typical water fl 6, mostly consistent with expensistory = N/A; f) vegetation coron = 6, due to improved hydro f, and associated with water que 6, mostly no discoloration, turgy, currents and light penetra	ows; b) wate cted; d) soil mmunity zon slogic regime ology and re uality degrad irbidity, or sh	er level indicators erosion or deposit ation = 6, due to r e; h) use by anima esultant increase in dation = 6, mostly	= 6, mostly consistent tion = 6, mostly typical emoval of palms; g) al species with specific in number of fish species minimal; j) direct	with es; i)
	(c)Community Vegetation an		scores: a) plant community s or other invasive plant specie distribution = 1, less than exp present; f) plant condition = 1	acture variable is reduced due pecies in the canopy, shrub, c is = 1, planted palms; c) reger ected; e) density and quality v , planted palms; g) land mana iltation or algal growth in subn	or ground str neration and of coarse wo agement pra	atum = 1, planted recruitment = 1, p body debris, snag, ctices = 1, highly a	palms; b) invasive explanted palms; d) age 8 den, and cavity = 1, nealtered; h) topographic	otics & size
	Benthic Comm		Individual parameter scores: species; b) invasive exotics	re variable is increased due to a) plant community species in or other invasive plant species	the canopy s = 6, little to	, shrub, or ground moderate covera	stratum = 6, mostly na ge; c) regeneration and	ative
current	n.	with		stent with expected; d) age & woody debris, snag, den, and				ıt
1		6	condition = 6, improved due t	o improved hydrology; g) land due to removal of ditching; i) s	l manageme	ent practices = 6, o	due to removal of ditchi	
			1					
	um of above sco lands, divide by		If preservation as mitigate	ation,		For impact assess	sment areas	
current or w/o pre	•	with	Preservation adjustmer Adjusted mitigation delt		FL =	delta x acres =		
0.27		0.60]		<u> </u>			
			If mitigation		_			
De	lta = [with-curi	rent]	Time lag (t-factor) = 1.1	4 (5 years)		or mitigation asse		
	0.33		Risk factor = 1.75		RFG	= delta/(t-factor x	risk) = 0.17	
	Credits = PEG v acroans = 7.14							

Credits = RFG x acreage = 7.14

Site/Project Name		Application Number	r		Assessment Area Name of			
EDLT L D: III " o						Restoration Site -		
FPL Turkey Point Units 6	& / Project					woods/Exotic Wetland woods		
					Tialuv	voous		
FLUCCs code	Further classification	ition (optional)		Impac	ct or Mitigation Site?	Assessment Area Size		
617/619					Mitigation	169 acres		
017,010						100 00100		
Basin/Watershed Name/Number	Affected Waterbody (Clas	 ss)	Special Classification	on (i.e.C	DFW, AP, other local/state/federal	designation of importance)		
C-103/North Canal/03090202	, (-,	None					
3 100/140/til 3 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1								
Geographic relationship to and hydrometric	rologic connection with	wetlands, other s	urface water, upla	ınds				
Tree nurseries lie to the north and v	vest of the site Mixed	wetland forests a	nd exotic hardwoo	nd wet	lands lie to the east and	south Further east is		
the L-31E canal and Biscayne Bay.		Woulding forcotto di	ia oxolio narawoo	a wou		rodum ramorodot is		
Assessment area description								
The SW 320th Street Restoration S	ite encompasses a tota	al of 574 acres, inc	cluding parcels loc	cated (on the north and south	of the C-103 Canal,		
extending east towards SFWMD-ow								
wetlands dominated by Brazilian pe exotic species, and approximately 4								
acres of historical palm tree nurserion								
are vegetated with a mixture of exor	tic and native species s	such as Brazilian p						
coastal plain willow. Restoration tal	get is mixed wetland h	ardwoods.	T					
Significant nearby features		ļ	Uniqueness (collandscape.)	nsider	ring the relative rarity in	relation to the regional		
		ļ	lanuscape.)					
Homestead Air Force Base, FF	L Turkey Point Plant, I	Biscavne Bav			Not unique			
	,							
Functions		ļ	Mitigation for prev	vious į	permit/other historic use)		
Current: Water storage		Post-						
Current: Water storage restoration: Wildlife	e habitat, water storage				N/A			
Anticipated Wildlife Utilization Base					by Listed Species (List s C), type of use, and inte			
that are representative of the asses be found)	sment area and reasor	lably expected to	assessment area		ی), type or use, and inte	ensity of use of the		
20.04.14)		ļ		,				
		ļ	Occasional use b	y wad	ding birds such as rosea	ite spoonbill (SSC),		
Post-restoration: Wading I	oirds, shorebirds, forag	je fishes	white ibis (SSC),	little b	olue heron (SSC), wood	stork (E), reddish egret		
		ļ	(SSC), snowy egi	ret (SS	SC) and tricolored heror	า (SSC)		
Observed Evidence of Wildlife Utiliz	ration (List species dire	actly observed or	other signs such a	e trac	ke dronninge casings	nests etc.):		
Observed Evidence of Wilding Othiz	ation (List species une	city observed, or c	otilei signs such a	is irac	ks, droppings, casings,	116313, 610.j.		
		None						
Additional relevant factors:								
Assessment conducted by:		ļ	Assessment date	(s):				
K. Bullock		ļ	6/1/2011					

PART II – Quantification of Assessment Area (impact or mitigation) (See Sections 62-345.500 and .600, F.A.C.)

			(See Section	is 62-345.500 and .600,	1.A.O.)				
Site/Proje	ct Name			Application Number		Assessment Area Name or Number SW 320 th Street Restoration Site -			
	FPL Turke	ey Point Ur	nits 6 & 7 Project			Mixed Wetland I	treet Restoration S Hardwoods/Exotic Hardwoods		
Impact or	Mitigation			Assessment conducted by:		Assessment date			
		Mitigati	on	K. Bullock			6/1/2011		
	ng Guidance		Optimal (10)	Moderate(7)	Min	nimal (4)	Not Present	(0)	
indicator i would be type of we	coring of each s based on w suitable for the etland or surfa er assessed	hat he	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	wetland/	vel of support of /surface water nctions	Condition is insuf provide wetland/ water function	/surface	
	(6)(a) Locatio ndscape Sup		Current: Location and landso vegetation, and ditching. Indi- due to proximity of roadways; outside = 6, decreased due tr functions that benefit fish & w habitats; e) Impacts to wildlife loss; f) Hydrologically connect Dependency of downstream	b) Invasive exotic species = b b limitations imposed by surro didlife downstream-distance of b listed in Part 1 by outside lar ted areas downstream of ass	Support to will 6, moderate bunding roads or barriers = 6, nd uses = 6, essment are	Idlife listed in Part coverage; c) Wild ways and lack of 6, area somewhat slightly reduced of a = 6, connected	t 1 by outside habit dlife access to and open water connect isolated from othe due to surrounding through culverts to	tats = 6, from ction; d) er habitat	
w/o pres o current 6	r	with 7	drainage ditches, and presen habitats = 6, due to proximity access to and from outside = water connection; d) function isolated from other habitats; habitat loss; f) Hydrologically	cation and landscape support variable increased slightly due to removal of exotic species, backfilling of ditches, and preservation. Individual parameter scores: a) Support to wildlife listed in Part 1 by outside = 6, due to proximity of roadways; b) Invasive exotic species = 8,exotics will be eradicated; c) Wildlife o and from outside = 6, decreased due to limitations imposed by surrounding roadways and lack of open nnection; d) functions that benefit fish & wildlife downstream-distance or barriers = 6, area somewhat from other habitats; e) Impacts to wildlife listed in Part 1 by outside land uses = 7, little to no surrounding oss; f) Hydrologically connected areas downstream of assessment area = 6, connected through culverts to Dependency of downstream areas on assessment area = 7, more benefit to downstream areas due to moval. The water environment score is reduced due to the prevalence of ditching on the site. Individual					
	(b)Water Envi n/a for upland		Current: The water environm parameter scores: a) water less than expected; c) soil me evidence of fire history = N/A hydrologic stress on vegetation hydrological requirements = 5 species; i) vegetative species observation of water quality = depth wave, wave energy, cu	evels and flows = 5, altered w pisture = 5, drier than expecte ; f) vegetation community zon on = 5, some due to altered h of, due to lack of open water of tolerant of and associated wi et al., no discoloration, turbidity,	rater level dured; d) soil ero nation = 5, altrydrologic reg onnection an ith water qua or sheen; k)	e to ditching; b) w sion or deposition ered due to prese jime; h) use by an d resultant reduct ality degradation =	vater level indicator n = 7, typical patter ence of exotics; g) nimal species with services tion in number of fines = 5, moderate; j) dire	rns; e) specific sh rect	
w/o pres o current 5	r	with 7	With: The water environment scores: a) water levels and fl expected; c) soil moisture = evidence of fire history = N/A on vegetation = 8, due to imprequirements = 8, due to improper tolerant of and associated with discoloration, turbidity, or she and light penetration = N/A.	lows = 8, more typical water fl t, consistent with expected; d) f, f) vegetation community zon roved hydrologic regime; h) u roved hydrology and resultant th water quality degradation =	lows; b) wate) soil erosion nation = 8, du use by animal t increase in torease; 7, minimal; j	er level indicators or deposition = 7 ee to removal of ed I species with spenumber of fish spenumber of fish spenumber observation	= 8, consistent with f, typical patterns; e xotics; g) hydrologic ecific hydrological recies; i) vegetative on of water quality	h e) ic stress e species = 8, no	
1.	c)Community Vegetation are	nd/or	Current: The community stru parameter scores: a) plant co species; b) invasive exotics or recruitment = 5, slightly less to of coarse woody debris, snag stems and low productivity; g topographic features = 5, less N/A.	mmunity species in the canop or other invasive plant species han expected; d) age & size on the size of the size of the size of the size of the canon the size of the canon the size of the canon the size of the canon the size of the canon the cano	py, shrub, or s = 5, modera distribution = ate for system = 5, due to a	ground stratum = ate coverage; c) r 5, less than expe n type; f) plant cor alteration of comm	= 5, mix of exotic ar regeneration and ected; e) density ar ndition = 5, due to nunity structure; h)	nd native nd quality dead	
w/o pres o current		with 8	With: The community structure variable is increased due to removal of exotics and improved hydrology. Individual parameter scores: a) plant community species in the canopy, shrub, or ground stratum = 8, native species; b) invasive exotics or other invasive plant species = 9, minimal coverage; c) regeneration and recruitment = 8, consistent with expected; d) age & size distribution = 7, slightly less than expected; e) density and quality of coarse woody debris, snag, den, and cavity = 7, adequate for system type; f) plant condition = 8, improved due to improved by definity; b) togographic features = 8, due to removal of distribution; b)						
	um of above sc lands, divide by		If preservation as mitigated Preservation adjustment Adjusted mitigation delt	nt factor =		For impact asses:	sment areas		
D-1	to - Swith o	rontl	If mitigation	rears (1.14)	Fo	or mitigation asse	essment areas		
Del	ta = [with-cur	rentj	Time lag (t-factor) = 5 y	eais (1.14)	RFG -	= delta/(t-factor v	risk) = 0.11		
	0.16		Risk factor = 1.25		RFG = delta/(t-factor x risk) = 0.11				

Credits = RFG x acreage = 18.59

Site/Project Name			Application Numbe	r		Assessment Area Name	or Number
FPL Turkey Point Units (6 & 7 F	Project					Restoration Site - nd Hardwoods
FLUCCs code		Further classificat	tion (optional)		Impac	et or Mitigation Site?	Assessment Area Size
619						Mitigation	144 acres
Basin/Watershed Name/Number	Affecte	ed Waterbody (Clas	ss)	Special Classification	on (i.e.	OFW, AP, other local/state/federa	I designation of importance)
C-103/North Canal/03090202						None	
Geographic relationship to and hyd	rologic	connection with	wetlands, other su	urface water, uplar	nds		
Tree nurseries lie to the north and the L-31E canal and Biscayne Bay.		f the site. Mixed v	wetland forests an	d exotic hardwood	d wetla	ands lie to the east and	south. Further east is
Assessment area description							
The SW 320th Street Restoration S extending east towards SFWMD-ov wetlands dominated by Brazilian pe exotic species, and approximately acres of historical palm tree nurseri pepper and Australian pine. Resto	wned p epper a 42 acre ies curi	parcels adjacent to and Australian pin es of palm tree nu rently being resto	o the L-31E Canal ne, 169 acres of fourseries. The north ored to freshwater	and the BNP. Trested wetlands do hern portion of the marsh. Areas of entity.	he pa omina SW 3 xotic v	rcels include approxima sted by a mixture of nativ 320th Street Site include wetland hardwoods are	tley 144 acres of ve hardwoods and s approximately 219 dominated by Brazilian
Significant nearby features				Uniqueness (cor landscape.)	nsider	ing the relative rarity in	relation to the regional
Homestead Air Force Base, FPL Turkey Point Plant, Biscayne Bay			Biscayne Bay			Not unique	
Functions				Mitigation for prev	vious	permit/other historic use	·
Current: Water storage restoration: Wildlif	fe habi	tat, water storage	Post-	N/A			
Anticipated Wildlife Utilization Base that are representative of the asses be found)				Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)			
Post-restoration: Wading	birds,	shorebirds, forago	e fishes	Occasional use by wading birds such as roseate spoonbill (SSC), white ibis (SSC), little blue heron (SSC), wood stork (E), reddish egret (SSC), snowy egret (SSC) and tricolored heron (SSC)			
Observed Evidence of Wildlife Utiliz	zation ((List species direct	ctly observed, or c	ther signs such as	s track	ks, droppings, casings, r	nests, etc.):
			None				
Additional relevant factors:							
Assessment conducted by:				Assessment date	e(s):		
K. Bullock				6/1/2011			

PART II – Quantification of Assessment Area (impact or mitigation) (See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name		Application Number		Assessment Area Name or Number		
FPL Turkey Poir	t Units 6 & 7 Project			Street Restoration Site -		
mpact or Mitigation		Assessment conducted by:	Assessment da	Wetland Hardwoods te:		
Mit	igation	K. Bullock	K. Bullock 6/1/2011			
Scoring Guidance	Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)		
The scoring of each ndicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and full supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support or wetland/surface water functions	Condition is insufficient provide wetland/surface water functions		
.500(6)(a) Location and Landscape Support	vegetation, and ditching. Ind due to proximity of roadways outside = 6, decreased due functions that benefit fish & v e) Impacts to wildlife listed in Hydrologically connected are Dependency of downstream	ccape support variable is reductividual parameter scores: a) S s; b) Invasive exotic species = 6 to limitations imposed by surrou wildlife downstream-distance on Part 1 by outside land uses = eas downstream of assessmen areas on assessment area = 6	upport to wildlife listed in Par 6, moderate coverage; c) Wil unding roadways and lack of r barriers = 6, area somewha 6, slightly reduced due to su t area = 6, connected throug 6, some benefit to downstrear	t 1 by outside habitats = 6, dlife access to and from open water connection; d) it isolated from other habitat rrounding habitat loss; f) h culverts to L31E; g) m areas.		
/o pres or urrent wit 6 7	drainage ditches, and prese habitats = 6, due to proximit to and from outside = 6, dec connection; d) functions that other habitats; e) Impacts to Hydrologically connected an	pe support variable increased s rvation. Individual parameter so y of roadways; b) Invasive exot reased due to limitations impos benefit fish & wildlife downstre wildlife listed in Part 1 by outsi eas downstream of assessmen areas on assessment area = 7	cores: a) Support to wildlife I ic species = 8, exotics will be sed by surrounding roadways eam-distance or barriers = 6, de land uses = 7, little to no tarea = 6, connected throug	isted in Part 1 by outside eradicated; c) Wildlife acces and lack of open water area somewhat isolated fro surrounding habitat loss; f) h culverts to L31E; g)		
.500(6)(b)Water Environme (n/a for uplands) /o pres or current wit	fire history = N/A; f) vegetati tvegetation = 5, some due to requirements = 5, due to lac vegetative species tolerant of water quality = 8, no discolo With: The water environmer scores: a) water levels and expected; c) soil moisture = of fire history = N/A; f) veget	5, drier than expected; d) soil e on community zonation = 5, alt- altered hydrologic regime; h) uk k of open water connection and of and associated with water qu ration, turbidity, or sheen; k) ex- t score is increased due to the flows = 8, more typical water flo 8, consistent with expected; d) ation community zonation = 8,	ered due to presence of exotes by animal species with sport resultant reduction in number ality degradation = 5, moder removal of ditching on the signey water level indicators soil erosion or deposition = 5, due to removal of exotics; g)	cics; g) hydrologic stress on pecific hydrological er of fish species; i) ate; j) direct observation of A; l) water depth wave, wa ite. Individual parameter = 8, consistent with 7, typical patterns; e) evider hydrologic stress on		
5 7	_	ved hydrologic regime; h) use b ogy and resultant increase in nu				
.500(6)(c)Community structu 1. Vegetation and/or 2. Benthic Community	Current: The community str parameter scores: a) plant of species; b) invasive exotics = 5, slightly less than expect woody debris, snag, den, an condition = 4, little evidence structure; h) topographic fea communities = N/A.	ucture variable is reduced due ommunity species in the canop or other invasive plant species led; d) age & size distribution = d cavity = 4, inadequate for sys of natives; g) land managemer tures = 5, less than optimal; i) sure variable is increased due to	to prevalence of exotic speci y, shrub, or ground stratum = = 3, extensive coverage; c) 5, less than expected; e) de stem type due to dense cove the practices = 5, due to ditchi siltation or algal growth in sul	es of vegetation. Individual = 3, dominated by exotic regeneration and recruitme nsity and quality of coarse rage of exotics; f) plant ng, alteration of community omerged aquatic plant		
//o pres or current wit 4 7	parameter scores: a) plant of invasive exotics or other inva- consistent with expected; d) woody debris, snag, den, an	ommunity species in the canop asive plant species = 9, minima age & size distribution = 7, slig d cavity = 7, adequate for syste ent practices = 8, due to remo	y, shrub, or ground stratum: Il coverage; c) regeneration a thtly less than expected; e) d em type; f) plant condition = 8	= 8, native species; b) and recruitment = 8, ensity and quality of coarse 3, improved due to improve		
Score = sum of above scores/30	(if If preservation as mitig	nation.	For impact asse	essment areas		
uplands, divide by 20) current r w/o pres	Preservation adjustme	ent factor =	FL = delta x acres =			
0.50 0.7	0					
	If mitigation					
Delta = [with-current]	Time lag (t-factor) = 5	vears (1 14)	For mitigation ass	sessment areas		
	<u> </u>	yould (1.17)	RFG - delta//t-factor	x risk) = 0 14		
0.20 Risk factor = 1.25 $RFG = \frac{\text{delta}}{\text{t-factor x risk}} = 0.14$						

Site/Project Name		Application Number	r		Assessment Area Name of	or Number
FPL Turkey Point Units 6	3 & 7 Project	, pr			SW 320 th Street Preservation - Fre	Restoration Site-
FLUCCs code	Further classifica	ation (optional)		Impac	t or Mitigation Site?	Assessment Area Size
641					Mitigation	219 acres
Basin/Watershed Name/Number	Affected Waterbody (Clas	ss)	Special Classification	on (i.e.C	DFW, AP, other local/state/federal	designation of importance)
C-103/North Canal/03090202					None	
Geographic relationship to and hyd	Irologic connection with	wetlands, other s	urface water, upla	ands		
Tree nurseries lie to the north and v 31E canal and Biscayne Bay.	west of the parcels. Mix	xed wetland forest	ts and exotic spec	ies lie	to the east and south.	Further east is the L-
Assessment area description The SW 320th Street Restoration S extending east towards SFWMD-ov wetlands dominated by Brazilian pe exotic species, and approximately 4 acres of historical palm tree nurseri	wned parcels adjacent t epper and Australian pir 42 acres of palm tree no	to the L-31E Cana ne, 169 acres of fo urseries. The nort	al and the BNP. prested wetlands of the thern portion of the marsh. This pare	The pa domina e SW : cel of f	arcels include approxima ated by a mixture of nati 320th Street Site include reshwater marsh is prop	atley 144 acres of ive hardwoods and es approximately 219 posed to be placed
Significant nearby features			Uniqueness (collandscape.)	nsider	ing the relative rarity in	relation to the regional
Homestead Air Force Base, FF	PL Turkey Point Plant, I	Biscayne Bay			Not unique	
Functions			Mitigation for pre	vious p	permit/other historic use	,
Wildlife habi	itat, water storage	3			N/A	
Anticipated Wildlife Utilization Base that are representative of the asses be found)				T, SS	by Listed Species (List s C), type of use, and inte	
Wading birds, sho	norebirds, forage fishes	1	white ibis (SSC),	little b	ling birds such as rosea blue heron (SSC), wood SC) and tricolored heron	stork (E), reddish egret
Observed Evidence of Wildlife Utiliz	zation (List species dire	ectly observed, or o	other signs such a	as trac	ks, droppings, casings,	nests, etc.):
		None				
Additional relevant factors:						
Assessment conducted by:			Assessment date	e(s):		
K. Bullock			6/1/2011			

PART II – Quantification of Assessment Area (impact or mitigation) (See Sections 62-345.500 and .600, F.A.C.)

Site/Proje	ct Name			Application Number		Assessment Area Name or Number						
	FPL Turke	ey Point Ur	nits 6 & 7 Project					Preservation				
Impact or	Mitigation	Mitigati	on	Assessment conducted by: K. Bullock		Assessment date	6/1/2011					
Scorin	ng Guidance	_	Ontimal (10)	Moderate(7)	Mi	nimal (4)	Not Prese	ent (0)				
The sc indicator is would be type of we	coring of each is based on w e suitable for the etland or surfa	he	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal le	evel of support of d/surface water	Condition is ins	sufficient to surface water				
			surrounding tree nurseries. Ir due to surrounding habitats; = 6, decreased due to limitet that benefit fish & wildlife dow outside land uses = 6, slightly of assessment area = 6, conr	ndividual parameter scores: a b) Invasive exotic species = 6 ions imposed by surrounding r wnstream-distance or barriers y reduced due to surrounding nected through culverts/ditchir) Support to i, moderate roadways ar = 6, some f habitat loss	o wildlife listed in P coverage; c) Wildl nd lack of open wa unctions; e) Impac ; f) Hydrologically	art 1 by outside had life access to and ater connection; d) ats to wildlife listed connected areas of	abitats = 6, from outside functions in Part 1 by downstream				
w/o pres o current 6	r	with 7	a) Support to wildlife listed in Invasive exotic species = 7, li surrounding habitats; d) fung surrounding habitats; e) Impa f) Hydrologically connected a g) Dependency of downstrea	Support to wildlife listed in Part 1 by outside habitats = 7, increased due to improvement of surrounding asive exotic species = 7, little coverage; c) Wildlife access to and from outside = 7, due to improvemen rounding habitats; d) functions that benefit fish & wildlife downstream-distance or barriers = 7, due to in rounding habitats; e) Impacts to wildlife listed in Part 1 by outside land uses = 7, little to no surrounding ydrologically connected areas downstream of assessment area = 7, due to improved hydrology in sur Dependency of downstream areas on assessment area = 7, more benefit to downstream areas due to								
			water levels and flows = 5, al drier than expected; d) soil et community zonation = 5, alte altered hydrologic regime; h) water connection and resulta water quality degradation = 5	Itered water level; b) water lev rosion or deposition = 4, incre- red due to presence of invasiv use by animal species with sp int reduction in number of fish is, moderate; j) direct observativ	el indicators ased; e) evi ves; g) hydro becific hydro species; i) v on of water	s = 4, less than exp dence of fire histor ologic stress on ve ological requirement regetative species quality = 8, no disc	pected; c) soil moi ry = N/A; f) vegeta getation = 5, som nts = 5, due to lack tolerant of and as coloration, turbidit	sture = 5, tion e due to k of open sociated with y, or sheen;				
w/o pres o current 5	r	with 5	water levels and flows = 5, al drier than expected; d) soil er community zonation = 5, alte altered hydrologic regime; h) water connection and resulta water quality degradation = 5	Itered water level; b) water lev rosion or deposition = 4, incre- red due to presence of invasiv- use by animal species with sp int reduction in number of fish is, moderate; j) direct observative	el indicators ased; e) evi /es; g) hydro becific hydro species; i) v on of water	s = 4, less than exp dence of fire histor ologic stress on ve ological requirement regetative species quality = 8, no disc	pected; c) soil moi ry = N/A; f) vegeta egetation = 5, som nts = 5, due to lack tolerant of and as coloration, turbidit	sture = 5, tion e due to k of open sociated with y, or sheen;				
1. '	Vegetation ar	nd/or	scores: a) plant community s invasive exotics or other inva less than expected; d) age & snag, den, and cavity = 5, no g) land management practice	pecies in the canopy, shrub, o sive plant species = 5, moder size distribution = 5, less thar at adequate for system type; f) es = 5, due to alteration of com	or ground sta ate coveragon expected; plant condi- nmunity stru	ratum = 5, mix of e le; c) regeneration e) density and qua- tion = 5, due to de- locture; h) topograpi	exotic and native s and recruitment = ality of coarse woo ad stems and low	pecies; b) 5, slightly dy debris, productivity;				
w/o pres of current	surrounding habitats; e) Impacts to wildlife listed in Part 1 by outside land uses = 7, little to no surrounding habitats; e) Impacts to wildlife listed in Part 1 by outside land uses = 7, little to no surrounding habitats; e) Impacts to wildlife listed in Part 1 by outside land uses = 7, little to no surrounding habitats; e) Impacts to wildlife listed in Part 1 by outside land uses = 7, little to no surrounding area. Current: The water environment score is reduced due to lack of natural water flow. Individual parameter scowater levels and flows = 5, altered water level; b) water level indicators = 4, less than expected; c) soil most in the late of than expected indicators = 4, less than expected; c) soil most water connection and resultant reduction in number of fish species; i) vegetative species tolerant of and assowater quality degradation = 5, moderate; j) direct observation of water quality = 8, no discoloration, turbidity, (k) existing water environment score is same as current; no improvements proposed. Individual parameter scowater levels and flows = 5, altered water level; b) water level indicators = 4, less than expected; c) soil most water connection and resultant reduction in number of fish species; i) vegetative species tolerant of and assowater quality degradation = 5, altered water level; b) water level indicators = 4, less than expected; c) soil most water connection and resultant reduction in number of fish species; i) vegetative species tolerant of and assowater quality degradation = 5, altered water level; b) water level indicators = 4, less than expected; c) soil most community structure variable is reduced due to presence of invasives; j) hydrologic stress on vegetation = 5, some of altered hydrologic regime; h) use by animal species with specific hydrological requirements = 5, due to lack of the hydrologic regime; h) use by animal species with specific hydrological requirements = 5, due to lack of the hydrological requirements = 5, due to lack of the hydrological requirements = 5, due to											
	FPL Turkey Point Units 6 & 7 Project FPL Turkey Point Units 6 & 7 Project Freshwater Masshes Assessment conducted by: Assessment date: Assessment death Assessment death Freshwater Masshes Assessment death Freshwater Masshes Freshwater Masshes Assessment death Freshwater Masshes Grid Confision is pointed and fully supported to the programment of the search of the well and or surface the reassessed water functions with a swifield content of the swifeld access to any and lack of open water connection; of in water functions of a sessessment area = 6, some benefit to downstream areas. With: Location and landscape support variable is higher because area will be preserved. Individual parameter some assessment area = 7, more benefit to downstream areas. With: Location functions water levels and flows = 6, silented water function in a function of the silented in part 1 by outside moust level - 1, individual parameter some and part of the											
			If mitigation		_			r				
Del	lta = [with-cur	rent]	1	Assessment conducted by: K. Bullock Assessment date: Condition is less than optimal, but sufficient to maintain most wetland/surface water functions in provide wetland/surface functions in the function of the wetland water functions in the function of the the f								
	0.06		Risk factor =		RFG	= delta/(t-factor x	risk) =					
												

Credits = adjusted mitigation delta x acreage = 10.95

APPENDIX B

W.A.T.E.R. FUNCTIONAL ASSESSMENT



Mitigation Bank Site Suitability Evaluation (MBSE) Matrix

Page 1 of 1

Parameters (Site Suitability created by: Donaldson Hearing)	Turkey Point Units 6&7 Site		
Parameter	Scoring Criteria	Ratings	Score
1. Adjacent to lands or waters of regional Importance and results in identifiable	State Park, OFW, AP, and including but not limited to Special Waters on at least 1 boundary	1	
ecological benefits to adjacent lands or waters.	Adjacent lands contain no special designation or undesignated special value	0	0
2. Property is within boundary of an acknowledged state, local or regional acquisition program	Property is within boundary of an acquisition program	1	
	Property is not within boundary of an acquisition program	0	0
Property contains ecological or geological features consistently considered by regional Scientist, or federal and state agencies to be unusual, unique or rare in the region and is of sufficient size	Property qualifies Property does not qualify	1 0	0
4. Property designated as being of critical state or federal concern and/or contains special designations,	Property contains at least 1 special designation. Property contains no special designations.	0	1
5. Property important to acknowledged restoration efforts	Property is important. Property is not important.	0	0
6. Ownership and control of the property.	Property is privately owned. Property is publicly owned.	0	1
7. Threatened , Endangered & Species of Special Concern	Documented Presence of Species on site	1	1
Presence of animal species (faunal) found on site	No documented Presence of species on site.	0	
8. Threatened , Endangered & Listed Species	Documented Presence of Species on site	1	1
Presence of plant species (floral) found on site	No documented Presence of species on site.	0	
Threat of loss or destruction from development activities. (Development Pressure)	High probability of development.	1	
	Low probability of development.	0	0
10. Extent to which lands are subject to Local, State, and Federal dredge and fill/ ERP Regulations	Property is regulated.	1	1
	Property is not regulated.	0	<u> </u>
	Value Cumulative Score (CS)	5

The Mitigation Bank Site Suitability Evaluation Matrix is designed to provide a quantifiable means of determining the number of mitigation credits that should be assigned to a bank for "value" related parameters. Value related parameters are human values determined to be important to society; and therefore are not measurable in a purely functional analysis. Functional analysis will only measure the degree of functional ecological improvement (degree of ecological improvement) resulting from mitigation activities. The SS Evaluation measures and provides credit for societal values that separate one mitigation bank from another as required by Ch. 62-342 .470 (a) (b) (e) (f) (g) (h) (i) F.A.C.. The SS evaluation is not to be utilized in conjunction with a functional analysis methodology which also utilizes value related parameters in its analysis.

Evalua	tion Scale
Site	Suitability
1.0	1.10
.9	1.09
.8	1.08
.7	1.07
_6	1.06
5	1.05
.4	1.04
.3	1.03
.2	1.02
1	1.01
0	0

Site Suitability Matrix	
Maximum Possible Score (MPS)	10
Cumulative Score (CS)	5

0.5

EPA, USACOE, USF & W, FDEP, NMFS, SFWMD, Dade DERM, FPL, CH 3-Apr-96

After Calculating the Site Suitability Score determine the Site Suitability Multiplier by utilizing the Evaluation Scale to the left. The Site Suitability Multiplier is to be multiplied times the number of the Functional Mitigation Credits, resulting from the (W.A.T.E.R.) Functional Assessment of the Mitigation Bank, to determine the number of Site Suitability Credits to be assigned to the Mitigation Bank.

Units 6&7 Site

Scoring conducted by: Karl Bullock & Colleen Cunningham

W.A.T.E.R. - Wetland Assessment Technique for Environmental Reviews
Based on WBI, WQI, WRAP, HGM and 4th Priority Project List (PPL) with technical advise from
EPA, FDEP, ACOE, NMFS, USF & W, SFWMD & Dade County (W.A.T.E.R. created by: Bill L. Maus)

Data Collected on: Nov 28 and 29, 2007; also used data from DERM visit on Aug 29, 2007

217,1722,17002,1700			Po	lygon	Po	lygon	P	olygon	Pol	/gon	Poly	/gon
Parameter/ Function	Scoring Criteria	Ratings	Mangrove Heads - Pre	Mangrove Heads - Impact	Remnant Canals- Pre	Remnant Canals- Impact	Mudflat/Wet Spoil Piles- Pre	Mudflat/Wet Spoil Piles - Impact	Dwarf Mangrove- Pre	Dwarf Mangrove- Impact	Open Water/Active Canals - Pre	Water/Active Canals - Impact
1. Fish & Wildlife Functions Apply to freshwater, sale	twater, brackish and mitigation systems											
	7 or more species commonly observed	3										
a. Waterfowl, wading birds, wetland dependent, or aquatic	3-6 species commonly observed	2	3	0	2	0	3	0	3	0	2	0
birds of prey.	1-2 species commonly observed	1										
(Mit. Bank - High specie count w/ low pop. #'s score 1	0 species commonly observed	0										
	7 or more species commonly observed	3										
b. Fish	3-6 species commonly observed	2	2.5	0	2.5	0	1	0	2	0	2	0
(Mit. Bank - High specie count w/ low pop. #'s score 1	1-2 species commonly observed	1										
Restoration that causes 12% pop. Increases-higher score)	0 species commonly observed	0										
	Top predator (carnivore) &/or large mammals	3										
c. Mammals	Medium sized mammals , (adult weight > 6 ibs.)	2	2	0	0	0	2	0	2	0	0	0
(Mit. Bank - High specie count w/ low pop. #'s score 1	Small animals (rodents, etc.), (adult weight < 6 lbs.)	1										
Restoration that causes 12% pop. Increases-higher score)	0 species present	0										
	7 or more species commonly observed	3										
d. Aquatic macroinvertebrates, amphibians	3-6 species commonly observed	2	3	0	3	0	2	0	3	0	3	0
(Mit. Bank - High specie count w/ low pop. #'s score 1	1-2 species commonly observed	1										
Restoration that causes 12% pop. Increases-higher score)	0 species commonly observed	0										
	Large species observed	3										
e. Aquatic reptiles	Aquatic turtles	2	1.5	0	0	0	1	0	1	0	1	0
(Mit. Bank - High specie count w/ low pop. #'s score 1	Snakes & lizards	1										
Restoration that causes 12% pop. Increases-higher score)	No evidence of species present	0										

Units 6&7 Site

Scoring conducted by: Karl Bullock & Colleen Cunningham

W.A.T.E.R. - Wetland Assessment Technique for Environmental Reviews
Based on WBI, WQI, WRAP, HGM and 4th Priority Project List (PPL) with technical advise from
EPA, FDEP, ACOE, NMFS, USF & W, SFWMD & Dade County

(W.A.T.E.R. created by: Bill L. Maus)

Data Collected on: Nov 28 and 29, 2007; also used data from DERM visit on Aug 29, 2007

			Po	lygon	Po	lygon	Р	olygon	Pol	ygon	Poly	ygon
Parameter/ Function	Scoring Criteria	Ratings	Mangrove Heads - Pre	Mangrove Heads - Impact	Remnant	Remnant Canals- Impact	Mudflat/Wet Spoil Piles- Pre	Mudflat/Wet Spoil Piles - Impact	Dwarf Mangrove- Pre	Dwarf Mangrove- Impact	Open Water/Active Canals - Pre	Water/Active Canals - Impact
2. Vegetative Functions Apply to freshwater, saltware	ter, brackish and mitigation systems											
	Desirable trees/shrub healthy & providing appropriate habitat (seedlings present) & no inappropriate species	3										
a. Overstory/shrub canopy	Desirable trees/shrubs exhibit signs of stress (no seedlings) few inappropriate species present	2	2.5	0	N/A	0	N/A	0	2	0	N/A	0
I	Inappropriate trees/shrubs shading or overcoming desirable tree/shrubs Very little or no desirable tree/shrubs present (evidence suggests there should be)	0										
	Assessment area exhibits <2% inappropriate herbaceous ground cover for specific wetland systems and groundcover is present	3										
b. Vegetative ground cover	Assessment area contains >2% but <30% inappropriate herbaceous groundcover, or lack of groundcover >2% but < 30% Assessment area contains >30% to <70% inappropriate herbaceous	2	N/A	0	3	0	1	0	N/A	0	1	0
	groundcover, or lack of ground cover >30% to <70% Assessment area >70% inappropriate herbaceous groundcover or lack of groundcover >70%	0										
	Periphyton (Blue-green algae) present with average mat thickness >1 1/4 in. (measure active & dead layer)	3										
c. Periphyton mat coverage	Periphyton (Blue-green algae) present with average mat thickness between 3/4 in. to 1 1/4 in. (active & dead layer) Periphyton (Blue-green algae) present with average mat thickness	2	2	0	2	0	0	0	1	0	2	0
	between 1/4 in. to 3/4 in. (active & dead layer) Periphyton (Blue-green algae) not present or if pressent with average thickness of 0.0 to 1/4 in. (active & dead layer)	0										
	< (or = to) 1 % exotic plant cover	3										
d. Category 1 and Category 2 exotic plants or (non-native)	>1 % to 10 % exotic plant cover	2	3	0	3	0	3	0	3	0	2	0
species	>10 % to 65 % exotic plant cover	1										
	> 65 % exotic plant cover	0										
	>3 native species communities on site within assesssment area	3										
e. Habitat diversity (vegetative)	2 or 3 native species communities on site within assessment area 1 native species community with 75 % to 90 % coverage within	2	2	0	2	0	2	0	2	0	2	0
(within assessment area)	assessment area 1 native species community has > 90 % coverage within assessment area	0										
	> 3 alternative habitats available (including upland)	3										
f. Biological diversity within 3000 feet	2 to 3 alternative habitats	2	3	0	3	0	3	0	3	0	3	0
(approximately 1/2 mile from edge of assessment area)	1 alternative habitat	1										
	Same habitat type, or inappropriate / impacted	0										

Units 6&7 Site

Scoring conducted by: Karl Bullock & Colleen Cunningham

W.A.T.E.R. - Wetland Assessment Technique for Environmental Reviews

Based on WBI, WQI, WRAP, HGM and 4th Priority Project List (PPL) with technical advise from

EPA, FDEP, ACOE, NMFS, USF & W, SFWMD & Dade County (W.A.T.E.R. created by: Bill L. Maus)

Data Collected on: Nov 28 and 29, 2007; also used data from DERM visit on Aug 29, 2007

EFA, FDEF, ACCE, NWF3, USF & W, SFWWD & Date	(W.A.I.E.R. created by: bill L. Maus)		Po	lygon	Po	lygon	Р	olygon	Pol	ygon	Poly	ygon
Parameter/ Function	Scoring Criteria	Ratings	Mangrove Heads - Pre	Mangrove Heads - Impact	Remnant Canals- Pre	Remnant Canals- Impact		Mudflat/Wet Spoil Piles - Impact	Dwarf Mangrove- Pre	Dwarf Mangrove- Impact	Open Water/Active Canals - Pre	Water/Active Canals - Impact
3. Hydrologic Functions												
	Major connection (Flowing water/ river or floodplain/ uniform flow through natural systems)	3										
a. Surface water hydrology / sheet flow	Moderate connection (Natural restriction of flow or Flowing water due to hydrologic engineering)	2	1	0	1	0	1	0	1	0	1	0
Apply to freshwater, saltwater, brackish and mitigation systems	Minor connection (Runoff collection point, or uneven flow due to berms, ditches, roadways etc.)	1										
	Hydrologically isolated, no net lateral movement	0										
	> 8 months inundated with no reversals & every year drydown	3										
b. Hydroperiod (normal year) fresh systems	>5 months < 8 months or >5 years continuous inundation (look for strong water stains on persistent vegetation)	2										
	>1 month < 5 months, with possible reversals (look for soft or less distinct water stains on persistent vegetation)	1										
	< 4 weeks cumulative annual inundation or < 2 weeks continuous inundation	0										
	>10 weeks of continuous inundation including soil saturation	3										
b-1 Alternate to b. for	> 6 weeks but <10 weeks of continuous inundation including soil saturation	2										
Short Hydroperiod (normal year) fresh systems:	>2 weeks but <6 weeks of inudation, including soil saturation	1										
	<2 weeks of continuos inundation	0										
	Inundated by >90% high tides											
b-2 Alternate to b. for	Inundated by "spring" high tides (bi-monthly)	2			This is a hyp	ersaline closed syst	em used to mana	ge industrial wastewate	er. There is no tid	al inundation.		
Saltwater, brackish (tidal) systems	Inundated by "extreme high" tides only (biannually)	1	0.5	0	0.5	0	0.5	0	0.5	0	0.5	0
	Inundated by storm surges only	0										İ
	Inundated by high "spring" tides (monthly) and flushed by fresh water sheetflow every 10 days average	3										
b-3 Alternate to b. for	Inundated by high "spring" tides (monthly) and flushed by fresh water sheetflow every 30 days on the average	2										
High Marsh (Juncus-Distichlis)	Inundated by high "spring" tides (monthly)and exposed to rain only	1										i
·	Inundated by >50% high tides and exposed to rain only	0										<u> </u>
	Inundated by high tides (daily) and/or recieves and maintains fresh water at least into first half of dry season	3										
b-4 Alternate to b. for	Inundated by high tides (daily) and/or recieves and maintains fresh water during rainy season only	2										
Riverine systems	Inundated by high tides (daily) and/or recieves fresh water but does not maintain (reversal) during rainy season	1										
	Inundated by spring tides (bi-monthly) and/or experiences frequent reversals of fresh water (flashy)	0										

Units 6&7 Site

Scoring conducted by: Karl Bullock & Colleen Cunningham

W.A.T.E.R. - Wetland Assessment Technique for Environmental Reviews

Based on WBI, WQI, WRAP, HGM and 4th Priority Project List (PPL) with technical advise from

EPA, FDEP, ACOE, NMFS, USF & W, SFWMD & Dade County (W.A.T.E.R. created by: Bill L. Maus)

Data Collected on: Nov 28 and 29, 2007; also used data from DERM visit on Aug 29, 2007

			Pol	ygon	Po	lygon		olygon	Poly	ygon	Pol	ygon
							Mudflat/Wet		Dwarf	Dwarf	Open	Water/Active
Parameter/ Function	Scoring Criteria	Ratings	Mangrove	Mangrove	Remnant	Remnant	Spoil Piles-	Mudflat/Wet Spoil	Mangrove-	Mangrove-	Water/Active	Canals -
			Heads - Pre	Heads - Impact	Canals- Pre	Canals- Impact	Pre	Piles - Impact	Pre	Impact	Canals - Pre	Impact
3. Hydrologic Functions continued												
	>1 ft. water depth for at least 2.5 months and <6 in. for >1 month (measure water mark/ lichen line), or water depth ideal for specific wetland system.	3										
c. Hydropattern (fresh system)	>6 in to 1 ft. for at least 2.5 months (measure water mark/ lichen line) or water depth borderline over or under for specific wetland system	2										
	<6 in. for at least 2.5 months (measure water mark/ lichen line) or water depth incorrect for specific wetland system	1										
	<6 in. in association with either canals, ditches, swales, culverts, pumps, and/or wellfields, or these factors cause water depth to be too deep for specific system.	0										
	>1 ft. water depth <2 ft. on 90% high tides	3										
c-1 Alternate to c. for	> 6 in. water depth <1 ft. on >50% high tides	2		This is	s a hypersaline cl	osed system used to	manage industri	al wastewaters. There	is no tidal inunda	tion.		
Saltwater, brackish (tidal) systems	< 6 in. water depth , but > than saturated	1	1.5	0	1.5	0	1.5	0	1.5	0	1.5	0
	Saturated by saline water table only	0										
	>10 in. water depth <2 ft. on regular basis during growing season	3										
c-2 Alternate to c. for	>5 in. to 10in. water depth on regular basis during growing season	2										
High Marsh (Juncus-Distichlis)	>1 in. to 5 in. water depth on regular basis during growing season	1										
	>0.0 in. to 1 in. water depth sporadically during growing season	0										
	>2 ft. water depth (main channel) <6 ft. for 8 months	3										
c-3 Alternate to c. for	>2 ft. water depth (main channel) <4 ft. for 6 months	2										
Riverine systems	>1 ft. water depth (main channel) <2.5 ft. for 4 months	1										
	<1 ft. water depth, but dry for >4 weeks (dry season)	0										

Units 6&7 Site

Scoring conducted by: Karl Bullock & Colleen Cunningham

W.A.T.E.R. - Wetland Assessment Technique for Environmental Reviews

Based on WBI, WQI, WRAP, HGM and 4th Priority Project List (PPL) with technical advise from

EPA, FDEP, ACOE, NMFS, USF & W, SFWMD & Dade County (W.A.T.E.R. created by: Bill L. Maus)

Data Collected on: Nov 28 and 29, 2007; also used data from DERM visit on Aug 29, 2007

ET A, T DET , AGGE, INWIT 3, GGT & W, GT WIND & Dade C			Po	lygon	Po	olygon	P	olygon	Pol	ygon	Poly	ygon
Parameter/ Function	Scoring Criteria	Ratings	Mangrove Heads - Pre	Mangrove Heads - Impact	Remnant Canals- Pre	Remnant Canals- Impact	Mudflat/Wet Spoil Piles- Pre	Mudflat/Wet Spoil Piles - Impact	Dwarf Mangrove- Pre	Dwarf Mangrove- Impact	Open Water/Active Canals - Pre	Water/Active Canals - Impact
3. Hydrologic Functions continued												
	No indication of poor water quality (lab testing required, all values within acceptable range) No visual indicators of poor water quality observed (1 value just over or	3										
d. Water Quality	under acceptable range) Visual indicators of poor water quality questionable (2 values over or under acceptable range)	1	1.5	0	1.5	0	1.5	0	1.5	0	1.5	0
	Visual indicators of poor water quality observed or lab verified (values are out of acceptable range)	0										
	Unaltered	3										
e. Intactness of historic topography (soil disturbance)	Slightly altered soil disturbance, < 10% of assessment area	2										
	Moderately altered soil disturbance, < 25% of assessment area	1	1.5	0	1	0	1.5	0	1.5	0	1	0
	Extremely altered soil disturbance, may exceed 50% of assessment area	0										
	Organic soil classified hydric soil >12 in. or any thickness over bedrock/caprock with perched water table and either condition covering >90% of surface area	3										
f. Soils, organic (fresh systems)	Organic soil classified hydric soil >6 in. but <12 in. and covering >90% of surface area	2										
	Organic soil classified hydric soil >1 in. but <6 in. and covering >50% but <90% of surface area	1										
	Organic soil classified non-hydric soil <1 in. for >50% of surface area	0										
	Sandy soil classified hydric soil with distinct mottling and concretions present in greater than 40% of horizon.	3										
f-1 Alternate to f. for	Sandy soil classified hydric soil with mottling and concretions present in > 20% but < 40% of horizon.	2										
Freshwater, saltwater systems	Sandy soil classified hydric soil with light or sparse mottling and concretions < 2 mm diameter or < 20% of horizon.	1										
	Sandy soil exhibits strong evidence of disturbance or mechanical manipulations or is fill material.	0										
	Calcareous loam >12 in. and >90 % of surface area	3										
f-2 Alternate to f. for	Calcareous loam >6 in. to <12 in. and >90% of surface area	2	3	0	2	0	2	0	3	0	2	0
Freshwater, saltwater, brackish (tidal) systems	Calcareous loam >1 in. to <6 in. and covering >50% but <90% of surface area	1										
	Calcareous loam <1 in. for >50% of surface area	0										

Units 6&7 Site

Scoring conducted by: Karl Bullock & Colleen Cunningham

W.A.T.E.R. - Wetland Assessment Technique for Environmental Reviews
Based on WBI, WQI, WRAP, HGM and 4th Priority Project List (PPL) with technical advise from
EPA, FDEP, ACOE, NMFS, USF & W, SFWMD & Dade County (W.A.T.E.R. created by: Bill L. Maus)

Data Collected on: Nov 28 and 29, 2007; also used data from DERM visit on Aug 29, 2007

			Po	lygon	Po	lygon		olygon		ygon		/gon
Parameter/ Function	Scoring Criteria	Ratings	Mangrove Heads - Pre	Mangrove Heads - Impact	Remnant Canals- Pre	Remnant Canals- Impact	Mudflat/Wet Spoil Piles- Pre	Mudflat/Wet Spoil Piles - Impact	Dwarf Mangrove- Pre	Dwarf Mangrove- Impact	Open Water/Active Canals - Pre	Water/Active Canals - Impact
4. Salinity Parameters Apply to freshwater, saltwater,	brackish, hypersaline and mitigation systems -Ch	oose 1										
	<2 parts per thousand (ppt)	3										
a. Optimum salinity for fresh systems during growing	2 to 3 parts per thousand (ppt)	2										
season based on mean high salinity for a normal year.	4 to 5 parts per thousand (ppt)	1										
Apply to freshwater systems within 5 miles of the coast	>5 parts per thousand (ppt)	0										
a-1. Alternate to a.	6 to 8 parts per thousand (ppt)	3										
Optimum salinity for brackish systems during growing	9 to 13 parts per thousand (ppt)	2										
season based on mean high salinity for a normal year.	14 to 16 parts per thousand (ppt)	1										
Apply to brackish (tidal) systems only	>16 parts per thousand (ppt)	0										
a-2. Alternate to a.	17 to 19 parts per thousand (ppt)	3										
Optimum salinity for saline systems during growing	20 to 22 parts per thousand (ppt)	2										
season based on mean high salinity for a normal year.	23 to 25 parts per thousand (ppt)	1										
Apply to saline marsh (tidal) systems only	>25 parts per thousand (ppt)	0										
a-3. Alternate to a.	26 to 41 parts per thousand (ppt)	3										
Optimum salinity for hypersaline systems during growing	42 to 46 parts per thousand (ppt)	2	2	0	2	0	2	0	2	0	2	0
season based on mean high salinity for a normal year.	47 to 51 parts per thousand (ppt)	1				-						
Apply to hypersaline (tidal) systems only	>51 parts per thousand (ppt)	0										
a-4 Alternate to a.	bottom (lower) third between 12 to 25 ppt	3										
Optimum salinity for riverine/tidal creek system during	middle third between 5 to 11 ppt.											
growing season based on mean high slainity for a normal	upper (top) third betweem 0 to 4 ppt.											
year.	bottom (lower) third between 25 to 32 ppt	2										
Apply to riverine systems only	middle third between 6 to 24 ppt.											
	upper (top) third betweem 0 to 5 ppt.											
	bottom (lower) third between 30 to 40 ppt	1										
	middle third between 8 to 29 ppt.											
	upper (top) third betweem 0 to 7 ppt.											
	bottom (lower) third between 35 to 50 ppt	0										
	middle third between 10 to 34 ppt.					ĺ						
	upper (top) third betweem 0 to 9 ppt.											
		Cumulative Score (SC)	35.5	0.0	30.0	0.0	28.0	0.0	33.0	0.0	27.5	0.0
W.A.T.E.R. created by: Bill L. Maus		aximum Possible Score (MPS)	51.00	51.00	51.00	51.00	51.00	51.00	51.00	51.00	51.00	51.00
11/1/1995	W.A.T.E.R. = Cumulative S	core/Maximum Possible Score	0.70	0.00	0.59	0.00	0.55	0.00	0.65	0.00	0.54	0.00

Mitigation Bank Wetland Function -- Evaluation Matrix

W.A.T.E.R. - Wetland Assessment Technique for Environmental Reviews
Based on WBI, WQI, WRAP, HGM and 4th Priority Project List (PPL) with technical advise from
EPA, FDEP, ACOE, NMFS, USF & W, SFWMD & Dade County

(W.A.T.E.R. created by: Bill L. Maus)

Scoring conducted by: Karl Bullock & Colleen Cunningham

			Pol	ygon	Po	lygon	Po	olygon	Poly	/gon	Poly	/gon
Parameter/ Function	Scoring Criteria	Ratings	Mangrove / Willow - Pre	Mangrove /Willow - Impact	Mangrove - Pre	Mangrove - Impact						
1. Fish & Wildlife Functions Apply to freshwater, sale	twater, brackish and mitigation systems											
	7 or more species commonly observed	3										
a. Waterfowl, wading birds, wetland dependent, or aquatic	3-6 species commonly observed	2	2	0	3	0						
birds of prey.	1-2 species commonly observed	1										
(Mit. Bank - High species count w/ low pop. #'s score 1	0 species commonly observed	0										
	7 or more species commonly observed	3										
b. Fish	3-6 species commonly observed	2	2.5	0	2.5	0						
(Mit. Bank - High species count w/ low pop. #'s score 1	1-2 species commonly observed	1										
Restoration that causes 12% pop. Increases-higher score)	0 species commonly observed	0										
	Top predator (carnivore) &/or large mammals	3										
c. Mammals	Medium sized mammals , (adult weight > 6 ibs.)	2	2	0	2	0						
(Mit. Bank - High species count w/ low pop. #'s score 1	Small animals (rodents, etc.), (adult weight < 6 lbs.)	1										
Restoration that causes 12% pop. Increases-higher score)	0 species present	0										
	7 or more species commonly observed	3										
d. Aquatic macroinvertebrates, amphibians	3-6 species commonly observed	2	3	0	3	0						
(Mit. Bank - High species count w/ low pop. #'s score 1	1-2 species commonly observed	1										
Restoration that causes 12% pop. Increases-higher score)	0 species commonly observed	0										
	Large species observed	3										
e. Aquatic reptiles	Aquatic turtles	2	2	0	2.5	0						
(Mit. Bank - High species count w/ low pop. #'s score 1	Snakes & lizards	1										
Restoration that causes 12% pop. Increases-higher score)	No evidence of species present	0										

Project: FPL Turkey Point Units 6&7

Scoring conducted by: Karl Bullock & Colleen Cunningham

W.A.T.E.R. - Wetland Assessment Technique for Environmental Reviews

Based on WBI, WQI, WRAP, HGM and 4th Priority Project List (PPL) with technical advise from

EPA. FDEP. ACOE. NMFS. USF & W. SFWMD & Dade County

(WA.T.E.R. created by: Bill L. Maus)

			Pol	ygon	Po	lygon	Po	olygon	Pol	ygon	Poly	/gon
Parameter/ Function	Scoring Criteria	Ratings	Mangrove / Willow - Pre	Mangrove /Willow - Impact	Mangrove - Pre	Mangrove - Impact						
2. Vegetative Functions Apply to freshwater, saltwater	ter, brackish and mitigation systems											
	Desirable trees/shrub healthy & providing appropriate habitat (seedlings present) & no inappropriate species	3										
a. Overstory/shrub canopy	Desirable trees/shrubs exhibit signs of stress (no seedlings) few inappropriate species present	2	2	0	2.5	0						
	Inappropriate trees/shrubs shading or overcoming desirable tree/shrubs Very little or no desirable tree/shrubs present (evidence suggests there	1										
	should be)	0										
	Assessment area exhibits <2% inappropriate herbaceous ground cover for specific wetland systems and groundcover is present Assessment area contains >2% but <30% inappropriate herbaceous	3										
b. Vegetative ground cover	groundcover, or lack of groundcover >2% but < 30% Assessment area contains >30% to <70% inappropriate herbaceous	2	2.5	0	2.5	0						
	groundcover, or lack of ground cover >30% to <70% Assessment area >70% inappropriate herbaceous groundcover or lack	0										
	of groundcover >70%											
	Periphyton (Blue-green algae) present with average mat thickness >1 1/4 in. (measure active & dead layer)	3										
c. Periphyton mat coverage	Periphyton (Blue-green algae) present with average mat thickness between 3/4 in. to 1 1/4 in. (active & dead layer)	2	2	0	2	0						
	Periphyton (Blue-green algae) present with average mat thickness between 1/4 in. to 3/4 in. (active & dead layer)	1										
	Periphyton (Blue-green algae) not present or if pressent with average thickness of 0.0 to 1/4 in. (active & dead layer)	0										
	< (or = to) 1 % exotic plant cover	3										
d. Category 1 and Category 2 exotic plants or (non-native)	>1 % to 10 % exotic plant cover	2	2	0	2	0						
species	>10 % to 65 % exotic plant cover	1										
	> 65 % exotic plant cover	0										
	>3 native species communities on site within assesssment area	3										
e. Habitat diversity (vegetative)	2 or 3 native species communities on site within assessment area	2	2	0	2	0						
(within assessment area)	1 native species community with 75 % to 90 % coverage within assessment area	1										
	1 native species community has > 90 % coverage within assessment area	0										
	> 3 alternative habitats available (including upland)	3										
f. Biological diversity within 3000 feet	2 to 3 alternative habitats	2	2	0	2	0					ĺ	
(approximately 1/2 mile from edge of assessment area)	1 alternative habitat	1									ĺ	
	Same habitat type, or inappropriate / impacted	0									1	

Project: FPL Turkey Point Units 6&7

Scoring conducted by: Karl Bullock & Colleen Cunningham

W.A.T.E.R. - Wetland Assessment Technique for Environmental Reviews
Based on WBI, WQI, WRAP, HGM and 4th Priority Project List (PPL) with technical advise from
EPA. FDEP. ACOE. NMFS. USF & W. SFWMD & Dade County

(WA.T.E.R. created by: BIIL L Maus)

			Po	lygon	Po	lygon	P	olygon	Pol	ygon	Poly	/gon
Parameter/ Function	Scoring Criteria	Ratings	Mangrove / Willow - Pre	Mangrove /Willow - Impact	Mangrove - Pre	Mangrove - Impact						
3. Hydrologic Functions												
	Major connection (Flowing water/ river or floodplain/ uniform flow through natural systems)	3										
a. Surface water hydrology / sheet flow	Moderate connection (Natural restriction of flow or Flowing water due to hydrologic engineering)	2	1	0	1	0						
Apply to freshwater, saltwater, brackish and mitigation systems	Minor connection (Runoff collection point, or uneven flow due to berms, ditches, roadways etc.)	1										
	Hydrologically isolated, no net lateral movement	0										
	> 8 months inundated with no reversals & every year drydown	3										
b. Hydroperiod (normal year) fresh systems	>5 months < 8 months or >5 years continuous inundation (look for strong water stains on persistent vegetation)	2										
	>1 month < 5 months, with possible reversals (look for soft or less distinct water stains on persistent vegetation)	1										
	< 4 weeks cumulative annual inundation or < 2 weeks continuous inundation	0										
	>10 weeks of continuous inundation including soil saturation	3										
b-1 Alternate to b. for	> 6 weeks but <10 weeks of continuous inundation including soil saturation	2										
Short Hydroperiod (normal year) fresh systems:	>2 weeks but <6 weeks of inudation, including soil saturation	1										
	<2 weeks of continuos inundation	0										
	Inundated by >90% high tides											
b-2 Alternate to b. for	Inundated by "spring" high tides (bi-monthly)	2	2.5	0	2.5	0	No tidal connecti	on, continuous inunda	tion			
Saltwater, brackish (tidal) systems	Inundated by "extreme high" tides only (biannually)	1										
	Inundated by storm surges only	0										
	Inundated by high "spring" tides (monthly) and flushed by fresh water sheetflow every 10 days average	3										
b-3 Alternate to b. for	Inundated by high "spring" tides (monthly) and flushed by fresh water sheetflow every 30 days on the average	2										
High Marsh (Juncus-Distichlis)	Inundated by high "spring" tides (monthly)and exposed to rain only	1										
,	Inundated by >50% high tides and exposed to rain only	0	1									
	Inundated by high tides (daily) and/or recieves and maintains fresh water at least into first half of dry season	3										
b-4 Alternate to b. for	Inundated by high tides (daily) and/or recieves and maintains fresh water during rainy season only	2										
Riverine systems	Inundated by high tides (daily) and/or recieves fresh water but does not maintain (reversal) during rainy season	1										
	Inundated by spring tides (bi-monthly) and/or experiences frequent reversals of fresh water (flashy)	0										

Mitigation Bank Wetland Function -- Evaluation Matrix

Project: FPL Turkey Point Units 6&7

Scoring conducted by: Karl Bullock & Colleen Cunningham

W.A.T.E.R. - Wetland Assessment Technique for Environmental Reviews
Based on WBI, WQI, WRAP, HGM and 4th Priority Project List (PPL) with technical advise from
EPA, FDEP, ACOE, NMFS, USF & W, SFWMD & Dade County

(W.A.T.E.R. created by: Bill L. Maus)

			Po	lygon	Po	lygon	Po	olygon	Pol	ygon	Poly	/gon
Parameter/ Function	Scoring Criteria	Ratings	Mangrove / Willow - Pre	Mangrove /Willow - Impact	Mangrove - Pre	Mangrove - Impact						
3. Hydrologic Functions continued												
	>1 ft. water depth for at least 2.5 months and <6 in. for >1 month (measure water mark/ lichen line), or water depth ideal for specific wetland system.	3										
c. Hydropattern (fresh system)	>6 in to 1 ft. for at least 2.5 months (measure water mark/ lichen line) or water depth borderline over or under for specific wetland system	2										
	<6 in. for at least 2.5 months (measure water mark/ lichen line) or water depth incorrect for specific wetland system	1										
	<6 in. in association with either canals, ditches, swales, culverts, pumps, and/or wellfields, or these factors cause water depth to be too deep for specific system.	0										
	>1 ft. water depth <2 ft. on 90% high tides	3										
c-1 Alternate to c. for	> 6 in. water depth <1 ft. on >50% high tides	2	2	0	2	0						
Saltwater, brackish (tidal) systems	< 6 in. water depth , but > than saturated	1										
	Saturated by saline water table only	0										
	>10 in. water depth <2 ft. on regular basis during growing season	3										
c-2 Alternate to c. for	>5 in. to 10in. water depth on regular basis during growing season	2										
High Marsh (Juncus-Distichlis)	>1 in. to 5 in. water depth on regular basis during growing season	1										
	>0.0 in. to 1 in. water depth sporadically during growing season	0										
	>2 ft. water depth (main channel) <6 ft. for 8 months	3										
c-3 Alternate to c. for	>2 ft. water depth (main channel) <4 ft. for 6 months	2										
Riverine systems	>1 ft. water depth (main channel) <2.5 ft. for 4 months	1										
	<1 ft. water depth, but dry for >4 weeks (dry season)	0										

Mitigation Bank Wetland Function -- Evaluation Matrix

W.A.T.E.R. - Wetland Assessment Technique for Environmental Reviews
Based on WBI, WQI, WRAP, HGM and 4th Priority Project List (PPL) with technical advise f

Project: FPL Turkey Point Units 6&7

Scoring conducted by: Karl Bullock & Colleen Cunningham

Calcareous loam <1 in. for >50% of surface area

			Po	lygon	Po	lygon	Po	olygon	Poly	ygon	Poly	/gon
Parameter/ Function	Scoring Criteria	Ratings	Mangrove / Willow - Pre	Mangrove /Willow - Impact	Mangrove - Pre	Mangrove - Impact						
. Hydrologic Functions continued												
	No indication of poor water quality (lab testing required, all values within acceptable range)	3										
. Water Quality	No visual indicators of poor water quality observed (1 value just over or under acceptable range) Visual indicators of poor water quality questionable (2 values over or	2										
	under acceptable range)	1	2	0	2.5	0						
	Visual indicators of poor water quailty observed or lab verified (values are out of acceptable range)	0										
	Unaltered	3										
Intactness of historic topography (soil disturbance)	Slightly altered soil disturbance, < 10% of assessment area	2										
	Moderately altered soil disturbance, < 25% of assessment area	1	1.5	0	1.5	0						
	Extremely altered soil disturbance, may exceed 50% of assessment area	0										
	Organic soil classified hydric soil >12 in. or any thickness over bedrock/caprock with perched water table and either condition covering >90% of surface area	3										
Soils, organic (fresh systems)	Organic soil classified hydric soil >6 in. but <12 in. and covering >90% of surface area	2										
	Organic soil classified hydric soil >1 in. but <6 in. and covering >50% but <90% of surface area	1										
	Organic soil classified non-hydric soil <1 in. for >50% of surface area	0										
	Sandy soil classified hydric soil with distinct mottling and concretions present in greater than 40% of horizon.	3										
1 Alternate to f. for	Sandy soil classified hydric soil with mottling and concretions present in > 20% but < 40% of horizon.	2										
eshwater, saltwater systems	Sandy soil classified hydric soil with light or sparse mottling and concretions < 2 mm diameter or < 20% of horizon.	1										
	Sandy soil exhibits strong evidence of disturbance or mechanical manipulations or is fill material.	0										
	Calcareous loam >12 in. and >90 % of surface area	3										
? Alternate to f. for	Calcareous loam >6 in. to <12 in. and >90% of surface area	2	2.5	0	2.5	0						
reshwater, saltwater, brackish (tidal) systems	Calcareous loam >1 in. to <6 in. and covering >50% but <90% of surface area	1										

Mitigation Bank Wetland Function -- Evaluation Matrix W.A.T.E.R. - Wetland Assessment Technique for Environmental Reviews Based on WBI, WQI, WRAP, HGM and 4th Priority Project List (PPL) with technical advise from EPA, FDEP, ACOE, NMFS, USF & W, SFWMD & Dade County (W.A.T.E.R. created by: Bill L. Maus)

Scoring conducted by: Karl Bullock & Colleen Cunningham

Project: FPL Turkey Point Units 6&7

			Po	lygon	Po	lygon	P	olygon	Pol	lygon	Pol	ygon
Parameter/ Function	Scoring Crite	ria Ratings	Mangrove / Willow - Pre	Mangrove /Willow - Impact	Mangrove - Pre	Mangrove - Impact						
4. Salinity Parameters Apply to freshwater, saltwater,	brackish, hypersaline and mitigation system	s -Choose 1										
	<2 parts per thousand (ppt)	3										
Optimum salinity for fresh systems during growing	2 to 3 parts per thousand (ppt)	2										
eason based on mean high salinity for a normal year.	4 to 5 parts per thousand (ppt)	1										
Apply to freshwater systems within 5 miles of the coast	>5 parts per thousand (ppt)	0										
-1. Alternate to a.	6 to 8 parts per thousand (ppt)	3										
Optimum salinity for brackish systems during growing	9 to 13 parts per thousand (ppt)	2	2	0	2	0						
eason based on mean high salinity for a normal year.	14 to 16 parts per thousand (ppt)	1										
Apply to brackish (tidal) systems only	>16 parts per thousand (ppt)	0										
a-2. Alternate to a.	17 to 19 parts per thousand (ppt)	3										
Optimum salinity for saline systems during growing	20 to 22 parts per thousand (ppt)	2										
season based on mean high salinity for a normal year.	23 to 25 parts per thousand (ppt)	1										
Apply to saline marsh (tidal) systems only	>25 parts per thousand (ppt)	0										
a-3. Alternate to a.	26 to 41 parts per thousand (ppt)	3										
Optimum salinity for hypersaline systems during growing	42 to 46 parts per thousand (ppt)	2										
season based on mean high salinity for a normal year.	47 to 51 parts per thousand (ppt)	1										
Apply to hypersaline (tidal) systems only	>51 parts per thousand (ppt)	0										
a-4 Alternate to a.	bottom (lower) third between 12 to 25 ppt	3										
Optimum salinity for riverine/tidal creek system during	middle third between 5 to 11 ppt.											
rowing season based on mean high slainity for a normal	upper (top) third betweem 0 to 4 ppt.											
ear.	bottom (lower) third between 25 to 32 ppt	2										
pply to riverine systems only	middle third between 6 to 24 ppt.											
	upper (top) third betweem 0 to 5 ppt.											
	bottom (lower) third between 30 to 40 ppt	1										
	middle third between 8 to 29 ppt.											
	upper (top) third betweem 0 to 7 ppt.		1									
	bottom (lower) third between 35 to 50 ppt	0										
	middle third between 10 to 34 ppt.											
	upper (top) third betweem 0 to 9 ppt.											
		Cumulative Score (SC) Maximum Possible Score (MPS)		0.0	40.0	0.0						
A.T.E.R. created by: Bill L. Maus		Maximum Possible Score (MPS)	i.	54.00	54.00	51.00		· · · · · · · · · · · · · · · · · · ·				

0.00

0.74

0.00

W.A.T.E.R. = Cumulative Score/Maximum Possible Score 0.69

Page	6	of	6

FPL Reclaimed Water

Treatment Facility

Mitigation Bank Wetland Function -- Evaluation Matrix

W.A.T.E.R. - Wetland Assessment Technique for Environmental Reviews
Based on WBI, WQI, WRAP, HGM and 4th Priority Project List (PPL) with technical advise from
EPA, FDEP, ACOE, NMFS, USF & W, SFWMD & Dade County (W.A.T.E.R. created by: Bill L. Maus)

Project: FPL Turkey Point Units 6&7

Scoring conducted by: Karl Bullock & Colleen Cunningham

EPA, FDEP, ACOE, NMFS, USF & W, SFWMD & Dade Co	Ourity (W.A.T.E.R. created by: Bill L. Maus)		Pol	lygon	D _i	olygon	Pol	ygon	Pol	ygon	Poly	vaon.
Parameter/ Function	Scoring Criteria	Ratings	Sawgrass March/Dwarf	Sawgrass Marsh/Dwarf Mangrove - Impact	Exotic Wetland Hardwoods - Pre	Exotic Wetland Hardwoods - Impact	Canals/Ditches -	Canals/Ditches - Impact	Mixed Wetland Hardwoods - Pre	Mixed Wetland Hardwoods - Impact	1 diy	gon
1. Fish & Wildlife Functions Apply to freshwater, sa	altwater, brackish and mitigation systems											
	7 or more species commonly observed	3									T I	
a. Waterfowl, wading birds, wetland dependent, or aquatic	3-6 species commonly observed	2	3	0	1	0	2	0	3	0		i
birds of prey.	1-2 species commonly observed	1	1									i
(Mit. Bank - High species count w/ low pop. #'s score 1	0 species commonly observed	0	1									i
<u> </u>	7 or more species commonly observed	3										
b. Fish	3-6 species commonly observed	2	2.5	0	1	0	2.5	0	2.5	0		i
(Mit. Bank - High species count w/ low pop. #'s score 1	1-2 species commonly observed	1	2.0	0		Ů	2.0		2.0	Ü		i
Restoration that causes 12% pop. Increases-higher score)	· · · · · ·	0	1									i
Treetoration that educed 1270 pept meredade riigher edere)	Top predator (carnivore) &/or large mammals	3										
c. Mammals	Medium sized mammals , (adult weight > 6 ibs.)	2	2	0	2	0	2	0	2	0		i
(Mit. Bank - High species count w/ low pop. #'s score 1	Small animals (rodents, etc.) , (adult weight < 6 lbs.)	1	-	U		U	2	· ·	2	Ü		i
Restoration that causes 12% pop. Increases-higher score)		0	1									ĺ
Pop. moreages ingret score)	7 or more species commonly observed	3										
d Americano de la completa del completa de la completa del completa de la completa del la completa de la completa de la compl	,	2	3	0	2	0	2.5	0	3	0		i
d. Aquatic macroinvertebrates, amphibians (Mit. Bank - High species count w/ low pop. #'s score 1	3-6 species commonly observed 1-2 species commonly observed	1	3	U	2	U	2.5	U	3	U		i
Restoration that causes 12% pop. Increases-higher score)		0	1									i
Restoration that causes 12% pop. Increases-nigher score)		1										
A supplier and the	Large species observed	3					0.5		0.5			i
e. Aquatic reptiles	Aquatic turtles	2	2.5	0	1	0	2.5	0	2.5	0		i
(Mit. Bank - High specie count w/ low pop. #'s score 1	Snakes & lizards		-									i
Restoration that causes 12% pop. Increases-higher score)	<u> </u>	0			<u> </u>	1	<u> </u>	<u> </u>				
2. Vegetative Functions Apply to freshwater, saltwa												
	Desirable trees/shrub healthy & providing appropriate habitat (seedlings present) & no inappropriate species	3										İ
	Desirable trees/shrubs exhibit signs of stress (no seedlings) few	2	Ī									i
a. Overstory/shrub canopy	inappropriate species present	- 2	2.5	0	1	0	2	0	2.5	0		i
	Inappropriate trees/shrubs shading or overcoming desirable tree/shrubs	1										i
	Very little or no desirable tree/shrubs present (evidence suggests there		1									i
	should be)	0										——
	Assessment area exhibits <2% inappropriate herbaceous ground cover for specific wetland systems and groundcover is present	3										i
No. 14 and 15 an	Assessment area contains >2% but <30% inappropriate herbaceous	2	3	0	1	0	•	0				i
b. Vegetative ground cover	groundcover, or lack of groundcover >2% but < 30% Assessment area contains >30% to <70% inappropriate herbaceous		- 3	0	1	U	2	0	3	0		i
	groundcover, or lack of ground cover >30% to <70%	1										i
	Assessment area >70% inappropriate herbaceous groundcover or lack of groundcover >70%	0										i
		<u> </u>										
	Periphyton (Blue-green algae) present with average mat thickness >1 1/4 in. (measure active & dead layer)	3					1	1				İ
	Periphyton (Blue-green algae) present with average mat thickness		1									ĺ
c. Periphyton mat coverage	between 3/4 in. to 1 1/4 in. (active & dead layer) Periphyton (Blue-green algae) present with average mat thickness	2	2.5	0	0.5	0	1.5	0	2.5	0		i
	between 1/4 in. to 3/4 in. (active & dead layer)	1										i
	Periphyton (Blue-green algae) not present or if pressent with average		1									i
	thickness of 0.0 to 1/4 in. (active & dead layer)	0				1						——
	< (or = to) 1 % exotic plant cover	3	4				1	1				ĺ
d. Category 1 and Category 2 exotic plants or (non-native)	>1 % to 10 % exotic plant cover	2	2.5	0	0	0	1	0	2.5	0	1	1
species	>10 % to 65 % exotic plant cover	1	4									ĺ
	> 65 % exotic plant cover	0	1			1	ļ	ļ			\vdash	
	>3 native species communities on site within assessment area	3	4									ĺ
e. Habitat diversity (vegetative)	2 or 3 native species communities on site within assessment area 1 native species community with 75 % to 90 % coverage within	2	2	0	2	0	2	0	3	0		Í
(within assessment area)	assessment area	1										ĺ

W.A.T.E.R. - Wetland Assessment Technique for Environmental Reviews

Based on WBI, WQI, WRAP, HGM and 4th Priority Project List (PPL) with technical advise from EPA FDEP. ACOE. NMES. USE & W. SEWMD & Dade County WATER created by BILL Maus)

Scoring conducted by: Karl Bullock & Colleen Cunningham Project: FPL Turkey Point Units 6&7

EPA, FDEP, ACOE, NMFS, USF & W, SFWMD & Dade	County (W.A.T.E.R. created by: Bill L. Maus)		Pol	ygon	Po	lygon	Pol	ygon	Pol	ygon	Poly	/gon
Parameter/ Function	Scoring Criteria	Ratings	Sawgrass Marsh/Dwarf Mangrove - Pre	Sawgrass Marsh/Dwarf Mangrove - Impact	Exotic Wetland Hardwoods - Pre	Exotic Wetland Hardwoods - Impact	Canals/Ditches -		Mixed Wetland Hardwoods - Pre	Mixed Wetland Hardwoods - Impact		
	1 native species community has > 90 % coverage within assessment area	0										
	> 3 alternative habitats available (including upland)	3										
f. Biological diversity within 3000 feet	2 to 3 alternative habitats	2	2	0	2	0	2	0	3	0		
(approximately 1/2 mile from edge of assessment area)	1 alternative habitat	1		-								
	Same habitat type, or inappropriate / impacted	0										
3. Hydrologic Functions												
	Major connection (Flowing water/ river or floodplain/ uniform flow through natural systems)	3										
	Moderate connection (Natural restriction of flow or Flowing water due to	2										
Surface water hydrology / sheet flow Apply to freshwater, saltwater, brackish and mitigation systems	hydrologic engineering) Minor connection (Runoff collection point, or uneven flow due to berms,	1	1.5	0	1.5	0	1.5	0	1.5	0		
	ditches, roadways etc.) Hydrologically isolated, no net lateral movement	0										
	Trydrotogically isolated, no net lateral movement											
	> 8 months inundated with no reversals & every year drydown	3										
b. Hydroperiod (normal year) fresh systems	>5 months < 8 months or >5 years continuous inundation (look for strong water stains on persistent vegetation)	2	2	0	2	0	1.5	0	2	0		
	>1 month < 5 months, with possible reversals (look for soft or less distinct water stains on persistent vegetation)	1										
	< 4 weeks cumulative annual inundation or < 2 weeks continuous inundation	0										
	>10 weeks of continuous inundation including soil saturation	3										
b-1 Alternate to b. for	> 6 weeks but <10 weeks of continuous inundation including soil saturation	2										
		1										
Short Hydroperiod (normal year) fresh systems:	>2 weeks but <6 weeks of inudation, including soil saturation	0										
	<2 weeks of continuos inundation											
	Inundated by >90% high tides											
b-2 Alternate to b. for	Inundated by "spring" high tides (bi-monthly)	2						ı				i
Saltwater, brackish (tidal) systems	Inundated by "extreme high" tides only (biannually)	0										
	Inundated by storm surges only	U										
	Inundated by high "spring" tides (monthly) and flushed by fresh water sheetflow every 10 days average	3										
b-3 Alternate to b. for	Inundated by high "spring" tides (monthly) and flushed by fresh water sheetflow every 30 days on the average	2										
High Marsh (Juncus-Distichlis)	Inundated by high "spring" tides (monthly)and exposed to rain only	1										
3 ((Inundated by high spring tides (monthly)and exposed to rain only	0	1									
	Inundated by high tides (daily) and/or recieves and maintains fresh water at least into first half of dry season	3										
	Inundated by high tides (daily) and/or recieves and maintains fresh	2										
b-4 Alternate to b. for	water during rainy season only Inundated by high tides (daily) and/or recieves fresh water but does not											
Riverine systems	maintain (reversal) during rainy season	1										
	Inundated by spring tides (bi-monthly) and/or experiences frequent reversals of fresh water (flashy)	0										
3. Hydrologic Functions continued		•					·					
	>1 ft. water depth for at least 2.5 months and <6 in. for >1 month (measure water mark/ lichen line), or water depth ideal for specific wetland system.	3										
c. Hydropattern (fresh system)	>6 in to 1 ft. for at least 2.5 months (measure water mark/ lichen line) or water depth borderline over or under for specific wetland system	2	2.5	0	1.5	0	0.5	0	2.5	0		
	<6 in. for at least 2.5 months (measure water mark/ lichen line) or water depth incorrect for specific wetland system	1										

FPL Reclaimed Water Treatment Facility

Mitigation Bank Wetland Function -- Evaluation Matrix

W.A.T.E.R. - Wetland Assessment Technique for Environmental Reviews
Based on WBI, WQI, WRAP, HGM and 4th Priority Project List (PPL) with technical advise from
EPA, FDEP, ACOE, NMFS, USF & W, SFWMD & Dade County (W.A.T.E.R. created by: Bill L. Maus)

Scoring conducted by: Karl Bullock & Colleen Cunningham

ETA, T DET, TOOL, THAT O, OUT & W, OF WHID & Dade Of			Pol	ygon	Po	lygon	Poly	/gon	Poly	ygon	Poly	/gon
Parameter/ Function	Scoring Criteria	Ratings	Sawgrass Marsh/Dwarf Mangrove - Pre	Sawgrass Marsh/Dwarf Mangrove - Impact	Exotic Wetland Hardwoods - Pre	Exotic Wetland Hardwoods - Impact	Canals/Ditches - Pre	Canals/Ditches -	Mixed Wetland Hardwoods - Pre	Mixed Wetland Hardwoods - Impact		
	<6 in. in association with either canals, ditches, swales, culverts, pumps, and/or wellfields, or these factors cause water depth to be too deep for specific system.	0										
	>1 ft. water depth <2 ft. on 90% high tides	3										
c-1 Alternate to c. for	> 6 in. water depth <1 ft. on >50% high tides	2										
Saltwater, brackish (tidal) systems	< 6 in. water depth , but > than saturated	1										
	Saturated by saline water table only	0										
	>10 in. water depth <2 ft. on regular basis during growing season	3										
c-2 Alternate to c. for	>5 in. to 10in. water depth on regular basis during growing season	2										
High Marsh (Juncus-Distichlis)	>1 in. to 5 in. water depth on regular basis during growing season	1										
	>0.0 in. to 1 in. water depth sporadically during growing season	0										
	>2 ft. water depth (main channel) <6 ft. for 8 months	3										
c-3 Alternate to c. for	>2 ft. water depth (main channel) <4 ft. for 6 months	2	1									
Riverine systems	>1 ft. water depth (main channel) <2.5 ft. for 4 months	1										
	<1 ft. water depth, but dry for >4 weeks (dry season)	0										
3. Hydrologic Functions continued			-			•			•			
, ,	No indication of poor water quality (lab testing required, all values within acceptable range)	3										
d. Water Quality	No visual indicators of poor water quality observed (1 value just over or under acceptable range)	2										
d. Water quality	Visual indicators of poor water quality questionable (2 values over or under acceptable range)	1	2.5	0	2.5	0	2	0	2.5	0		
	Visual indicators of poor water quality observed or lab verified (values are out of acceptable range)	0										
	Unaltered	3										
e. Intactness of historic topography (soil disturbance)	Slightly altered soil disturbance, < 10% of assessment area	2										
	Moderately altered soil disturbance, < 25% of assessment area	1	2.5	0	1	0	0.5	0	2.5	0		
	Extremely altered soil disturbance, may exceed 50% of assessment area	0										
	Organic soil classified hydric soil >12 in. or any thickness over bedrock/caprock with perched water table and either condition covering >90% of surface area	3										
f. Soils, organic (fresh systems)	Organic soil classified hydric soil >6 in. but <12 in. and covering >90% of surface area	2										
i. Jons, Organic (rean systems)	Organic soil classified hydric soil >1 in. but <6 in. and covering >50% but <90% of surface area	1										
	Organic soil classified non-hydric soil <1 in. for >50% of surface area	0										
	Sandy soil classified hydric soil with distinct mottling and concretions present in greater than 40% of horizon.	3										
f-1 Alternate to f. for	Sandy soil classified hydric soil with mottling and concretions present in > 20% but < 40% of horizon.	2										
Freshwater, saltwater systems	Sandy soil classified hydric soil with light or sparse mottling and concretions < 2 mm diameter or < 20% of horizon.	1										
	Sandy soil exhibits strong evidence of disturbance or mechanical manipulations or is fill material.	0										
	Calcareous loam >12 in. and >90 % of surface area	3										
f-2 Alternate to f. for	Calcareous loam >6 in. to <12 in. and >90% of surface area	2	3	0	2	0	2	0	3	0		
Freshwater, saltwater, brackish (tidal) systems	Calcareous loam >1 in. to <6 in. and covering >50% but <90% of	1	1									
	surface area Calcareous loam <1 in. for >50% of surface area	0	1									
4. Salinity Parameters Apply to freshwater, saltwater, by	prackish, hypersaline and mitigation systems - Choose 1											
,	<2 parts per thousand (ppt)	3										
Optimum salinity for fresh systems during growing	2 to 3 parts per thousand (ppt)	2	2	0	2	0	2	0	2	0		
season based on mean high salinity for a normal year.	4 to 5 parts per thousand (ppt)	1	1 1	U			2	,	_	,		
season based on mean nigh Salinity for a normal year.			J	l	I	I	l	I	ı	1		I

FPL Reclaimed Water Treatment Facility

Mitigation Bank Wetland Function -- Evaluation Matrix
W.A.T.E.R. - Wetland Assessment Technique for Environmental Reviews
Based on WBI, WQI, WRAP, HGM and 4th Priority Project List (PPL) with technical advise from
EPA, FDEP, ACOE, NMFS, USF & W, SFWMD & Dade County (W.A.T.E.R. created by: Bill L. Maus)

Scoring conducted by: Karl Bullock & Colleen Cunningham

			Pol	ygon	Po	lygon	Pol	ygon	Pol	ygon	Polygon
Parameter/ Function	Scoring Criteria	Ratings	Sawgrass Marsh/Dwarf Mangrove - Pre	Sawgrass Marsh/Dwarf Mangrove - Impact	Exotic Wetland Hardwoods - Pre	Exotic Wetland Hardwoods - Impact	Canals/Ditches -	Canals/Ditches -	Mixed Wetland Hardwoods - Pre	Mixed Wetland Hardwoods - Impact	
pply to freshwater systems within 5 miles of the coast	>5 parts per thousand (ppt)	0									
-1. Alternate to a.	6 to 8 parts per thousand (ppt)	3									
Optimum salinity for brackish systems during growing	9 to 13 parts per thousand (ppt)	2									
eason based on mean high salinity for a normal year.	14 to 16 parts per thousand (ppt)	1									
pply to brackish (tidal) systems only	>16 parts per thousand (ppt)	0									
-2. Alternate to a.	17 to 19 parts per thousand (ppt)	3									
Optimum salinity for saline systems during growing	20 to 22 parts per thousand (ppt)	2									
eason based on mean high salinity for a normal year.	23 to 25 parts per thousand (ppt)	1									
pply to saline marsh (tidal) systems only	>25 parts per thousand (ppt)	0									
-3. Alternate to a.	26 to 41 parts per thousand (ppt)	3									
Optimum salinity for hypersaline systems during growing	42 to 46 parts per thousand (ppt)	2									
eason based on mean high salinity for a normal year.	47 to 51 parts per thousand (ppt)	1									
pply to hypersaline (tidal) systems only	>51 parts per thousand (ppt)	0									
-4 Alternate to a.	bottom (lower) third between 12 to 25 ppt	3									
Optimum salinity for riverine/tidal creek system during	middle third between 5 to 11 ppt.										
rowing season based on mean high slainity for a normal	upper (top) third betweem 0 to 4 ppt.										
ear.	bottom (lower) third between 25 to 32 ppt	2									
pply to riverine systems only	middle third between 6 to 24 ppt.										
	upper (top) third betweem 0 to 5 ppt.										
	bottom (lower) third between 30 to 40 ppt	1									
	middle third between 8 to 29 ppt.										
	upper (top) third betweem 0 to 7 ppt.										
	bottom (lower) third between 35 to 50 ppt	0									
	middle third between 10 to 34 ppt.										
	upper (top) third betweem 0 to 9 ppt.										
		umulative Score (SC)		0.0	26.0	0.0	32.0	0.0	45.5	0.0	
V.A.T.E.R. created by: Bill L. Maus 1/1/1995	Maximum F W.A.T.E.R. = Cumulative Score/Max	Possible Score (MPS)	54.00 0.81	54.00 0.00	54.00 0.48	54.00 0.00	54.00 0.59	54.00 0.00	55.00 0.83	54.00 0.00	

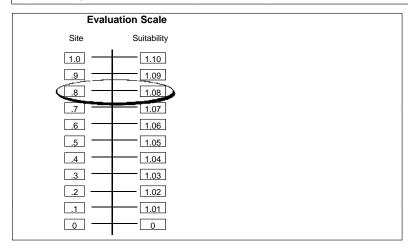


Parameters

Sea Dade Crocodile Sanctuary

Parameter	Scoring Criteria	Ratings	Score
Adjacent to lands or waters of regional Importance and results in identifiable	State Park, OFW, AP, and including but not limited to Special Waters on at least 1 boundary	1	
ecological benefits to adjacent lands or waters.	Adjacent lands contain no special designation or undesignated special value	0	1
. Property is within boundary of an acknowledged state, local or regional acquisition program	Property is within boundary of an acquisition program	1	
	Property is not within boundary of an acquisition program	0	1
Property contains ecological or geological features consistently considered by regional Scientist, or federal and state agencies to be unusual, unique or rare in the region and is of sufficient size	Property qualifies Property does not qualify	0	1
Property designated as being of critical state or federal concern and/or contains special designations,	Property contains at least 1 special designation.	1	1
	Property contains no special designations.	0	
5. Property important to acknowledged restoration efforts	Property is important.	1	1
	Property is not important.	0	
6. Ownership and control of the property.	Property is privately owned.	1	1
	Property is publicly owned.	0	
7. Threatened , Endangered & Species of Special Concern	Documented Presence of Species on site	1	1
Presence of animal species (faunal) found on site	No documented Presence of species on site.	0	
3. Threatened , Endangered & Listed Species	Documented Presence of Species on site	1	1
Presence of plant species (floral) found on site	No documented Presence of species on site.	0	
Threat of loss or destruction from development activities. (Development Pressure)	High probability of development.	1	
	Low probability of development.	0	0
0. Extent to which lands are subject to Local, State, and Federal dredge and fill/ ERP Regulations	Property is regulated.	1	0
	Property is not regulated.	0	
	Value Cumulative Score (CS)	8

The Mitigation Bank Site Suitability Evaluation Matrix is designed to provide a quantifiable means of determining the number of mitigation credits that should be assigned to a bank for "value" related parameters. Value related parameters are human values determined to be important to society; and therefore are not measurable in a purely functional analysis. Functional analysis will only measure the degree of functional ecological improvement (degree of ecological improvement) resulting from mitigation activities. The SS Evaluation measures and provides credit for societal values that separate one mitigation bank from another as required by Ch. 62-342 .470 (a) (b) (e) (f) (g) (h) (i) F.A.C.. The SS evaluation is not to be utilized in conjunction with a functional analysis methodology which also utilizes value related parameters in its analysis.



Site Suitability Matrix							
Maximum Possible Score (MPS)		10					
Cumulative Score (CS)		8					

8.0

EPA, USACOE, USF & W, FDEP, NMFS, SFWMD, Dade DERM, FPL, CH 3-Apr-96

After Calculating the Site Suitability Score determine the Site Suitability Multiplier by utilizing the Evaluation Scale to the left. The Site Suitability Multiplier is to be multiplied times the number of the Functional Mitigation Credits, resulting from the (W.A.T.E.R.) Functional Assessment of the Mitigation Bank, to determine the number of Site Suitability Credits to be assigned to the Mitigation Bank.

Based on WBI, WQI, WRAP, HGM and 4th Priority Project List (PPL) with technical advise from EPA, FDEP, ACOE, NMFS, USF & W, SFWMD & Dade County (W.A.T.E.R. created by: Bill L. Maus)

			Polygon		Polygon		Polygon		Polygon	
Parameter/ Function	Scoring Criteria	Ratings	Disturbed Open Land (FLUCFCS 744) pre		Mixed Wetland Hardwoods (FLUCFCS 617) pre	Mixed Wetland Hardwoods (FLUCFCS 617) post	Sawgrass/Dwarf Mangrove (FLUCFCS 6411/612-B) pre	Sawgrass/Dwarf Mangrove (FLUCFCS 6411/612-B) post	Borrow Pond (FLUCFCS 534) pre	
1. Fish & Wildlife Functions Apply to freshwater, salt	twater, brackish and mitigation systems									
a. Waterfowl, wading birds, wetland dependent, or aquatic birds of prey. (Mit. Bank - High species count w/ low pop. #'s score 1	7 or more species commonly observed 3-6 species commonly observed 1-2 species commonly observed 0 species commonly observed	3 2 1 0	0	2.5	2	2	2	2.5	1.5	2.5
b. Fish (Mit. Bank - High species count w/ low pop. #'s score 1	7 or more species commonly observed 3-6 species commonly observed 1-2 species commonly observed 0 species commonly observed	3 2 1 0	0	2	2	2	2	2	1.5	2
	Top predator (carnivore) &/or large mammals Medium sized mammals , (adult weight > 6 ibs.) Small animals (rodents, etc.) , (adult weight < 6 ibs.) 0 species present	3 2 1 0	0	2	2	2	2	2	2	2
d. Aquatic macroinvertebrates, amphibians (Mit. Bank - High species count w/ low pop. #'s score 1 Restoration that causes 12% pop. Increases-higher score)	7 or more species commonly observed 3-6 species commonly observed 1-2 species commonly observed 0 species commonly observed	3 2 1 0	0	3	2	2.5	2	2.5	2	3
	Large species observed Aquatic turtles Snakes & lizards No evidence of species present	3 2 1 0	0	3	2	3	2	3	2	3

Based on WBI, WQI, WRAP, HGM and 4th Priority Project List (PPL) with technical advise from EPA, FDEP, ACOE, NMFS, USF & W, SFWMD & Dade County (W.A.T.E.R. created by: Bill L. Maus)

			Poly	/gon	Poly	gon	Poly	rgon	Pol	ygon
Parameter/ Function	Scoring Criteria	Ratings		Disturbed Open Land (FLUCFCS 744) post	Mixed Wetland Hardwoods (FLUCFCS 617) pre	Mixed Wetland Hardwoods (FLUCFCS 617) post	Sawgrass/Dwarf Mangrove (FLUCFCS 6411/612-B) pre	Sawgrass/Dwarf Mangrove (FLUCFCS 6411/612-B) post	Borrow Pond (FLUCFCS 534) pre	Borrow Pond (FLUCFCS 534) post
2. Vegetative Functions Apply to freshwater, saltwater	er, brackish and mitigation systems									
	Desirable trees/shrub healthy & providing appropriate habitat (seedlings present) & no inappropriate species	3								
a. Overstory/shrub canopy	Desirable trees/shrubs exhibit signs of stress (no seedlings) few inappropriate species present	2	0	2	2.5	2.5	3	3	0	2
	Inappropriate trees/shrubs shading or overcoming desirable tree/shrubs Very little or no desirable tree/shrubs present (evidence suggests there should be)	0	-							
	Assessment area exhibits <2% inappropriate herbaceous ground cover for specific wetland systems and groundcover is present	3								
b. Vegetative ground cover	Assessment area contains >2% but <30% inappropriate herbaceous groundcover, or lack of groundcover >2% but < 30%	2	0	2	2.5	2.5	3	3	0	2
	Assessment area contains >30% to <70% inappropriate herbaceous groundcover, or lack of ground cover >30% to <70%	1								
	Assessment area >70% inappropriate herbaceous groundcover or lack of groundcover >70%	0								
	Periphyton (Blue-green algae) present with average mat thickness >1 1/4 in. (measure active & dead layer)	3								
c. Periphyton mat coverage	Periphyton (Blue-green algae) present with average mat thickness between 3/4 in. to 1 1/4 in. (active & dead layer)	2	0	2	2	2	2.5	2.5	2	2
o. Fengriyten mat coverage	Periphyton (Blue-green algae) present with average mat thickness between 1/4 in. to 3/4 in. (active & dead layer)	1		_	_	_	2.0	2.0		_
	Periphyton (Blue-green algae) not present or if pressent with average thickness of 0.0 to 1/4 in. (active & dead layer)	0								
	< (or = to) 1 % exotic plant cover	3								
d. Category 1 and Category 2 exotic plants or (non-native)	>1 % to 10 % exotic plant cover	2	2	2.5	2	2.5	2	2.5	2	2.5
species	>10 % to 65 % exotic plant cover	1	_							
	> 65 % exotic plant cover	0								
	>3 native species communities on site within assesssment area	3								
e. Habitat diversity (vegetative)	2 or 3 native species communities on site within assessment area	2	2	3	2	3	2	3	2	3
(within assessment area)	1 native species community with 75 % to 90 % coverage within assessment area	1								
	1 native species community has > 90 % coverage within assessment area	0								
	> 3 alternative habitats available (including upland)	3								
f. Biological diversity within 3000 feet	2 to 3 alternative habitats	2	3	3	3	3	3	3	3	3
(approximately 1/2 mile from edge of assessment area)	1 alternative habitat	1								
	Same habitat type, or inappropriate / impacted	0								

Sea Dade Canal Crocodile Sanctuary

Scoring conducted by: Karl Bullock

W.A.T.E.R. - Wetland Assessment Technique for Environmental Reviews

Based on WBI, WQI, WRAP, HGM and 4th Priority Project List (PPL) with technical advise from EPA, FDEP, ACOE, NMFS, USF & W, SFWMD & Dade County (W.A.T.E.R. created by: Bill L. Maus)

			Poly	rgon	Poly	gon	Poly	gon	Pol	ygon
Parameter/ Function	Scoring Criteria	Ratings	Disturbed Open Land (FLUCFCS 744) pre	Disturbed Open Land (FLUCFCS 744) post	Mixed Wetland Hardwoods (FLUCFCS 617) pre	Mixed Wetland Hardwoods (FLUCFCS 617) post	Sawgrass/Dwarf Mangrove (FLUCFCS 6411/612-B) pre	Sawgrass/Dwarf Mangrove (FLUCFCS 6411/612-B) post	Borrow Pond (FLUCFCS 534) pre	Borrow Pond (FLUCFCS 534) post
3. Hydrologic Functions										
a. Surface water hydrology / sheet flow	Major connection (Flowing water/ river or floodplain/ uniform flow through natural systems) Moderate connection (Natural restriction of flow or Flowing water due to hydrologic engineering)	3	0	2.5	2	2.5	2	2.5	1	2.5
Apply to freshwater, saltwater, brackish and mitigation systems	Minor connection (Runoff collection point, or uneven flow due to berms, ditches, roadways etc.)	1		2.0	-	2.0	_	2.0	·	2.0
	Hydrologically isolated, no net lateral movement	0								
b. Hydroperiod (normal year) fresh systems	> 8 months inundated with no reversals & every year drydown >5 months < 8 months or >5 years continuous inundation (look for strong water stains on persistent vegetation)	3 2								
	>1 month < 5 months, with possible reversals (look for soft or less distinct water stains on persistent vegetation)	1								
	< 4 weeks cumulative annual inundation or < 2 weeks continuous inundation	0								
	>10 weeks of continuous inundation including soil saturation > 6 weeks but <10 weeks of continuous inundation including soil	3	-							
b-1 Alternate to b. for Short Hydroperiod (normal year) fresh systems:	saturation >2 weeks but <6 weeks of inudation, including soil saturation	1	-							
	<2 weeks of continuos inundation	0								
b-2 Alternate to b. for	Inundated by >90% high tides Inundated by "spring" high tides (bi-monthly)	3 2								
Saltwater, brackish (tidal) systems	Inundated by "extreme high" tides only (biannually) Inundated by storm surges only	0	0	2	2	2	2	2	1	2
	Inundated by high "spring" tides (monthly) and flushed by fresh water sheetflow every 10 days average	3								
b-3 Alternate to b. for	Inundated by high "spring" tides (monthly) and flushed by fresh water sheetflow every 30 days on the average	2								
High Marsh (Juncus-Distichlis)	Inundated by high "spring" tides (monthly)and exposed to rain only Inundated by >50% high tides and exposed to rain only	0								
	Inundated by high tides (daily) and/or recieves and maintains fresh water at least into first half of dry season	3								
b-4 Alternate to b. for Riverine systems	Inundated by high tides (daily) and/or recieves and maintains fresh water during rainy season only Inundated by high tides (daily) and/or recieves fresh water but does not	2								
	maintain (reversal) during rainy season Inundated by spring tides (bi-monthly) and/or experiences frequent reversals of fresh water (flashy)	0	-							

Sea Dade Canal Crocodile Sanctuary

Scoring conducted by: Karl Bullock

W.A.T.E.R. - Wetland Assessment Technique for Environmental Reviews

Based on WBI, WQI, WRAP, HGM and 4th Priority Project List (PPL) with technical advise from EPA, FDEP, ACOE, NMFS, USF & W, SFWMD & Dade County (W.A.T.E.R. created by: Bill L. Maus)

			Poly	gon	Polygon		Poly	Poly	ygon	
Parameter/ Function	Scoring Criteria	Ratings	Disturbed Open Land (FLUCFCS 744) pre	Disturbed Open Land (FLUCFCS 744) post	Mixed Wetland Hardwoods (FLUCFCS 617) pre	Mixed Wetland Hardwoods (FLUCFCS 617) post	Sawgrass/Dwarf Mangrove (FLUCFCS 6411/612-B) pre	Sawgrass/Dwarf Mangrove (FLUCFCS 6411/612-B) post	Borrow Pond (FLUCFCS 534) pre	Borrow Pond (FLUCFCS 534) post
3. Hydrologic Functions continued										
	>1 ft. water depth for at least 2.5 months and <6 in. for >1 month (measure water mark/ lichen line), or water depth ideal for specific wetland system.	3								
c. Hydropattern (fresh system)	>6 in to 1 ft. for at least 2.5 months (measure water mark/ lichen line) or water depth borderline over or under for specific wetland system	2								
	<6 in. for at least 2.5 months (measure water mark/ lichen line) or water depth incorrect for specific wetland system	1								
	<6 in. in association with either canals, ditches, swales, culverts, pumps, and/or wellfields, or these factors cause water depth to be too deep for specific system.	0								
	>1 ft. water depth <2 ft. on 90% high tides	3								
c-1 Alternate to c. for	> 6 in. water depth <1 ft. on >50% high tides	2								
Saltwater, brackish (tidal) systems	< 6 in. water depth , but > than saturated	1	0	2	2	2	2	2	1	2
	Saturated by saline water table only	0								
	>10 in. water depth <2 ft. on regular basis during growing season	3								
c-2 Alternate to c. for	>5 in. to 10in. water depth on regular basis during growing season	2								
High Marsh (Juncus-Distichlis)	>1 in. to 5 in. water depth on regular basis during growing season	1								
	>0.0 in. to 1 in. water depth sporadically during growing season	0								
	>2 ft. water depth (main channel) <6 ft. for 8 months	3								
c-3 Alternate to c. for	>2 ft. water depth (main channel) <4 ft. for 6 months	2	1							
Riverine systems	>1 ft. water depth (main channel) <2.5 ft. for 4 months	1	1							
	<1 ft. water depth, but dry for >4 weeks (dry season)	0		l						

Based on WBI, WQI, WRAP, HGM and 4th Priority Project List (PPL) with technical advise from EPA, FDEP, ACOE, NMFS, USF & W, SFWMD & Dade County (W.A.T.E.R. created by: Bill L. Maus)

			Poly	gon	Poly	gon	Poly	gon	Poly	ygon
Parameter/ Function	Scoring Criteria	Ratings	Disturbed Open Land (FLUCFCS 744) pre		Mixed Wetland Hardwoods (FLUCFCS 617) pre	Mixed Wetland Hardwoods (FLUCFCS 617) post	Sawgrass/Dwarf Mangrove (FLUCFCS 6411/612-B) pre	Sawgrass/Dwarf Mangrove (FLUCFCS 6411/612-B) post	Borrow Pond (FLUCFCS 534) pre	Borrow Pond (FLUCFCS 534) post
3. Hydrologic Functions continued										
d. Water Quality	No indication of poor water quality (lab testing required, all values within acceptable range) No visual indicators of poor water quality observed (1 value just over or under acceptable range) Visual indicators of poor water quality questionable (2 values over or under acceptable range)	3 2 1	0	2	2	2	2	2	2	2
	Visual indicators of poor water quality observed or lab verified (values are out of acceptable range)	0								
e. Intactness of historic topography (soil disturbance)	Unaltered Slightly altered soil disturbance, < 10% of assessment area Moderately altered soil disturbance, < 25% of assessment area Extremely altered soil disturbance, may exceed 50% of assessment area	3 2 1	0	2	1.5	2	2.5	2.5	0	2
f. Soils, organic (fresh systems)	Organic soil classified hydric soil >12 in. or any thickness over bedrock/caprock with perched water table and either condition covering >90% of surface area Organic soil classified hydric soil >6 in. but <12 in. and covering >90% of surface area Organic soil classified hydric soil >1 in. but <6 in. and covering >50% but <90% of surface area Organic soil classified hydric soil >1 in. but <6 in. and covering >50% but <90% of surface area Organic soil classified non-hydric soil <1 in. for >50% of surface area	3 2 1 0								
f-1 Alternate to f. for Freshwater, saltwater systems	Sandy soil classified hydric soil with distinct mottling and concretions present in greater than 40% of horizon. Sandy soil classified hydric soil with mottling and concretions present in > 20% but < 40% of horizon. Sandy soil classified hydric soil with light or sparse mottling and concretions < 2 mm diameter or < 20% of horizon. Sandy soil exhibits strong evidence of disturbance or mechanical manipulations or is fill material.	3 2 1 0								
f-2 Alternate to f. for Freshwater, saltwater, brackish (tidal) systems	Calcareous loam >12 in. and >90 % of surface area Calcareous loam >6 in. to <12 in. and >90% of surface area Calcareous loam >1 in. to <6 in. and covering >50% but <90% of surface area Calcareous loam <1 in. for >50% of surface area	3 2 1 0	0	2	2	2	2.5	2.5	1.5	2

Based on WBI, WQI, WRAP, HGM and 4th Priority Project List (PPL) with technical advise from EPA, FDEP, ACOE, NMFS, USF & W, SFWMD & Dade County (W.A.T.E.R. created by: Bill L. Maus)

			Poly	/gon	Poly	/gon	Poly	rgon	Pol	ygon
Parameter/ Function	Scoring Criteria	Ratings		Disturbed Open Land (FLUCFCS 744) post	Mixed Wetland Hardwoods (FLUCFCS 617) pre	Mixed Wetland Hardwoods (FLUCFCS 617) post	Sawgrass/Dwarf Mangrove (FLUCFCS 6411/612-B) pre	Sawgrass/Dwarf Mangrove (FLUCFCS 6411/612-B) post	Borrow Pond (FLUCFCS 534) pre	Borrow Pond (FLUCFCS 534 post
4. Salinity Parameters Apply to freshwater, saltwater, b	brackish, hypersaline and mitigation systems - Choose 1									
	<2 parts per thousand (ppt)	3								
a. Optimum salinity for fresh systems during growing	2 to 3 parts per thousand (ppt)	2								
season based on mean high salinity for a normal year.	4 to 5 parts per thousand (ppt)	1								
Apply to freshwater systems within 5 miles of the coast	>5 parts per thousand (ppt)	0								
a-1. Alternate to a.	6 to 8 parts per thousand (ppt)	3								
ptimum salinity for brackish systems during growing	9 to 13 parts per thousand (ppt)	2								
season based on mean high salinity for a normal year.	14 to 16 parts per thousand (ppt)	1	0	2	2	2	2	2	2	2
Apply to brackish (tidal) systems only	>16 parts per thousand (ppt)	0								
a-2. Alternate to a.	17 to 19 parts per thousand (ppt)	3								
Optimum salinity for saline systems during growing	20 to 22 parts per thousand (ppt)	2								
season based on mean high salinity for a normal year.	23 to 25 parts per thousand (ppt)	1								
Apply to saline marsh (tidal) systems only	>25 parts per thousand (ppt)	0								
a-3. Alternate to a.	26 to 41 parts per thousand (ppt)	3								
Optimum salinity for hypersaline systems during growing	42 to 46 parts per thousand (ppt)	2								
season based on mean high salinity for a normal year.	47 to 51 parts per thousand (ppt)	1								
Apply to hypersaline (tidal) systems only	>51 parts per thousand (ppt)	0								
a-4 Alternate to a.	bottom (lower) third between 12 to 25 ppt	3								
Optimum salinity for riverine/tidal creek system during	middle third between 5 to 11 ppt.									
growing season based on mean high slainity for a normal	upper (top) third betweem 0 to 4 ppt.									
year.	bottom (lower) third between 25 to 32 ppt	2								
Apply to riverine systems only	middle third between 6 to 24 ppt.									
	upper (top) third betweem 0 to 5 ppt.									
	bottom (lower) third between 30 to 40 ppt	1								
	middle third between 8 to 29 ppt.									
	upper (top) third betweem 0 to 7 ppt.									
	bottom (lower) third between 35 to 50 ppt	0								
	middle third between 10 to 34 ppt.									
	upper (top) third betweem 0 to 9 ppt.									
		ve Score (SC)		41.5	37.5	41.5	40.5	44.5	26.5	41.5
W.A.T.E.R. created by: Bill L. Maus	Maximum Possible			54.00	54.00	54.00	54.00	54.00	54.00	54.00
11/1/1995	W.A.T.E.R. = Cumulative Score/Maximum F	ossible Score	0.13	0.77	0.69	0.77	0.75	0.82	0.49	0.77

APPENDIX C

MITIGATION AREA PHOTOGRAPHS



Photograph 1. Aerial view of Northwest Restoration Site, facing north. Sawgrass marsh historically impacted by network of mosquito ditches dominated by exotic Australian pine. Transmission corridor, L-31E Canal, and Biscayne Bay visible to east. Areas of exotic vegetation control on SFWMD parcels visible to the north, adjacent to C-103 Canal.



Photograph 2. Aerial view of Northwest Restoration Site, facing east. L-31E Canal and Biscayne Bay in background.



 $Photograph\ 3.\ \ Northwest\ Restoration\ Site-sawgrass\ marsh,\ mangroves,\ and\ Australian\ pine.$



Photograph 4. Northwest Restoration Site – sparsely vegetated open water area supporting thick periphyton mat. Red mangrove in foreground, Australian pine in background.



Photograph 5. Aerial view of SW 320th Street Restoration Site, facing west. 219 acre marsh restoration area and adjacent exotic wetland hardwoods dominated by Australian pine and Brazilian pepper.



Photograph 6. Aerial view of SW 320^{th} Street Restoration Site, facing north. Exotic wetland hardwoods to north and south of C-103 Canal. Areas of exotic vegetation control on SFWMD owned parcels visible to the northeast.



Photograph 7. SW 320th Street Restoration Site – former palm tree nursery restored to freshwater marsh. Knotted spikerush (*Eleocharis interstincta*) and bushy broomsedge (*Andropogon glomeratus*) in foreground; exotic wetland hardwoods in background.



Photograph 8. SW 320^{th} Street Restoration Site – sparsely vegetated mudflats within freshwater marsh restoration area.



Photograph 9. SW 320th Street Restoration Site – wading bird utilization of freshwater marsh restoration area.



Photograph 10. SW 320th Street Restoration Site – mixed wetland hardwoods/exotic wetland hardwoods on eastern edge of Site adjacent to C-103 Canal, facing north. SFWMD parcel with treated Australian pine to east, untreated Australian pine to west.



Photograph 11. Aerial photograph of Everglades Mitigation Bank crocodile sanctuary area prior to enhancement. Area dominated by the exotic species Australian pine. Industrial wastewater treatment facility in background.



Photograph 12. Aerial view of Everglades Mitigation Bank crocodile sanctuary area following creation of crocodile habitat. Exotic species of vegetation replaced with natives, freshwater ponds excavated and perimeter of peat/marl/sand nesting substrate installed.