



## Appendixes



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**EQTTK QTUWPF GT'EQPUK GT CVKQP'HQT'VJ G'UVCVG'QH'**  
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Crr gpf lz 'F <Cngtpcv g'Y guvtp "Vtcpuo kuuqp'Eqttkf qtu"Wpf gt'Ecpukf gtcvqp'hqt'vj g'Ucv g'qh'Hqtkf c'Ukg"  
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PRIVILEGED AND CONFIDENTIAL DOCUMENT – PREPARED FOR SETTLEMENT PURPOSES

**AGREEMENT BETWEEN THE MIAMI-DADE LIMESTONE PRODUCTS  
ASSOCIATION AND FLORIDA POWER & LIGHT COMPANY REGARDING THE  
WESTERN TRANSMISSION CORRIDOR PORTION OF FPL'S TURKEY POINT 6&7  
POWER PLANT SITE CERTIFICATION APPLICATION**

THIS AGREEMENT ("Agreement") is entered into this 30<sup>th</sup> day of August, 2013, by and between the MIAMI-DADE LIMESTONE PRODUCTS ASSOCIATION ("MDLPA"), a Florida non-profit corporation, c/o Greenberg Traurig, with an address of 333 Avenue of the Americas, 40th Floor, Miami, Florida 33131, and FLORIDA POWER & LIGHT COMPANY, a Florida corporation with an address of 700 Universe Boulevard, Juno Beach, Florida 33408 ("FPL"). MDLPA and FPL are sometimes collectively referred to herein as the "Parties" and individually as a "Party."

**RECITALS**

1. WHEREAS, on June 30, 2009, FPL filed its Site Certification Application ("SCA"), for the Turkey Point Units 6&7 Project pursuant to the Florida Electrical Power Plant Siting Act, Sections 403.501, et seq., Florida Statutes.
2. WHEREAS, as part of the SCA, FPL proposed two corridors for the construction of two new 500-kV transmission lines and one 230-kV transmission line in western Miami-Dade County, FPL's West Preferred Corridor, and FPL's West Secondary Corridor.
3. WHEREAS, FPL currently owns land within the boundaries of the Everglades National Park. This land is included in FPL's West Secondary Corridor. FPL has negotiated with the U.S. Department of the Interior ("DOI") and several other state and federal agencies for the transfer of FPL's inholding within the Park for land along the eastern boundary of the Park, referred to as the "Land Exchange".
4. WHEREAS, the MDLPA, acting on behalf of its member limestone mining companies, is engaged in the evaluation, planning, and construction of seepage management projects adjacent to existing and proposed Western Transmission Line Corridors on the boundary of Everglades National Park and the Pennsuco Wetland.
5. WHEREAS, FPL and the MDLPA have discussed potential options to collocate various facilities to reduce wetland impacts associated with the construction and maintenance of the western transmission lines.
6. WHEREAS, on May 2, 2012, MDLPA filed a Petition to Intervene in the Proceeding, and a Notice of Proposed Alternate Corridor for FPL's proposed western transmission lines. On May 9, 2012, MDLPA was granted intervention in the Proceeding. On December 10, 2012, MDLPA

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filed a Notice of Proposed Alternate Corridors to propose two additional alternate transmission line corridors for FPL's proposed western transmission lines.

7. WHEREAS, the Parties have negotiated in good faith to identify a mutually agreeable alternative corridor (the "West Consensus Corridor") for the western transmission lines associated with the Project that the Parties can support for certification in the Proceeding.

NOW, THEREFORE, the Parties, in consideration of the mutual benefits contained in this Agreement, do hereby agree as follows:

**1. DEFINITIONS**

- a. "Proceeding" refers to the FPL Turkey Point Units 6 and 7 Site Certification Application, NO. PA 03-45A3, Division of Administrative Hearings CASE NO. 09-3575-EPP.
- b. "Project" means the FPL Turkey Point Units 6 and 7 project including associated facilities.
- c. "Reasonable Cost" means total costs that are no greater than the total projected costs (including costs for land acquisition, construction and mitigation) of FPL's West Preferred Corridor, plus ten (10) percent.
- d. "Timely Manner" for the purposes of this Agreement means within thirty-six (36) months from the date of the final non-appealable Site Certification.
- e. "West Consensus Corridor" means a combination of FPL's West Preferred Corridor from Clear Sky substation to approximately SW 100<sup>th</sup> Street, joined to the corridor provided in MDLPA's December 10, 2012, Notice of Proposed Alternate Corridor identified as the "AC-A" Corridor, (which is also sometimes referred in the site certification proceeding to as the "MDLPA2 Corridor") and continuing along the MDLPA2 Corridor, and then at the end of the MDLPA2 Corridor rejoining and continuing along the FPL West Preferred Corridor to the Levee and Pennsuco substations.
- f. "Western Transmission Lines" means the two 500 kV lines and the single 230 kV line proposed by FPL in the Proceeding between the Clear Sky substation and the Levee and Pennsuco substations, respectively.

**2. RECITALS**

The Parties acknowledge that the foregoing recitals are true and correct and incorporated into this Agreement.

**3. TERMS OF AGREEMENT**

- a. West Consensus Corridor as Primary. FPL agrees to seek certification of the West Consensus Corridor as the intended location of its Western Transmission Lines and associated facilities of the Project. Upon certification, FPL will make all reasonable efforts to secure the necessary authorizations, approvals, and property rights required to support the timely siting, construction, operation, and maintenance of the Western Transmission Lines within the West Consensus Corridor, subject to the terms of this Agreement. MDLPA will support FPL's efforts in these activities.
- b. FPL's West Preferred Corridor as Backup. FPL will continue to seek certification of FPL's West Preferred Corridor and will use the West Preferred Corridor as the backup location of its Western Transmission Lines solely in the event that the West Consensus Corridor cannot meet the required Conditions Precedent in a Timely Manner or at a Reasonable Cost, as described in this Agreement. MDLPA will not oppose FPL's efforts in this regard.
- c. Expected Sequence of Events. The following provides a delineation of key events necessary to execute the intentions of the Agreement.
  - i. Land Acquisition Due Diligence. FPL will research, assess, and identify legal encumbrances, authorizations, approvals, and recommended land rights (e.g., easements, fee ownership) necessary to implement the West Consensus Corridor.
  - ii. Preferred Alignment. FPL, working with the MDLPA and agencies controlling government owned land in the West Consensus Corridor, will develop a preferred alignment within the West Consensus Corridor to serve as the basis for specific land acquisition and engineering design activities.
  - iii. Cost Estimate. To evaluate Reasonable Cost, with input from the MDLPA, FPL will develop a cost estimate for construction, land acquisition, and mitigation of the West Consensus Corridor using the same methodology, assumptions and process as used in developing the cost estimate for FPL's West Preferred Corridor.
  - iv. Estimated Schedule. FPL will develop a schedule for all land acquisition activities required to execute the West Consensus Corridor.
  - v. Initial Assessment. FPL will aggregate the above information to provide an

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initial assessment of the potential for utilizing the Western Consensus Corridor, including the ability to meet each Condition Precedent in a Timely Manner and at a Reasonable Cost.

- d. Post Certification Submittals. To document compliance with the final Site Certification, including this Agreement, FPL will provide the following written submittals. Submittals will be subject to Section A(XIX) of the General Conditions of the Site Certification regarding post certification submittal review.
  - i. Estimated Schedule and Initial Assessment. Within six (6) months of the date of the final non-appealable Site Certification, FPL will provide a preliminary Estimated Schedule described above in Section 3.c.iv, and within twelve (12) months after the date of the final non-appealable Site Certification, FPL will provide the Initial Assessment described in Section 3.c.v., above.
  - ii. Periodic Reports. FPL will provide an update to the Initial Assessment no less than annually.
  - iii. Situational Reports. Within sixty days of the discovery of an issue that could prevent acquisition of the West Consensus Corridor, FPL will provide a situational report outlining the issue and identifying the actions that are required to remove the issue.
  - iv. Selection of Final Corridor. The final update of the Initial Assessment will provide the basis for the selection of the final corridor for the Western Transmission Lines. In the event that the West Consensus Corridor cannot be used, the report will identify all issue(s) preventing that selection. Specifically the report will include evidence of the inability to meet the Conditions Precedent, or the assessment of inability to satisfy the requirements of Timely Manner or Reasonable Cost, or all of the above.
  - v. All reports mentioned above in Sections 3.d.i through 3.d.iv will be submitted to the Florida Department of Environmental Protection (the "FDEP") with copies to the Parties to this Agreement.

**4. CONDITIONS PRECEDENT**

- a. The proposed Land Exchange under consideration by DOI must be consummated in a Timely Manner.
- b. Government land owners of parcels required by the West Consensus Corridor (or final alignment within that Corridor) must provide FPL with the necessary perpetual

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[permanent] easements or fee ownership rights, through donation or exchange of lands, in a Timely Manner and at a Reasonable Cost.

- c. Except as provided in Section 5.c below, private landowners of parcels required within the West Consensus Corridor (or final alignment within that corridor) must provide the necessary perpetual [permanent] easements or fee ownership rights to FPL, in form and substance reasonably acceptable to FPL, in a Timely Manner and at a Reasonable Cost for the acquisition of the West Consensus Corridor. FPL shall not be obligated to complete voluntary acquisitions under this paragraph, or initiate eminent domain proceedings under Section 5.c below, until the Conditions Precedent in Sections 4.a and 4.b are met.

**5. ROLES AND RESPONSIBILITIES OF THE PARTIES**

- a. FPL agrees that, as part of the West Consensus Corridor, in the area north from the approximately SW 56 Street (North of the Northern boundary of the South East ¼ of Township 54 South, Range 38 East, section 26), no transmission lines will be sited west of the L-31N Right of Way unless FPL is prevented from utilizing this area by regulatory impediments.
- b. To avoid and minimize impacts to property west of the L-31N Canal Right of Way and minimize any impact to the facilities associated with existing or future mining of the property east of the L-31N Canal Right-of-Way, FPL will diligently pursue approvals and perpetual easements from the South Florida Water Management District for the placement of structures within the L-31N Canal Right of Way.
- c. The Parties agree that, upon the date of the final non-appealable Site Certification, the Parties will make a diligent effort to ensure that the Conditions Precedent are satisfied in a Timely Manner and at a Reasonable Cost. FPL acknowledges that the MDLPA is not expected to bear a significant financial burden in contributing to this diligent effort to satisfy the Conditions Precedent in a Timely Manner and that expenditures beyond a de minimis amount will need the future approval of the MDLPA.
- d. If eminent domain proceedings are necessary to acquire any lands within the West Consensus Corridor, FPL will timely initiate appropriate proceedings and diligently pursue the takings to completion, including expiration of applicable appeal periods.
- e. The affected MDLPA member companies, wherever practical and to the extent that there are no adverse impacts to the existing mining reserves, rail facilities, or rock processing and staging areas, will make adjustments to their mining operations to accommodate the

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construction and future operation and maintenance of transmission lines within the West Consensus Corridor by FPL.

- f. The affected MDLPA member companies will make available to FPL, at a reasonable cost, the perpetual rights necessary to locate the transmission lines within the West Consensus Corridor.

**6. EFFECTIVE DATE AND TERM.** Except as otherwise specified herein, this Agreement will become effective upon execution by MDLPA and FPL, and will remain in full force and effect for the timeframe provided in the definition of “Timely Manner” in Section 1.d of this Agreement. The requirements in Sections 6 through 11 shall remain in full force and effect beyond the expiration date of the other portions of this Agreement.

**7. INTEGRATION.** This Agreement states the entire understanding and agreement among the Parties with respect to the subject matter of this Agreement and supersedes any and all written or oral representations, statements, negotiations or agreements previously existing among the Parties with respect to the subject matter of this Agreement. This Agreement shall inure to the benefit of and shall be binding upon the Parties, their respective assigns and successors in interest.

**8. RULES OF CONSTRUCTION.** The Parties and their respective counsel have read, negotiated and participated in the drafting of the language and terms used in this Agreement. Accordingly, no rule of construction shall apply to this Agreement which construes any language, whether ambiguous, unclear or otherwise, in favor of, or against either Party by reason of that Party’s role in drafting this Agreement.

**9. GOVERNING LAWS.** The laws of Florida shall govern all aspects of this Agreement.

**10. AMENDMENTS.** This Agreement may be amended at any time by the written mutual consent of the Parties. In the event that the third-party litigation effectively delays the Parties’ ability to meet the Conditions Precedent, the Parties will agree to modify the schedule.

**11. FORCE MAJEURE.** Notwithstanding any other provision of this Agreement, MDLPA and FPL shall not be considered liable for failure to fully perform an obligation hereunder, or as having defaulted on any of their obligations hereunder, to the extent performance of any such

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obligation is prevented in whole or in part by causes outside said Party's control, not due to its fault or negligence, and not reasonably foreseeable or, if foreseeable, an event that could not be avoided by the exercise of all reasonable efforts, including acts of civil or military authority, acts of God including storm, hurricane and other severe weather, acts of war, acts of government, riot, blockages, fire, flood, and/or famine.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed as of the date first set forth above.

Title: MIAMI-DADE LIMESTONE PRODUCTS ASSOCIATION, a Florida Corporation

By: *Victoria E. Tomas Martinez*  
Print Name: *VICTORIA E. TOMAS MARTINEZ*  
Title: *Executive Director*

FLORIDA POWER & LIGHT COMPANY, a Florida Corporation

By: *Steven D. Seroggs*  
Print Name: *STEVEN D. SEROGGS*  
Title: *SENIOR DIRECTOR, DEVELOPMENT*



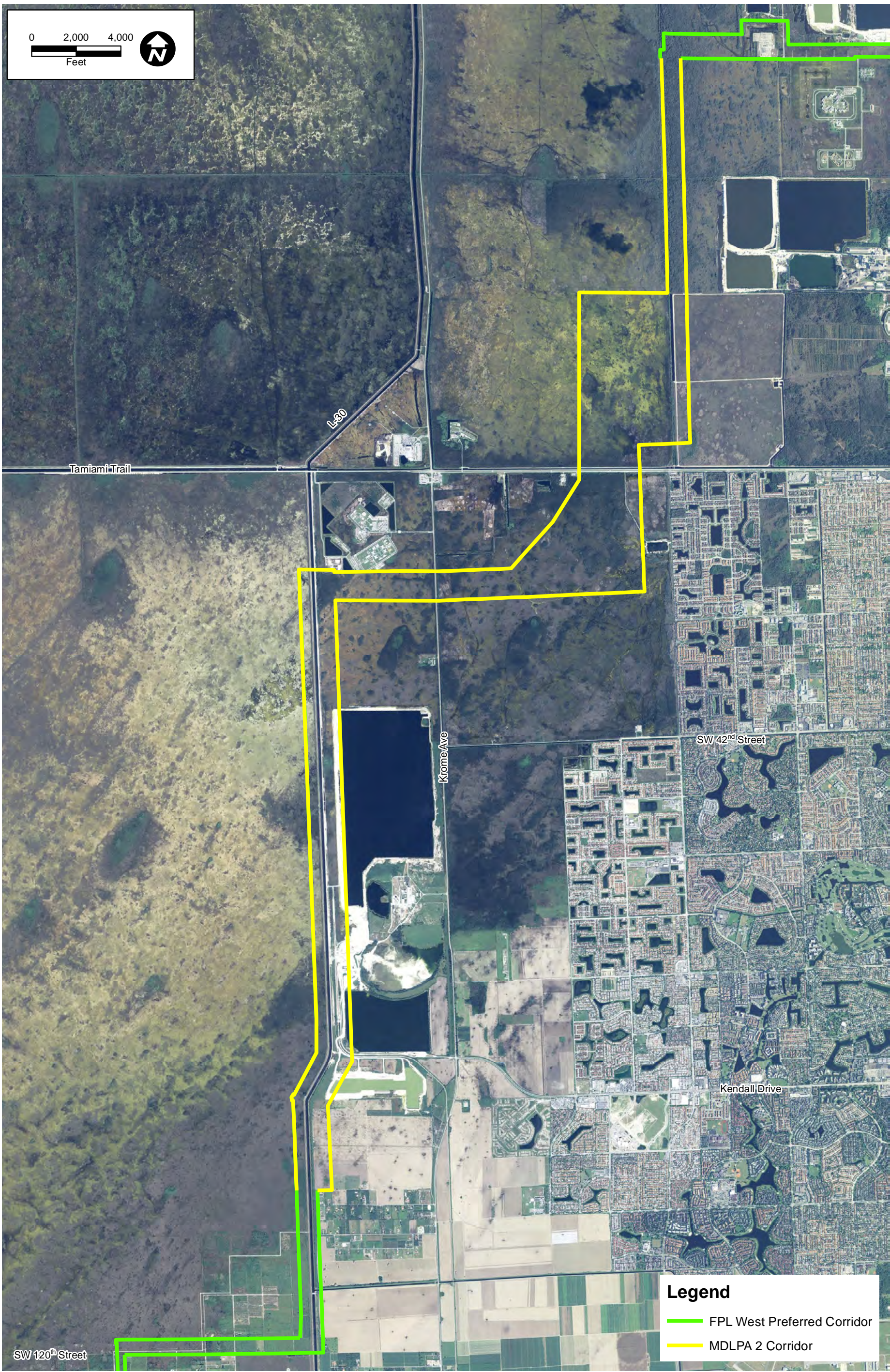


FIGURE  
CONSENSUS CORRIDOR

Sources: ECT,2013.





STATE OF FLORIDA  
DIVISION OF ADMINISTRATIVE HEARINGS

IN RE: FLORIDA POWER & LIGHT COMPANY  
FP&L TURKEY POINT NUCLEAR UNITS 6 & 7  
PROJECT, POWER PLANT SITING APPLICATION  
NO. PA03- 45A3

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DOAH CASE NO. 09-03575-EPP  
DEP OGC CASE NO: 09-3107

**NATIONAL PARKS CONSERVATION ASSOCIATION**  
**NOTICE OF PROPOSED ALTERNATE CORRIDOR**

National Parks Conservation Association (“NPCA”), a not-for-profit corporation, through its undersigned counsel, respectfully files this Notice of Proposed Alternate Corridor under section 403.5271, Fla. Stat. In support of this Notice, NPCA states the following.

**INTRODUCTION**

1. The National Parks Conservation Association’s substantial interests will be affected by the certification of either of Florida Power & Light’s (“FPL”) two proposed transmission corridors. The current two corridors proposed by FPL both lie within the existing boundary of Everglades National Park, a designated International Biosphere Reserve, a Wetland of International Importance, and one of the listed World Heritage Sites in Danger due to serious and continuing degradation of its ecosystem. Both corridors also lie within a portion of the Park known as the Everglades Expansion Area, created by the U.S. Congress in 1989 to “*increase the level of protection and outstanding natural values of the Park*” and “*to enhance and restore the ecological values, natural hydrologic conditions, and public enjoyment of the area.*” The Expansion Area is currently being studied for potential designation as wilderness, and maintains high-quality habitat for wildlife, including some federally listed endangered species.

2. NPCA's substantial interest will be affected because current proposed transmission corridors are incompatible with the designated purpose of Everglades National Park, and with long-term Everglades restoration initiatives. A transmission corridor in existing Everglades National Park boundaries will have negative impacts to natural systems, plant and animal populations, hydrology, and the character and integrity of the National Park.

3. Due to the significant environmental impacts of the FPL Preferred Corridor and FPL West Secondary Corridor upon Everglades National Park and its wildlife and those negative effects on NPCA and its members, NPCA proposes an alternate corridor that avoids or minimizes these impacts.

#### **DESCRIPTION OF PROPOSED ALTERNATE CORRIDOR**

4. NPCA's Proposed Alternate Corridor begins at FPL's West Preferred Corridor near the intersection of hypothetical SW 120<sup>th</sup> Street and hypothetical SW 204<sup>th</sup> Avenue in Miami-Dade County just south of Everglades National Park ("ENP"). From there, the corridor is approximately 330 feet wide as it heads due east for 3950 feet, before widening to between 500 and 650 feet as it turns northeast to temporarily rejoin the West Preferred Corridor between SW 197<sup>th</sup> Avenue and SW 194<sup>th</sup> Avenue and then due east along SW 120<sup>th</sup> Street for 3950 feet. This initial deviation from the FPL West Preferred Corridor is intended to avoid impacts to Miami-Dade County East Everglades Area of Critical Environmental Concern Management Area 3B, which does not allow transmission lines.

5. The FPL West Preferred Corridor, with NPCA's Preferred Alternate Corridor collocated, then turns due north on the west side of the L31N Canal for 2700 feet. The NPCA Preferred Alternate Corridor is only 550 feet wide in this section, as opposed to the FPL West

Preferred Corridor's 930 feet in order to minimize impacts to residences on the east side of the L31N Canal.

6. The NPCA Preferred Alternate Corridor then deviates from the FPL West Preferred Corridor in order to minimize impacts to ENP, the Miami-Dade County East Everglades Area of Critical Environmental Concern Management Area 3B, Wetlands of International Importance, and ultimately wood stork colonies. In addition, the deviation from the FPL West Preferred Corridor avoids potential conflicts with the South Florida Water Management District L31N Canal Right of Way. The NPCA Preferred Alternate Corridor turns due east from the West Preferred Corridor for 1.3 miles with a corridor width varying between 1550 and 1990 feet. In this location the corridor occurs on both the north and south sides of the C-1W canal, staying over 500 feet from a residential area associated with SW 100<sup>th</sup> Street, SW 104<sup>th</sup> Street, and SW 106<sup>th</sup> Street to the north.

7. The NPCA Preferred Alternate Corridor then turns north on the east side of Krome Avenue, paralleling Krome Avenue with a corridor varying in width between 1150 and 1350 feet for nearly a mile, before widening to 1800 feet to include lands both to the west and east of Krome Avenue, including an existing FPL 230kV line east of Krome Avenue. The NPCA Preferred Alternate Corridor then heads north on both sides of Krome for 3500 feet, remaining over ¼ mile to the west of a planned community within the Urban Development Boundary and remaining to the east of active mining areas.

8. Just to the south of North Kendall Drive/SW 88th Street, the NPCA Preferred Alternate Corridor narrows to 1000 feet wide, existing entirely on the west side of Krome Avenue in order to avoid the intersection of Krome Avenue and North Kendall Drive. The NPCA Preferred Alternate Corridor then travels north for 3750 feet on the west side of Krome

Avenue before turning northeast for approximately 3900 feet, crossing Krome Avenue north of the Miccosukee Tribal lands.

9. From this point, the NPCA Preferred Alternate Corridor turns due north and widens to 1950 feet, traversing approximately 1.5 miles due north before turning northeast north of SW 42<sup>nd</sup> Street/Bird Drive Canal through an area known as Bird Drive Basin which is comprised of primarily state, county, and South Florida Water Management District owned lands. The Corridor is situated to allow maximum siting flexibility while also providing at least a sufficient set back from Krome Avenue and at least a ¼ mile setback from the developed residential area to the east, including a child care center near the intersection of Tamiami Trail and SW 157<sup>th</sup> Avenue. The NPCA Preferred Alternate Corridor in this section is between approximately 2000 and 2950 feet wide and travels northeast 2.7 miles from SW 42<sup>nd</sup> Street/Bird Drive Canal until crossing the Tamiami Trail/US Highway 41/SW 8<sup>th</sup> Street.

10. North of the Tamiami Trail, the NPCA Preferred Alternate Corridor widens to between 2550 feet and 5100 feet and travels for approximately 3.5 miles before terminating at the intersection of the FPL West Preferred Corridor approximately 4950 feet west of the Levee Substation.

#### **REASONS FOR APPROVING THE PROPOSED ALTERNATE CORRIDOR**

11. Both of FPL's proposed transmission corridors lie within the Everglades National Park Expansion Area, which is currently being studied for potential designation as wilderness. In 1991, the NPS completed a Land Protection Plan that established priorities and commitments for implementing the 1989 Expansion Act, where it concluded that construction of utility lines

and roads would not be compatible with the purposes of the Expansion Area. NPCA's Preferred Alternate Corridor lies outside of the Expansion Area.

12. The Expansion Area is the focus of other critical ecosystem restoration projects such as Modified Water Deliveries to Everglades National Park, the Tamiami Trail Next Steps Project, and the Comprehensive Everglades Restoration Plan ("CERP") and associated projects. The state and federal governments have already spent hundreds of millions of dollars, and plan to spend more than a billion dollars on projects to increase water flows and wetland function in this immediate area and provide improved habitat suitable for a variety of wetland-dependent species, particularly water-dependent birds. NPCA's Preferred Alternate Corridor would avoid or minimize impacts to restoration efforts.

13. Construction, maintenance and management of the transmission lines within the existing boundary of Everglades National Park will have a negative impact on the wading bird populations that nest or have habitats in the area. Both of FPL's proposed transmission line corridors pass through sensitive wood stork and snail kite nesting and foraging habitat in northeastern Everglades National Park and eastern Water Conservation Area 3B. Specifically, the West Preferred Corridor is adjacent to wading bird habitat and within foraging flight paths. The location of the FPL West Preferred Corridor poses a substantial risk to juvenile wading birds in three identified colonies, with the wood stork facing the highest risk to its populations. The wood stork and Everglades snail kite are both federally listed as endangered, and the wood stork has been designated as a critical indicator species to measure the success of the CERP projects. NPCA's Preferred Alternate Corridor lies outside the existing boundary of Everglades National Park, and does not contain snail kite or wood stork nesting sites.

14. Both of FPL's proposed corridors are largely dominated by native freshwater marshes, the destruction of which would have direct impacts to hydrology, wetlands values, aesthetics, and threatened and endangered species and their habitats. These Everglades wetlands have national significance and include large expanses of contiguous wetlands with uninterrupted surface water sheet flow. NPCA's Preferred Alternative Corridor has significantly less impact on wetlands and the wildlife that depend on such wetlands.

15. The transmission lines would form a linear barrier that could prevent the natural flow of water as proposed under Everglades restoration plans. Future water management and restoration projects may require the removal or modifications of the L31-N levee to accommodate for new water flow, and the construction of structure pads and access roads in L31-N for transmission lines could hinder hydrological restoration of the Everglades. CERP's seepage management plan was intended to be constructed on the eastern portion of L-31N in recognition that water management features should be built beyond the boundary of Everglades National Park, which includes the area where NPCA's Preferred Alternate Corridor lies.

16. The Modified Water Deliveries to Everglades National Park project ("Modwaters"), a foundation project for Everglades restoration and a precursor to CERP, was authorized in 1989 to reconnect the watersheds of Water Conservation Areas 3A and 3B with Everglades National Park by redirecting water flow to the historic flow channels in Northeast Shark River Slough and establishing natural hydrologic conditions. Any transmission line facilities placed in this project footprint could reduce the effective area of marsh connectivity and the potential movement of wildlife. Presence of transmission line facilities could reduce water velocities through the marsh resulting from the Modwaters project and render portions of the marsh hydraulically isolated, negatively impacting the ecosystem and hydropatterns that the

project seeks to restore. Ongoing maintenance activities of transmission lines will cause soil and peat erosion that would alter adjacent slough hydrology and impact normal fire patterns.

Unintentional introduction of hazardous materials or petroleum products resulting from construction or maintenance activities could be transported and dispersed over significant distances within the marsh, including within Everglades National Park, negatively altering habitat quality for both aquatic and terrestrial wildlife within Park boundaries.

17. Currently, there are no existing access roads in Everglades National Park where the FPL West Secondary Corridor is proposed, except for those associated with a few facilities immediately adjacent to the Tamiami Trail. Construction of proposed new access roads in this area would cause long-term impacts to wetlands and wildlife habitat, disrupt hydrologic flows, and impact water quality. New road construction conflicts with CERP restoration goals, objectives, and projects, and with National Park goals and regulations. Vehicles moving over the wetlands without roads would also impact existing wetlands by compacting soils, disrupting hydrologic flows, and degrading habitat for species identified in the CERP Restoration Coordination and Verification (RECOVER) goals and objectives. Furthermore, any access/maintenance roads constructed within the FPL West Secondary Corridor would open the area for unauthorized access, leading to an increase in illegal activities, such as garbage disposal, off-road vehicles, and other activities that would cause environmental degradation.

18. The land identified for the FPL West Preferred Corridor is currently land owned by the federal government as part of Everglades National Park. The construction of the FPL West Preferred Corridor would require a reduction of 260 acres within the authorized boundary of Everglades National Park by adjusting the boundary to exclude lands conveyed to FPL, in violation of the intent and directive of the Everglades National Park Expansion Act. More than

103 acres of wetlands currently within the Park boundary would be filled for construction of the access roads and pads. The NPCA Preferred Alternate Corridor lies outside the existing boundary of Everglades National Park.

19. The linear construction of three transmission lines atop 135-150 foot towers will adversely affect the visual and atmospheric appeal of the Shark River Slough Archeological District, a Federal Registered National Historic District. Visitors to Everglades National Park, including NPCA members, will have their experience negatively impacted by this visual eyesore.

20. Both the FPL Preferred Corridor and the FPL West Secondary Corridor include lands within Miami-Dade County's East Everglades Area of Critical Environmental Concern, including Management Areas 1, 2A, 3A, 3B, and 3C. Miami-Dade County Code declares this an area of significant environmental and natural resource value to Miami-Dade County, and "is inextricably related to the health, safety and welfare of the present and future inhabitants of, and visitors to, Metropolitan Miami-Dade County." Miami-Dade County Code, Sec. 33B-12. FPL's corridors' segments that lie within the Management Areas of 1, 2A, 3A, 3B, and 3C do not comply with Miami-Dade's County Code Chapters 33B and 24; whereas no portion of NPCA's Preferred Alternative Corridor lies within Miami-Dade County's East Everglades Area of Critical Environmental Concern.

#### **SERVICE ON AFFECTED LOCAL GOVERNMENTS**

Through counsel, NPCA has provided copies of this Notice of Proposed Alternate Corridor to the ALJ, all parties to this proceeding, and all local governments over the area in which the alternate corridor is proposed, as required by Section 403.5271(a), Fla. Stat.



WHEREFORE NPCA requests that the Alternate Corridor proposed by this Notice be accepted for consideration in this certification proceeding with any other such relief the ALJ deems appropriate.

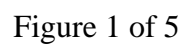
Respectfully submitted this 10th day of December, 2012.

Everglades Law Center  
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(561) 568-6740  
Jason@evergladeslaw.org

By: \_\_\_\_\_s/Jason Totoiu\_\_\_\_\_  
Jason Totoiu  
Florida Bar No. 871931

\_\_\_\_s/Sara Fain\_\_\_\_\_  
Sara Fain  
Florida Bar No. 19909

Counsel for NPCA



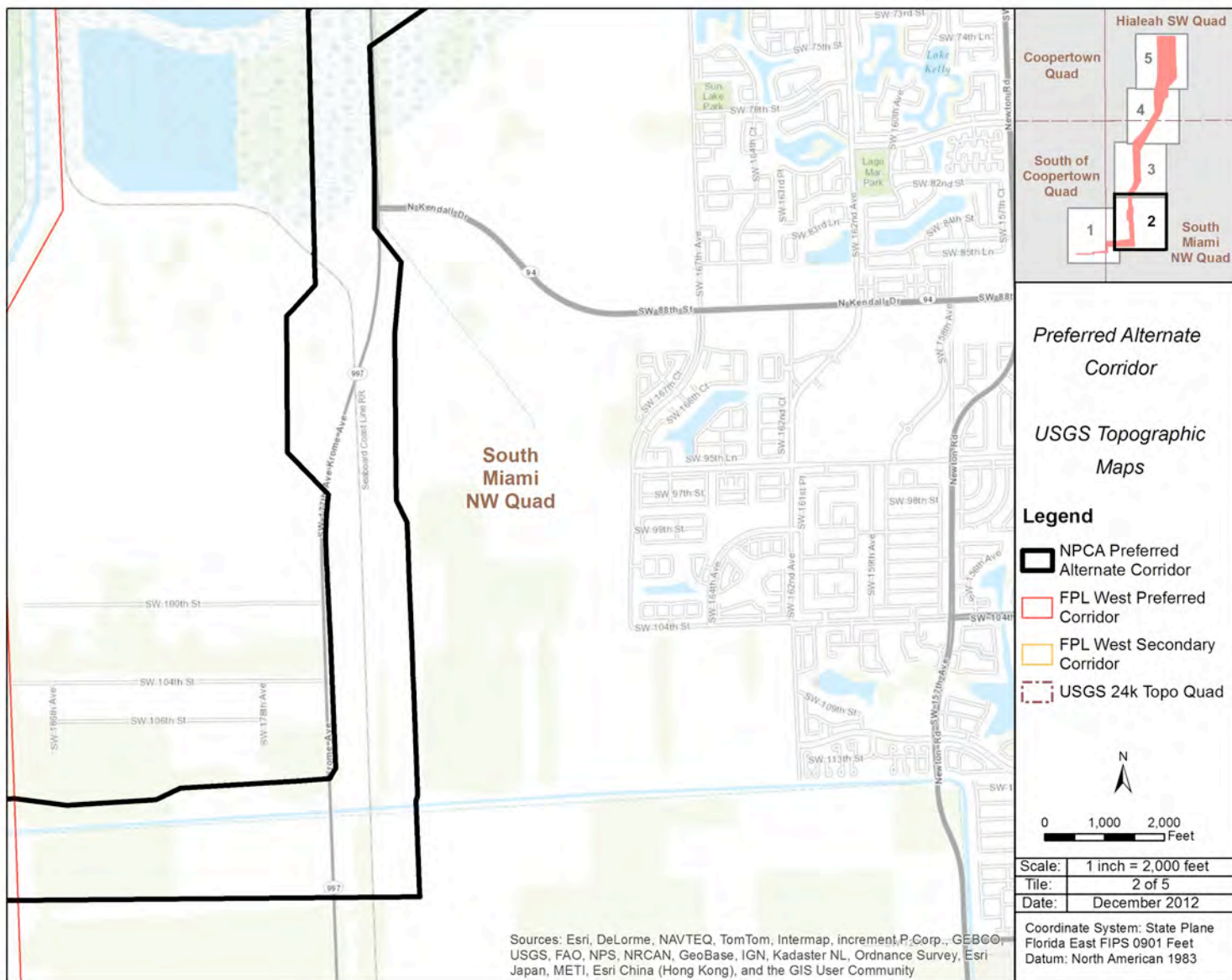


Figure 2 of 5



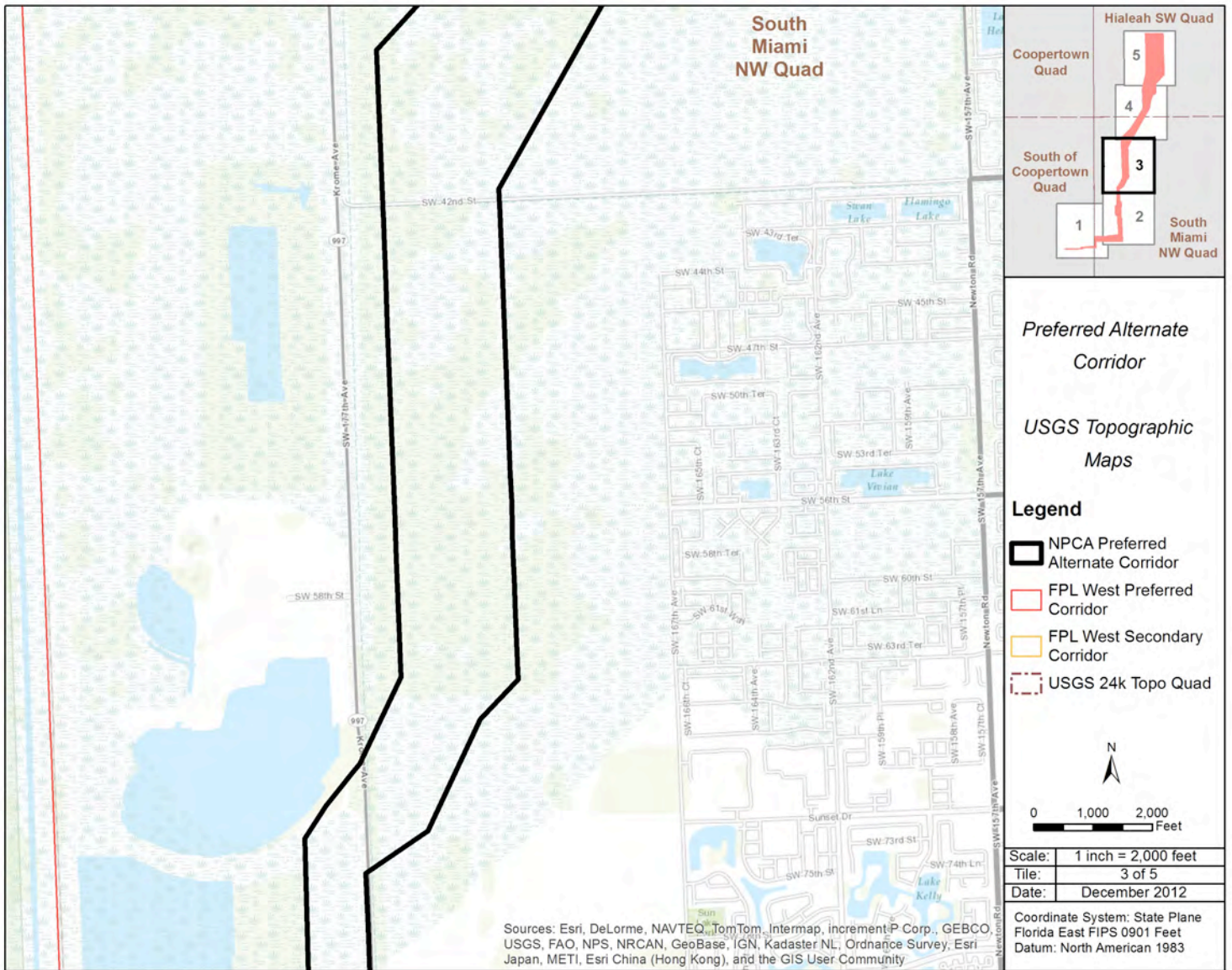


Figure 3 of 5

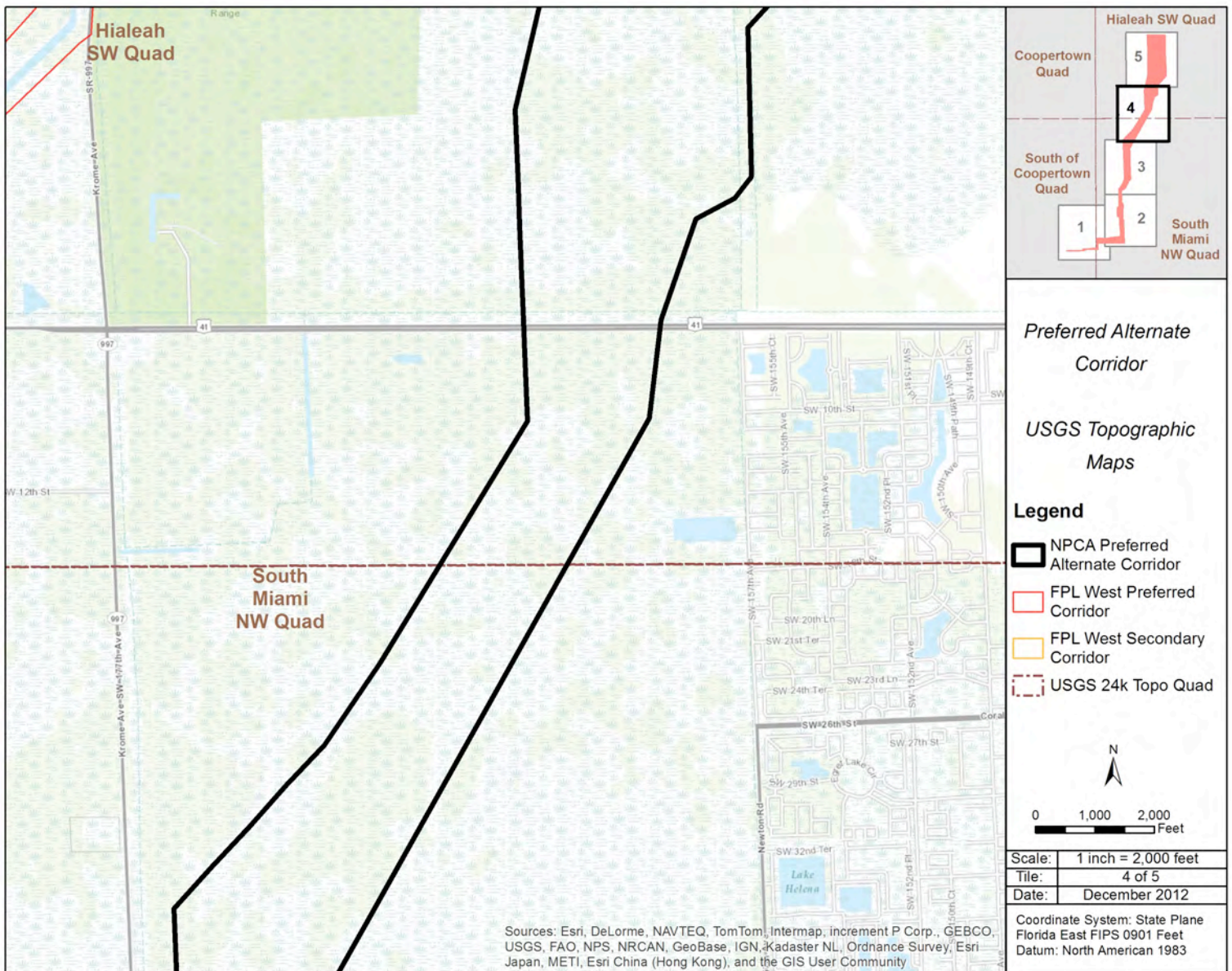


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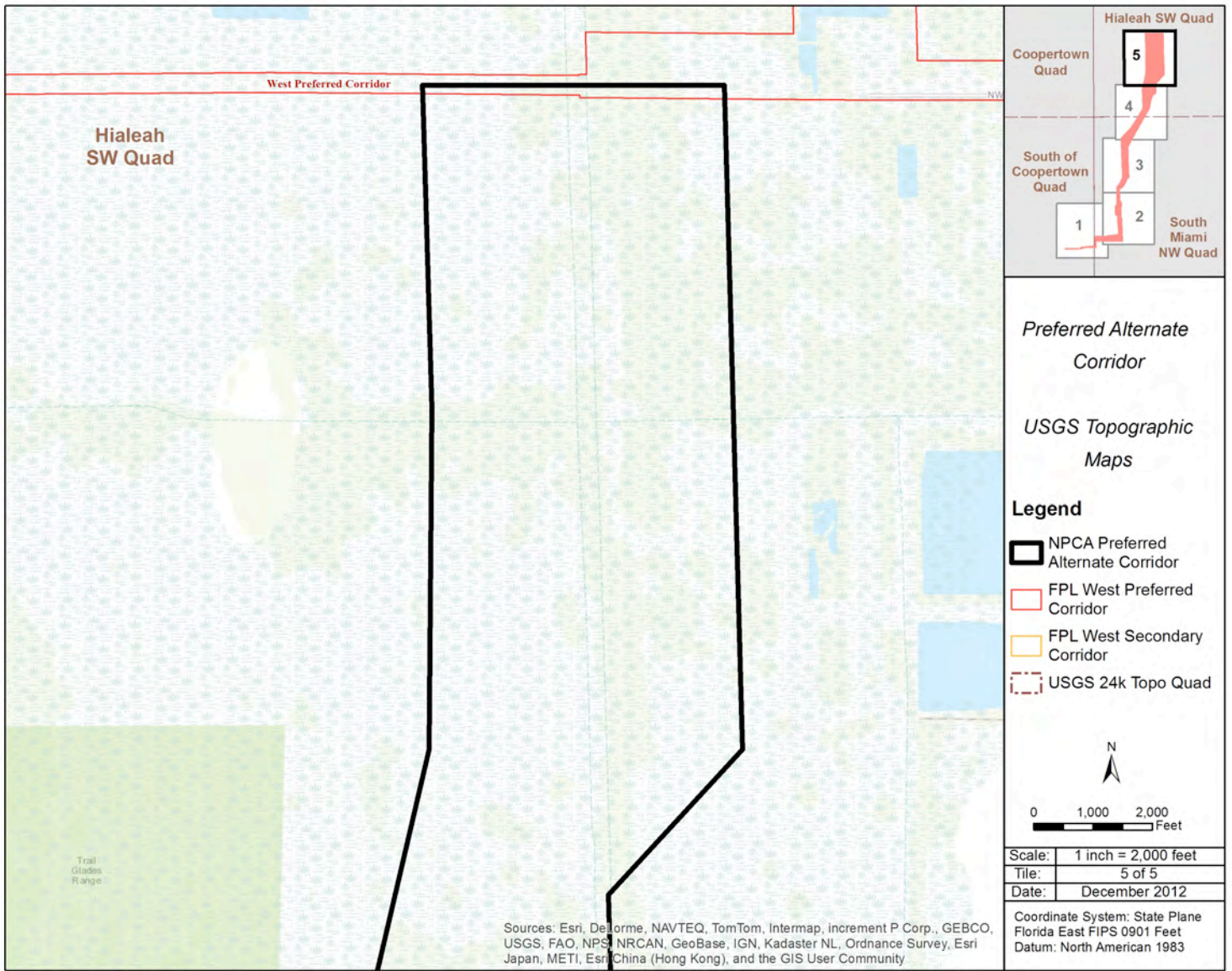


Figure 5 of 5

## CERTIFICATE OF SERVICE

I HEREBY CERTIFY that copies of the foregoing have been provided to the following

parties this 10th day of December, 2012:

Toni L. Sturtevant  
Lisa L. Brown  
Sandra Stockwell  
Department of Environmental Protection  
3900 Commonwealth Blvd. M.S. 35  
Tallahassee, FL 32399-3000  
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s/Sara Fain  
Sara Fain  
Everglades Law Center

**STATE OF FLORIDA  
DIVISION OF ADMINISTRATIVE HEARINGS**

IN RE: FLORIDA POWER & LIGHT CO.  
TURKEY POINT UNITS 6 & 7  
POWER PLANT SITING  
APPLICATION NO. PA 03-45A3

DOAH CASE NO. 09-3575-EPP  
DEP OGC CASE NO. 09-3107GS

FILED  
12 DEC 10 PM 3:55  
DIVISION OF  
ADMINISTRATIVE  
HEARINGS

**NOTICE OF PROPOSED ALTERNATE CORRIDORS**

The Miami-Dade Limestone Products Association (MDLPA), through its undersigned counsel, files this Notice of Proposed Alternate Corridors pursuant to sections 403.5064(4) and 403.5271 of the Florida Statutes, and states:

1. The MDLPA is submitting for consideration two additional alternate corridors (shown in **Figures 1 and 2** below) for a portion of the West Preferred Corridor for the Turkey Point Units 6 & 7 Project Transmission Lines. The MDLPA makes this submission for the purpose of reducing impacts within Everglades National Park (ENP).

2. Description of the Proposed Alternate Corridors. MDLPA's proposed alternate corridors provide two potential routes (AC-A and AC-B), each approximately 11 miles in length, to relocate FPL's Western Preferred Corridor to the east of the L-31N Canal.

**The AC-A Alignment:**

- a. Follows FPL's West Preferred Corridor until it reaches a point roughly six miles south of Tamiami Trail.
- b. Beginning at a point approximately 6 miles south of Tamiami Trail, the AC-A corridor would expand the width of the corridor by 600 feet to the east of the FPL West Preferred Corridor for a distance of about 5 miles until it reaches a point one mile south of Tamiami Trail. This would allow the final right-of-way to be located on the east side of the L-31N Canal.
- c. At a point one mile south of Tamiami Trail, the AC-A would turn to the east for a distance of about 2.5 miles.

- d. At a point about 2.5 miles east of the L-31N Canal the width of the right-of-way expands in a triangular fashion to allow enough flexibility for the final Transmission Line right-of-way to transition through the Bird Drive Basin area toward the Pennsuco wetlands north of Tamiami Trail.
- e. At Tamiami Trail, the alternate corridor expands to a width of approximately one mile from a point just above Tamiami Trail to the north boundary of Government Lot 5. From the north Boundary of G.L. 5, the corridor would be reduced to a width of 600 feet and proceed north along the alignment of the Dade-Broward Levee to intersect with the West Preferred Corridor.
- f. For sections south of Tamiami Trail access to the MDLPA AC-A would be through existing public roadways and access roads constructed by FPL within the boundary of the proposed alternate corridors.
- g. There are two access corridors proposed for the section north of Tamiami Trail. One corridor extends from the northwest corner of Government Lot 4 to N.W. 137<sup>th</sup> Avenue. It is two hundred feet wide with one hundred feet extending on each side of the north section line of Government Lots 3 and 4.
- h. The second proposed MDLPA access corridor extends south from the northwest corner of Government Lot 4 to the north bank of the C-4 Canal. It is two hundred feet wide with one hundred feet extending on each side of the west section line of Government Lot 4. From that point, it narrows to one hundred feet in width and extends to the west to include the bridge over the C-4 Canal at the entrance to the Trail Glades Shooting Range.

**The AC-B Alignment:**

- a. Follows FPL's West Preferred Corridor until it reaches a point roughly six miles south of Tamiami Trail.
- b. Beginning at a point approximately 6 miles south of Tamiami Trail, the AC-B corridor turn to the east until it reaches Krome Avenue. Once reaching Krome Avenue the corridor turns to the north with variable width until it reaches Kendall Drive.
- b. From Kendall Drive the corridor moves to the west side of Krome Avenue for approximately 0.75 miles north of Kendall Drive.
- c. At a point about 0.75 miles north of Kendall Drive the corridor crosses Krome Avenue and expands in width, proceeding in a roughly southwest to northeast direction through the Bird Drive Basin area until it reaches Tamiami Trail. The width of the corridor expands in an irregular fashion to allow enough flexibility for the final Transmission Line right-of-way to transition through the Bird Drive Basin area toward the Pennsuco wetlands north of Tamiami Trail.

- d. At Tamiami Trail the alternate corridor expands to a width of approximately one mile from a point just above Tamiami Trail to the north boundary of Government Lot 5. From the north Boundary of G.L. 5 the corridor would be reduced to a width of 600 feet and proceed north along the alignment of the Dade-Broward Levee to intersect with the preferred corridor.
  - e. For sections south of Tamiami Trail, access to the MDLPA AC-B would be through existing public roadways and access roads constructed by FPL within the boundary of the proposed alternate corridors.
  - f. There are two access corridors proposed for the section north of Tamiami Trail. One corridor extends from the northwest corner of Government Lot 4 to N.W. 137<sup>th</sup> Avenue. It is two hundred feet wide with one hundred feet extending on each side of the north section line of Government Lots 3 and 4.
  - g. The second proposed MDLPA access corridor extends south from the northwest corner of Government Lot 4 to the north bank of the C-4 Canal. It is two hundred feet wide with one hundred feet extending on each side of the west section line of Government Lot 4. From that point it narrows to one hundred feet in width and extends to the west to include the bridge over the C-4 Canal at the entrance to the Trail Glades Shooting Range.
3. Reasons for Approving One of the Proposed Alternate Corridors. The MDLPA is a non-profit association of limestone mining and processing companies located in the Lake Belt area of western Miami-Dade County. To offset the wetland impacts associated with mining, the mining companies, in cooperation with the State of Florida, the U.S. Army Corps of Engineers, the South Florida Water Management District and Miami-Dade County have committed to a long term program of acquisition and restoration of the Pennsuco wetlands. The reasons that one of the MDLPA Alternate Corridors should be certified include:
- a. FPL's West Preferred Corridor crosses near the middle of the Pennsuco wetland through better habitat than in either of the additional proposed MDLPA Alternate Corridors. Moving the Transmission Lines through the Bird Drive Basin to the south of Tamiami Trail leaves the majority of the Pennsuco wetland intact as a single continuous wetland with the best prospects for full restoration of wetland value and wildlife habitat.
  - b. The West Preferred Corridor proceeds along the eastern border of Everglades National Park and Water Conservation Area-3B just east of several wading bird rookeries. The MDLPA Alternate Corridors A and B would provide the opportunity to locate this section of the Transmission Line several miles to the east depending on the final

alignment chosen. This site is likely to reduce any risk to wading birds that might utilize the Pennsuco wetlands.

- c. The West Preferred Corridor segment along the boundary of ENP and WCA-3B on the west side of the L-31N and the L-30 Levee is located in more valuable habitat than the proposed MDLPA additional alternate corridors located to the east. The West Preferred Corridor is contiguous with thousands of acres of Everglades marsh. The MDLPA alternate corridors would remove the transmission lines entirely from WCA-3B and, depending upon the final alignment chosen, greatly reduce the length of the corridor adjacent to ENP.

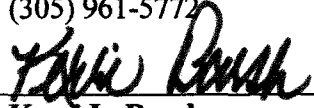
WHEREFORE, the Miami-Dade Limestone Products Association requests that one or both of the MDLPA Alternate Corridors proposed above be accepted for consideration in this certification proceeding, together with such other relief as the Administrative Law Judge deems appropriate.

Respectfully submitted on behalf of the MDLPA this 10<sup>th</sup> day of December, 2012, by

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I certify that I have served a true and correct copy of the foregoing via electronic mail this 10 day of December, 2012, to the following:

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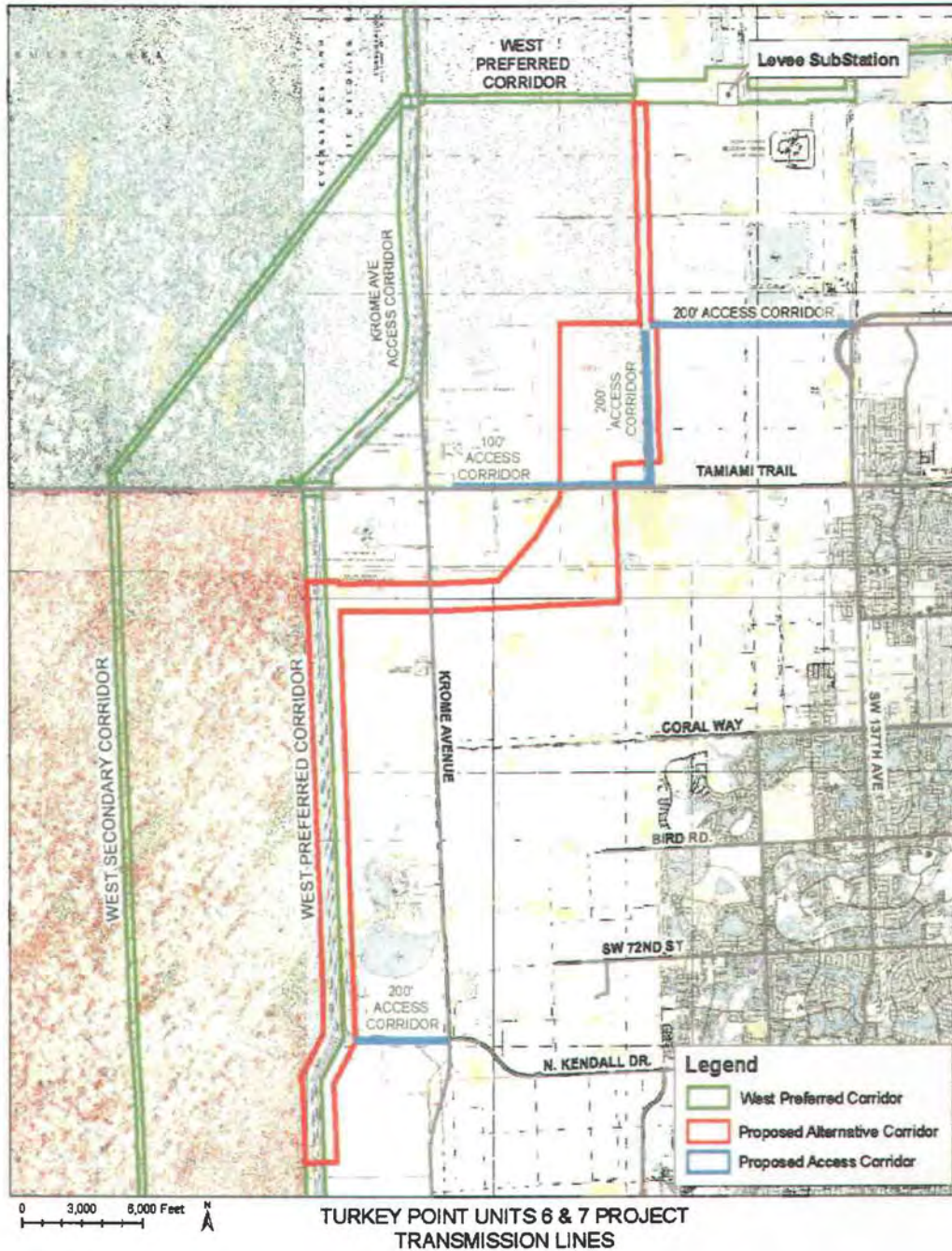
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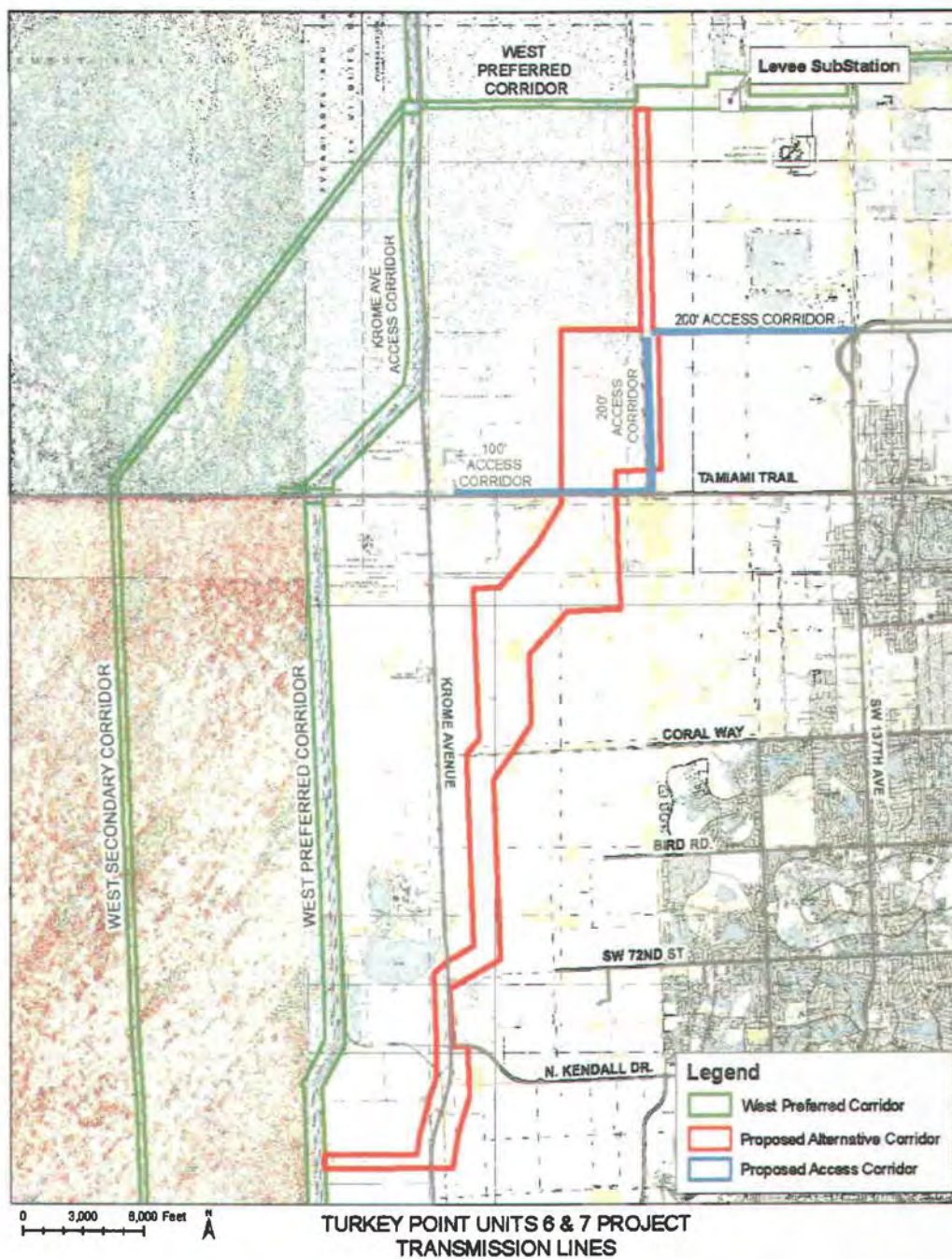
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**Figure 1.** Detailed view of the Alternate Transmission Line Corridor (AC-A), including access corridors proposed by the MDLPA.





**Figure 2.** Detailed view of the Alternate Transmission Line Corridor (AC-B), including access corridor proposed by the MDLPA.



## **APPENDIX E: CONSULTATION LETTERS**





# United States Department of the Interior

NATIONAL PARK SERVICE  
Everglades & Dry Tortugas National Park  
40001 State Road 9336  
Homestead FL 33034



IN REPLY REFER TO:

L7621

June 8, 2011

Eric Hughes  
Everglades Restoration Plan Coordinator  
U.S. Environmental Protection Agency  
Ecosystem Restoration Branch  
P.O. Box 4970  
Jacksonville, Florida 32232

Subject: Request for Participation in the Scoping Process for the Acquisition of Florida Power and Light Company Land in the East Everglades Expansion Area Environmental Impact Statement

Dear Mr. Hughes:

The National Park Service (NPS), in compliance with the National Environmental Policy Act of 1969 (NEPA), is initiating an Environmental Impact Statement (EIS) to evaluate options and potential impacts of acquiring lands owned by the Florida Power and Light Company (FPL) within the East Everglades Expansion Area (Expansion Area) of Everglades National Park. This will include the potential exchange of lands authorized in the Omnibus Public Land Management Act of 2009 and other reasonable alternatives. The NPS decision at the conclusion of this process is whether to exchange NPS lands for FPL's lands within the Park boundary or to acquire FPL's lands by purchase, eminent domain, or by other means identified in the EIS. The NPS is currently seeking information from agencies, individuals and organizations likely to have knowledge of, or concerns with, issues relating to the proposed land acquisition's potential effects on the environment.

The Everglades National Park Protection and Expansion Act of 1989 expanded the boundaries of the Park in order to "increase the level of protection and outstanding natural values of the Park" and "to enhance and restore the ecological values, natural values and public enjoyment of the area." To date, the park has expanded by 109,600 acres in the Expansion Area. The Expansion Act, and additional legislation, authorized the NPS and U.S. Army Corps of Engineers to acquire lands within the Expansion Area and to modify the Central and Southern Florida Project to restore natural hydrological conditions in the Park.

FPL owns about 320 acres within the Expansion Area. Because the FPL property is currently undeveloped and is needed for restoration of the Everglades ecosystem, the NPS is seeking to acquire the

FPL property, manage it as part of the Park, and maintain it in its undeveloped condition. FPL is currently seeking state and federal permits to construct three major transmission lines on its existing property in the

Park or on the proposed exchange corridor within the Park, authorized by the Omnibus Public Land Management Act of 2009.

You may recall that the NPS began an Environmental Assessment (EA) for the proposed FPL land acquisition in June 2009. During evaluation of impacts likely to result from transmission line construction and long-term operation following a land exchange and issuance of required permits and approvals, the potential for significant impacts on Park resources was identified. In light of these concerns, the NPS has initiated this EIS process to more fully examine the potential impacts of land acquisition alternatives.

A Notice of Intent (NOI) to prepare an EIS was published in the Federal Register on May 26, 2011. A Scoping Newsletter with detailed project information is attached. The NOI and newsletter initiate the scoping process to identify issues or concerns regarding the potential land acquisition in the Park.

As part of this process, I would like to invite you or your staff to attend an agency scoping meeting on Tuesday, June 21, 2011. The meeting will be held from 1:00 – 4:30 p.m. at the Miami-Dade County Department of Environmental Resources Management main building located at:

Overtown Transit Village North  
701 NW 1st Court  
2nd floor conference room  
Miami, FL 33136

The National Park Service is hosting this meeting as part of its responsibilities for preparing the EIS. The Department of Environmental Resources Management is providing a meeting location that will be convenient for participants coming from out of town. Directions and a map are provided at this link: [http://www.miamidade.gov/derm/directions\\_downtown.asp](http://www.miamidade.gov/derm/directions_downtown.asp). The building is located adjacent to the Historic Overtown/Lyric Theatre Metrorail station, which is one station north of the Government Center stop. For those driving, there is a City of Miami parking lot immediately west of the building.

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Dial-in phone #: 1-877-873-8018  
Pass code: 8910744#

Please respond by June 15<sup>th</sup> with your availability to participate in-person or by teleconference to Mr. Fred Herling at 305-242-7704 or by e-mail at [fred\\_herling@nps.gov](mailto:fred_herling@nps.gov).

The NPS will also hold a public scoping meeting on June 22, 2011 at the Florida International University Stadium Club from 5:30 to 8:30 p.m. This meeting will provide an opportunity for members of the public to meet and talk with Park staff, learn more about the project and provide comments. You and your staff are invited to attend the public meeting.

Please provide any information, comments, or concerns you feel are appropriate on the scope of the Environmental Impact Statement during the scoping comment period which ends on July 10, 2011. Comments may be submitted electronically at the National Park Service's Planning, Environment, and Public Comment website at:

<http://parkplanning.nps.gov/projectHome.cfm?projectID=37220>

Comments may also be submitted by mail to:



National Park Service  
Denver Service Center – Planning Division  
Attn: FPL Project Planning Team  
P.O. Box 25287  
12795 West Alameda Parkway  
Denver, CO 80225-0287

Agency and public comments submitted during scoping for the EA in 2009 will be carried forward to this project and considered as part of scoping for this EIS. Anyone who commented on the EA is welcome to provide new, additional comments during the scoping comment period for this EIS.

If you have any questions concerning the EIS and the scoping process, please contact Mr. Brien Culhane, Chief, Planning and Compliance at 305-242-7717 or by e-mail at [brien\\_culhane@nps.gov](mailto:brien_culhane@nps.gov). In his absence, please contact Mr. Fred Herling at 305-242-7704 or by email at [fred\\_herling@nps.gov](mailto:fred_herling@nps.gov).

Thank you for your continued interest in Everglades National Park. We look forward to hearing from you.

Sincerely,

A handwritten signature in blue ink that reads "Dan B. Kimball". The signature is written in a cursive, flowing style.

Dan B. Kimball  
Superintendent



# United States Department of the Interior

NATIONAL PARK SERVICE  
Everglades & Dry Tortugas National Park  
40001 State Road 9336  
Homestead FL 33034



IN REPLY REFER TO:

L7621

June 8, 2011

U.S. Army Corps of Engineers  
Attn: Stuart Appelbaum  
Everglades Restoration Program Manager  
Jacksonville District  
701 San Marco Blvd.  
Jacksonville, Florida 32207-8174

Subject: Request for Participation in the Scoping Process for the Acquisition of Florida Power and Light Company Land in the East Everglades Expansion Area Environmental Impact Statement

Dear Mr. Appelbaum:

The National Park Service (NPS), in compliance with the National Environmental Policy Act of 1969 (NEPA), is initiating an Environmental Impact Statement (EIS) to evaluate options and potential impacts of acquiring lands owned by the Florida Power and Light Company (FPL) within the East Everglades Expansion Area (Expansion Area) of Everglades National Park. This will include the potential exchange of lands authorized in the Omnibus Public Land Management Act of 2009 and other reasonable alternatives. The NPS decision at the conclusion of this process is whether to exchange NPS lands for FPL's lands within the Park boundary or to acquire FPL's lands by purchase, eminent domain, or by other means identified in the EIS. The NPS is currently seeking information from agencies, individuals and organizations likely to have knowledge of, or concerns with, issues relating to the proposed land acquisition's potential effects on the environment.

The Everglades National Park Protection and Expansion Act of 1989 expanded the boundaries of the Park in order to "increase the level of protection and outstanding natural values of the Park" and "to enhance and restore the ecological values, natural values and public enjoyment of the area." To date, the park has expanded by 109,600 acres in the Expansion Area. The Expansion Act, and additional legislation, authorized the NPS and U.S. Army Corps of Engineers to acquire lands within the Expansion Area and to modify the Central and Southern Florida Project to restore natural hydrological conditions in the Park.

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Park or on the proposed exchange corridor within the Park, authorized by the Omnibus Public Land Management Act of 2009.

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2nd floor conference room  
Miami, FL 33136

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Pass code: 8910744#

Please respond by June 15<sup>th</sup> with your availability to participate in-person or by teleconference to Mr. Fred Herling at 305-242-7704 or by e-mail at [fred\\_herling@nps.gov](mailto:fred_herling@nps.gov).

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National Park Service  
Denver Service Center – Planning Division  
Attn: FPL Project Planning Team  
P.O. Box 25287  
12795 West Alameda Parkway  
Denver, CO 80225-0287

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Thank you for your continued interest in Everglades National Park. We look forward to hearing from you.

Sincerely,

A handwritten signature in blue ink that reads "Dan B. Kimball". The signature is written in a cursive, flowing style.

Dan B. Kimball  
Superintendent



# United States Department of the Interior

NATIONAL PARK SERVICE  
Everglades & Dry Tortugas National Park  
40001 State Road 9336  
Homestead FL 33034



IN REPLY REFER TO:

L7621

June 8, 2011

U.S. Army Corps of Engineers  
Attn: Megan Clouser  
Senior Project Manager  
Miami Permitting Station  
9900 SW 107<sup>th</sup> Ave., Suite 203  
Miami, Florida 33176-2785

Subject: Request for Participation in the Scoping Process for the Acquisition of Florida Power and Light Company Land in the East Everglades Expansion Area Environmental Impact Statement

Dear Ms. Clouser:

The National Park Service (NPS), in compliance with the National Environmental Policy Act of 1969 (NEPA), is initiating an Environmental Impact Statement (EIS) to evaluate options and potential impacts of acquiring lands owned by the Florida Power and Light Company (FPL) within the East Everglades Expansion Area (Expansion Area) of Everglades National Park. This will include the potential exchange of lands authorized in the Omnibus Public Land Management Act of 2009 and other reasonable alternatives. The NPS decision at the conclusion of this process is whether to exchange NPS lands for FPL's lands within the Park boundary or to acquire FPL's lands by purchase, eminent domain, or by other means identified in the EIS. The NPS is currently seeking information from agencies, individuals and organizations likely to have knowledge of, or concerns with, issues relating to the proposed land acquisition's potential effects on the environment.

The Everglades National Park Protection and Expansion Act of 1989 expanded the boundaries of the Park in order to "increase the level of protection and outstanding natural values of the Park" and "to enhance and restore the ecological values, natural values and public enjoyment of the area." To date, the park has expanded by 109,600 acres in the Expansion Area. The Expansion Act, and additional legislation, authorized the NPS and U.S. Army Corps of Engineers to acquire lands within the Expansion Area and to modify the Central and Southern Florida Project to restore natural hydrological conditions in the Park.

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FPL property, manage it as part of the Park, and maintain it in its undeveloped condition. FPL is currently seeking state and federal permits to construct three major transmission lines on its existing property in the

Park or on the proposed exchange corridor within the Park, authorized by the Omnibus Public Land Management Act of 2009.

You may recall that the NPS began an Environmental Assessment (EA) for the proposed FPL land acquisition in June 2009. During evaluation of impacts likely to result from transmission line construction and long-term operation following a land exchange and issuance of required permits and approvals, the potential for significant impacts on Park resources was identified. In light of these concerns, the NPS has initiated this EIS process to more fully examine the potential impacts of land acquisition alternatives.

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As part of this process, I would like to invite you or your staff to attend an agency scoping meeting on Tuesday, June 21, 2011. The meeting will be held from 1:00 – 4:30 p.m. at the Miami-Dade County Department of Environmental Resources Management main building located at:

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701 NW 1st Court  
2nd floor conference room  
Miami, FL 33136

The National Park Service is hosting this meeting as part of its responsibilities for preparing the EIS. The Department of Environmental Resources Management is providing a meeting location that will be convenient for participants coming from out of town. Directions and a map are provided at this link: [http://www.miamidade.gov/derm/directions\\_downtown.asp](http://www.miamidade.gov/derm/directions_downtown.asp). The building is located adjacent to the Historic Overtown/Lyric Theatre Metrorail station, which is one station north of the Government Center stop. For those driving, there is a City of Miami parking lot immediately west of the building.

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Dial-in phone #: 1-877-873-8018  
Pass code: 8910744#

Please respond by June 15<sup>th</sup> with your availability to participate in-person or by teleconference to Mr. Fred Herling at 305-242-7704 or by e-mail at [fred\\_herling@nps.gov](mailto:fred_herling@nps.gov).

The NPS will also hold a public scoping meeting on June 22, 2011 at the Florida International University Stadium Club from 5:30 to 8:30 p.m. This meeting will provide an opportunity for members of the public to meet and talk with Park staff, learn more about the project and provide comments. You and your staff are invited to attend the public meeting.

Please provide any information, comments, or concerns you feel are appropriate on the scope of the Environmental Impact Statement during the scoping comment period which ends on July 10, 2011. Comments may be submitted electronically at the National Park Service's Planning, Environment, and Public Comment website at:

<http://parkplanning.nps.gov/projectHome.cfm?projectID=37220>

Comments may also be submitted by mail to:



# United States Department of the Interior

NATIONAL PARK SERVICE  
Everglades & Dry Tortugas National Park  
40001 State Road 9336  
Homestead FL 33034



IN REPLY REFER TO:

L7621

June 8, 2011

Heinz Mueller, Chief  
NEPA Program Office  
U.S. Environmental Protection Agency  
Region 4 – Atlanta Federal Center  
61 Forsyth St., SW  
Atlanta, Georgia 30303

Subject: Request for Participation in the Scoping Process for the Acquisition of Florida Power and Light Company Land in the East Everglades Expansion Area Environmental Impact Statement

Dear Mr. Mueller:

The National Park Service (NPS), in compliance with the National Environmental Policy Act of 1969 (NEPA), is initiating an Environmental Impact Statement (EIS) to evaluate options and potential impacts of acquiring lands owned by the Florida Power and Light Company (FPL) within the East Everglades Expansion Area (Expansion Area) of Everglades National Park. This will include the potential exchange of lands authorized in the Omnibus Public Land Management Act of 2009 and other reasonable alternatives. The NPS decision at the conclusion of this process is whether to exchange NPS lands for FPL's lands within the Park boundary or to acquire FPL's lands by purchase, eminent domain, or by other means identified in the EIS. The NPS is currently seeking information from agencies, individuals and organizations likely to have knowledge of, or concerns with, issues relating to the proposed land acquisition's potential effects on the environment.

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You may recall that the NPS began an Environmental Assessment (EA) for the proposed FPL land acquisition in June 2009. During evaluation of impacts likely to result from transmission line construction and long-term operation following a land exchange and issuance of required permits and approvals, the potential for significant impacts on Park resources was identified. In light of these concerns, the NPS has initiated this EIS process to more fully examine the potential impacts of land acquisition alternatives.

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2nd floor conference room  
Miami, FL 33136

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Pass code: 8910744#

Please respond by June 15<sup>th</sup> with your availability to participate in-person or by teleconference to Mr. Fred Herling at 305-242-7704 or by e-mail at [fred\\_herling@nps.gov](mailto:fred_herling@nps.gov).

The NPS will also hold a public scoping meeting on June 22, 2011 at the Florida International University Stadium Club from 5:30 to 8:30 p.m. This meeting will provide an opportunity for members of the public to meet and talk with Park staff, learn more about the project and provide comments. You and your staff are invited to attend the public meeting.

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<http://parkplanning.nps.gov/projectHome.cfm?projectID=37220>

Comments may also be submitted by mail to:

National Park Service  
Denver Service Center – Planning Division  
Attn: FPL Project Planning Team  
P.O. Box 25287  
12795 West Alameda Parkway  
Denver, CO 80225-0287

Agency and public comments submitted during scoping for the EA in 2009 will be carried forward to this project and considered as part of scoping for this EIS. Anyone who commented on the EA is welcome to provide new, additional comments during the scoping comment period for this EIS.

If you have any questions concerning the EIS and the scoping process, please contact Mr. Brien Culhane, Chief, Planning and Compliance at 305-242-7717 or by e-mail at [brien\\_culhane@nps.gov](mailto:brien_culhane@nps.gov). In his absence, please contact Mr. Fred Herling at 305-242-7704 or by email at [fred\\_herling@nps.gov](mailto:fred_herling@nps.gov).

Thank you for your continued interest in Everglades National Park. We look forward to hearing from you.

Sincerely,

A handwritten signature in blue ink that reads "Dan B. Kimball". The signature is written in a cursive, flowing style.

Dan B. Kimball  
Superintendent



**United States Department of the Interior  
NATIONAL PARK SERVICE**

**Everglades and Dry Tortugas National Parks  
40001 State Road 9336  
Homestead, Florida 33034**



In Reply Refer to:

L7621

JUN 08 2011

Mr. Reid Nelson, Director  
Office of Federal Agency Programs  
Old Post Office Building  
1100 Pennsylvania Avenue, NW, Suite 803  
Washington, DC 20004

Subject: Section 106 Compliance, Acquisition of Florida Power and Light  
Lands/Environmental Impact Statement, Everglades National Park, Miami-Dade  
County, Florida

Dear Mr. Nelson:

The National Park Service (NPS), in compliance with the National Environmental Policy Act of 1969 (NEPA), is initiating an Environmental Impact Statement (EIS) to evaluate options and potential impacts of acquiring lands owned by the Florida Power and Light Company (FPL) within the East Everglades Expansion Area (Expansion Area) of Everglades National Park. This will include the potential exchange of lands authorized in the Omnibus Public Land Management Act of 2009 and other reasonable alternatives. The NPS decision at the conclusion of this process is whether to exchange NPS lands for FPL's lands within the Park boundary or to acquire FPL's lands by purchase, eminent domain, or by other means identified in the EIS.

The process and documentation for preparing the EIS will be used to comply with §106 of the National Historic Preservation Act of 1966. In accordance with section 800.8(c) of the Advisory Council on Historic Preservation's regulations (36 CFR Part 800), I am notifying your office in advance of the Park's intention to use the EIS to meet its obligations under §106.

I have enclosed a scoping newsletter with additional information about the project. As required by 36 CFR 800, the Florida State Historic Preservation Office has been notified regarding inclusion of Section 106 compliance within the environmental assessment process.

Please provide any information, comments, or concerns you feel should be considered in the EIS during the scoping comment period which ends on July 10, 2011. Comments may be submitted electronically at the NPS Planning, Environment, and Public Comment website or at the mailing address below: <http://parkplanning.nps.gov/projectHome.cfm?projectID=37220>

NPS, Denver Service Center – Planning Division

Attn: FPL Project Planning Team  
P.O. Box 25287  
12795 West Alameda Parkway  
Denver, CO 80225-0287

If you have questions or need any additional information, please do not hesitate to contact Brien Culhane, Chief of Planning and Compliance, at 305-242-7717 or [brien\\_culhane@nps.gov](mailto:brien_culhane@nps.gov).

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Dan B. Kimball  
Superintendent

Enclosure



# United States Department of the Interior

NATIONAL PARK SERVICE  
Everglades & Dry Tortugas National Park  
40001 State Road 9336  
Homestead FL 33034



IN REPLY REFER TO:

L7621

June 8, 2011

U.S. Fish & Wildlife Service  
Attn: Bob Progulske  
Assistant Field Supervisor  
Everglades Restoration Program  
1339 20<sup>th</sup> Street  
Vero Beach, Florida 32960-3559

Subject: Request for Participation in the Scoping Process for the Acquisition of Florida Power and Light Company Land in the East Everglades Expansion Area Environmental Impact Statement

Dear Mr. Progulske:

The National Park Service (NPS), in compliance with the National Environmental Policy Act of 1969 (NEPA), is initiating an Environmental Impact Statement (EIS) to evaluate options and potential impacts of acquiring lands owned by the Florida Power and Light Company (FPL) within the East Everglades Expansion Area (Expansion Area) of Everglades National Park. This will include the potential exchange of lands authorized in the Omnibus Public Land Management Act of 2009 and other reasonable alternatives. The NPS decision at the conclusion of this process is whether to exchange NPS lands for FPL's lands within the Park boundary or to acquire FPL's lands by purchase, eminent domain, or by other means identified in the EIS. The NPS is currently seeking information from agencies, individuals and organizations likely to have knowledge of, or concerns with, issues relating to the proposed land acquisition's potential effects on the environment.

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Sincerely,

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Dan B. Kimball  
Superintendent



# United States Department of the Interior

NATIONAL PARK SERVICE  
Everglades & Dry Tortugas National Park  
40001 State Road 9336  
Homestead FL 33034



IN REPLY REFER TO:

L7621

June 8, 2011

South Florida Water Management District  
Attn: James Golden, AICP  
Senior Planner  
3301 Gun Club Road  
West Palm Beach, Florida 33406

Subject: Request for Participation in the Scoping Process for the Acquisition of Florida Power and Light Company Land in the East Everglades Expansion Area Environmental Impact Statement

Dear Mr. Golden:

The National Park Service (NPS), in compliance with the National Environmental Policy Act of 1969 (NEPA), is initiating an Environmental Impact Statement (EIS) to evaluate options and potential impacts of acquiring lands owned by the Florida Power and Light Company (FPL) within the East Everglades Expansion Area (Expansion Area) of Everglades National Park. This will include the potential exchange of lands authorized in the Omnibus Public Land Management Act of 2009 and other reasonable alternatives. The NPS decision at the conclusion of this process is whether to exchange NPS lands for FPL's lands within the Park boundary or to acquire FPL's lands by purchase, eminent domain, or by other means identified in the EIS. The NPS is currently seeking information from agencies, individuals and organizations likely to have knowledge of, or concerns with, issues relating to the proposed land acquisition's potential effects on the environment.

The Everglades National Park Protection and Expansion Act of 1989 expanded the boundaries of the Park in order to "increase the level of protection and outstanding natural values of the Park" and "to enhance and restore the ecological values, natural values and public enjoyment of the area." To date, the park has expanded by 109,600 acres in the Expansion Area. The Expansion Act, and additional legislation, authorized the NPS and U.S. Army Corps of Engineers to acquire lands within the Expansion Area and to modify the Central and Southern Florida Project to restore natural hydrological conditions in the Park.

FPL owns about 320 acres within the Expansion Area. Because the FPL property is currently undeveloped and is needed for restoration of the Everglades ecosystem, the NPS is seeking to acquire the

FPL property, manage it as part of the Park, and maintain it in its undeveloped condition. FPL is currently seeking state and federal permits to construct three major transmission lines on its existing property in the

Park or on the proposed exchange corridor within the Park, authorized by the Omnibus Public Land Management Act of 2009.

You may recall that the NPS began an Environmental Assessment (EA) for the proposed FPL land acquisition in June 2009. During evaluation of impacts likely to result from transmission line construction and long-term operation following a land exchange and issuance of required permits and approvals, the potential for significant impacts on Park resources was identified. In light of these concerns, the NPS has initiated this EIS process to more fully examine the potential impacts of land acquisition alternatives.

A Notice of Intent (NOI) to prepare an EIS was published in the Federal Register on May 26, 2011. A Scoping Newsletter with detailed project information is attached. The NOI and newsletter initiate the scoping process to identify issues or concerns regarding the potential land acquisition in the Park.

As part of this process, I would like to invite you or your staff to attend an agency scoping meeting on Tuesday, June 21, 2011. The meeting will be held from 1:00 – 4:30 p.m. at the Miami-Dade County Department of Environmental Resources Management main building located at:

Overtown Transit Village North  
701 NW 1st Court  
2nd floor conference room  
Miami, FL 33136

The National Park Service is hosting this meeting as part of its responsibilities for preparing the EIS. The Department of Environmental Resources Management is providing a meeting location that will be convenient for participants coming from out of town. Directions and a map are provided at this link: [http://www.miamidade.gov/derm/directions\\_downtown.asp](http://www.miamidade.gov/derm/directions_downtown.asp). The building is located adjacent to the Historic Overtown/Lyric Theatre Metrorail station, which is one station north of the Government Center stop. For those driving, there is a City of Miami parking lot immediately west of the building.

During this meeting, you are invited to identify any issues or concerns your agency might have with the proposed project so that the NPS can appropriately consider them in the EIS. The following telephone call-in number is available for those who are unable to attend in person:

Dial-in phone #: 1-877-873-8018  
Pass code: 8910744#

Please respond by June 15<sup>th</sup> with your availability to participate in-person or by teleconference to Mr. Fred Herling at 305-242-7704 or by e-mail at [fred\\_herling@nps.gov](mailto:fred_herling@nps.gov).

The NPS will also hold a public scoping meeting on June 22, 2011 at the Florida International University Stadium Club from 5:30 to 8:30 p.m. This meeting will provide an opportunity for members of the public to meet and talk with Park staff, learn more about the project and provide comments. You and your staff are invited to attend the public meeting.

Please provide any information, comments, or concerns you feel are appropriate on the scope of the Environmental Impact Statement during the scoping comment period which ends on July 10, 2011. Comments may be submitted electronically at the National Park Service's Planning, Environment, and Public Comment website at:

<http://parkplanning.nps.gov/projectHome.cfm?projectID=37220>

Comments may also be submitted by mail to:

National Park Service  
Denver Service Center – Planning Division  
Attn: FPL Project Planning Team  
P.O. Box 25287  
12795 West Alameda Parkway  
Denver, CO 80225-0287

Agency and public comments submitted during scoping for the EA in 2009 will be carried forward to this project and considered as part of scoping for this EIS. Anyone who commented on the EA is welcome to provide new, additional comments during the scoping comment period for this EIS.

If you have any questions concerning the EIS and the scoping process, please contact Mr. Brien Culhane, Chief, Planning and Compliance at 305-242-7717 or by e-mail at [brien\\_culhane@nps.gov](mailto:brien_culhane@nps.gov). In his absence, please contact Mr. Fred Herling at 305-242-7704 or by email at [fred\\_herling@nps.gov](mailto:fred_herling@nps.gov).

Thank you for your continued interest in Everglades National Park. We look forward to hearing from you.

Sincerely,

A handwritten signature in blue ink that reads "Dan B. Kimball". The signature is written in a cursive, flowing style.

Dan B. Kimball  
Superintendent



United States Department of the Interior  
NATIONAL PARK SERVICE  
Everglades and Dry Tortugas National Parks  
40001 State Road 9336  
Homestead, Florida 33034



In Reply Refer to:

L7621

JUN 13 2011

The Honorable Bill Nelson  
United States Senate  
2925 Salzedo Street  
Coral Gables, Florida 33134

Dear Senator Nelson: ~~SENATOR~~

The National Park Service (NPS), in compliance with the National Environmental Policy Act of 1969 (NEPA), is initiating an Environmental Impact Statement (EIS) to evaluate options and potential impacts of acquiring lands owned by the Florida Power and Light Company (FPL) within the East Everglades Expansion Area (Expansion Area) of Everglades National Park. This will include the potential exchange of lands authorized in the Omnibus Public Land Management Act of 2009 and other reasonable alternatives. The NPS decision at the conclusion of this process is whether to exchange NPS lands for FPL's lands within the Park boundary or to acquire FPL's lands by purchase, eminent domain, or by other means identified in the EIS.

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I would like to invite you to participate during the scoping process, or designate a member from your staff to participate. Additionally, if you would like to discuss this project in more detail, please contact my office at Everglades National Park at 305-242-7710.

Should you or your staff have other questions or need additional information, please contact Brien Culhane, Chief, Planning and Compliance at 305-242-7717 or [brien\\_culhane@nps.gov](mailto:brien_culhane@nps.gov).

Sincerely,

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Dan B. Kimball  
Superintendent

Enclosure





**United States Department of the Interior**  
**NATIONAL PARK SERVICE**  
Everglades and Dry Tortugas National Parks  
40001 State Road 9336  
Homestead, Florida 33034



In Reply Refer to:

L7621

JUN 13 2011

The Honorable Marco Rubio  
United States Senate  
8669 NW 36<sup>th</sup> Street, Suite 110  
Doral, Florida 33166

Dear Senator Rubio:

The National Park Service (NPS), in compliance with the National Environmental Policy Act of 1969 (NEPA), is initiating an Environmental Impact Statement (EIS) to evaluate options and potential impacts of acquiring lands owned by the Florida Power and Light Company (FPL) within the East Everglades Expansion Area (Expansion Area) of Everglades National Park. This will include the potential exchange of lands authorized in the Omnibus Public Land Management Act of 2009 and other reasonable alternatives. The NPS decision at the conclusion of this process is whether to exchange NPS lands for FPL's lands within the Park boundary or to acquire FPL's lands by purchase, eminent domain, or by other means identified in the EIS.

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Sincerely,

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Dan B. Kimball  
Superintendent

Enclosure



United States Department of the Interior  
NATIONAL PARK SERVICE  
Everglades and Dry Tortugas National Parks  
40001 State Road 9336  
Homestead, Florida 33034



In Reply Refer to:

JUN 13 2011

L7621

The Honorable David Rivera  
House of Representatives  
12851 SW 42<sup>nd</sup> Street, Suite 131  
Miami, Florida 33175

Dear Mr. Rivera: *Congressman*

The National Park Service (NPS), in compliance with the National Environmental Policy Act of 1969 (NEPA), is initiating an Environmental Impact Statement (EIS) to evaluate options and potential impacts of acquiring lands owned by the Florida Power and Light Company (FPL) within the East Everglades Expansion Area (Expansion Area) of Everglades National Park. This will include the potential exchange of lands authorized in the Omnibus Public Land Management Act of 2009 and other reasonable alternatives. The NPS decision at the conclusion of this process is whether to exchange NPS lands for FPL's lands within the Park boundary or to acquire FPL's lands by purchase, eminent domain, or by other means identified in the EIS.

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Sincerely,

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Dan B. Kimball  
Superintendent

Enclosure



**United States Department of the Interior**  
**NATIONAL PARK SERVICE**  
Everglades and Dry Tortugas National Parks  
40001 State Road 9336  
Homestead, Florida 33034



In Reply Refer to:

L7621

JUN 13 2011

The Honorable Ileana Ros-Lehtinen  
House of Representatives  
4960 SW 72<sup>nd</sup> Ave., Suite 208  
Miami, Florida 33155

Dear Ms. Ros-Lehtinen:

The National Park Service (NPS), in compliance with the National Environmental Policy Act of 1969 (NEPA), is initiating an Environmental Impact Statement (EIS) to evaluate options and potential impacts of acquiring lands owned by the Florida Power and Light Company (FPL) within the East Everglades Expansion Area (Expansion Area) of Everglades National Park. This will include the potential exchange of lands authorized in the Omnibus Public Land Management Act of 2009 and other reasonable alternatives. The NPS decision at the conclusion of this process is whether to exchange NPS lands for FPL's lands within the Park boundary or to acquire FPL's lands by purchase, eminent domain, or by other means identified in the EIS.

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Sincerely,

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Dan B. Kimball  
Superintendent

Enclosure





**United States Department of the Interior**  
**NATIONAL PARK SERVICE**  
Everglades and Dry Tortugas National Parks  
40001 State Road 9336  
Homestead, Florida 33034



In Reply Refer to:

L7621

**JUN 13 2011**

The Honorable Larcenia Bullard  
United States Senate  
Senate District 39  
8603 S Dixie Hwy, Suite 304  
Miami, Florida 33143

Dear Senator Bullard:

The National Park Service (NPS), in compliance with the National Environmental Policy Act of 1969 (NEPA), is initiating an Environmental Impact Statement (EIS) to evaluate options and potential impacts of acquiring lands owned by the Florida Power and Light Company (FPL) within the East Everglades Expansion Area (Expansion Area) of Everglades National Park. This will include the potential exchange of lands authorized in the Omnibus Public Land Management Act of 2009 and other reasonable alternatives. The NPS decision at the conclusion of this process is whether to exchange NPS lands for FPL's lands within the Park boundary or to acquire FPL's lands by purchase, eminent domain, or by other means identified in the EIS.

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Sincerely,

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Dan B. Kimball  
Superintendent

Enclosure



**United States Department of the Interior**  
**NATIONAL PARK SERVICE**  
Everglades and Dry Tortugas National Parks  
40001 State Road 9336  
Homestead, Florida 33034



In Reply Refer to:

L7621

JUN 13 2011

The Honorable Nan Rich  
United States Senate  
Senate District 34  
777 Sunrise Corporate Parkway  
Sunrise, Florida 33325

Dear Senator Rich :

The National Park Service (NPS), in compliance with the National Environmental Policy Act of 1969 (NEPA), is initiating an Environmental Impact Statement (EIS) to evaluate options and potential impacts of acquiring lands owned by the Florida Power and Light Company (FPL) within the East Everglades Expansion Area (Expansion Area) of Everglades National Park. This will include the potential exchange of lands authorized in the Omnibus Public Land Management Act of 2009 and other reasonable alternatives. The NPS decision at the conclusion of this process is whether to exchange NPS lands for FPL's lands within the Park boundary or to acquire FPL's lands by purchase, eminent domain, or by other means identified in the EIS.

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Sincerely,



Dan B. Kimball  
Superintendent

Enclosure



**United States Department of the Interior**  
**NATIONAL PARK SERVICE**  
Everglades and Dry Tortugas National Parks  
40001 State Road 9336  
Homestead, Florida 33034



In Reply Refer to:

L7621

JUN 13 2011

The Honorable Ron Saunders  
House of Representatives  
House District 120  
90311 Overseas Hwy., Suite A  
Tavernier, Florida 33070

Dear Mr. Saunders:

The National Park Service (NPS), in compliance with the National Environmental Policy Act of 1969 (NEPA), is initiating an Environmental Impact Statement (EIS) to evaluate options and potential impacts of acquiring lands owned by the Florida Power and Light Company (FPL) within the East Everglades Expansion Area (Expansion Area) of Everglades National Park. This will include the potential exchange of lands authorized in the Omnibus Public Land Management Act of 2009 and other reasonable alternatives. The NPS decision at the conclusion of this process is whether to exchange NPS lands for FPL's lands within the Park boundary or to acquire FPL's lands by purchase, eminent domain, or by other means identified in the EIS.

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Sincerely,



Dan B. Kimball  
Superintendent

Enclosure





**United States Department of the Interior**  
**NATIONAL PARK SERVICE**  
Everglades and Dry Tortugas National Parks  
40001 State Road 9336  
Homestead, Florida 33034



In Reply Refer to:

L7621

JUN 13 2011

The Honorable Jeanette Nunez  
House of Representatives  
House District 112  
2450 SW 137<sup>th</sup> Ave., Suite 205  
Miami, Florida 33175

Dear Ms. Nunez:

The National Park Service (NPS), in compliance with the National Environmental Policy Act of 1969 (NEPA), is initiating an Environmental Impact Statement (EIS) to evaluate options and potential impacts of acquiring lands owned by the Florida Power and Light Company (FPL) within the East Everglades Expansion Area (Expansion Area) of Everglades National Park. This will include the potential exchange of lands authorized in the Omnibus Public Land Management Act of 2009 and other reasonable alternatives. The NPS decision at the conclusion of this process is whether to exchange NPS lands for FPL's lands within the Park boundary or to acquire FPL's lands by purchase, eminent domain, or by other means identified in the EIS.

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Enclosure



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NATIONAL PARK SERVICE  
Everglades and Dry Tortugas National Parks  
40001 State Road 9336  
Homestead, Florida 33034



In Reply Refer to:

L7621

JUN 13 2011

Honorable Steve C. Bateman  
Mayor of Homestead  
790 N Homestead Boulevard  
Homestead, Florida 33030

Dear Mayor Bateman:

*MAYOR -*

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Dan B. Kimball  
Superintendent

Enclosure



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**NATIONAL PARK SERVICE**  
Everglades and Dry Tortugas National Parks  
40001 State Road 9336  
Homestead, Florida 33034



In Reply Refer to:

L7621

JUN 13 2011

Honorable Otis T. Wallace  
Mayor of Florida City  
404 West Palm Drive  
Florida City, Florida 33034

Dear Mayor Wallace: *MAYOR*

The National Park Service (NPS), in compliance with the National Environmental Policy Act of 1969 (NEPA), is initiating an Environmental Impact Statement (EIS) to evaluate options and potential impacts of acquiring lands owned by the Florida Power and Light Company (FPL) within the East Everglades Expansion Area (Expansion Area) of Everglades National Park. This will include the potential exchange of lands authorized in the Omnibus Public Land Management Act of 2009 and other reasonable alternatives. The NPS decision at the conclusion of this process is whether to exchange NPS lands for FPL's lands within the Park boundary or to acquire FPL's lands by purchase, eminent domain, or by other means identified in the EIS.

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A Scoping Newsletter with detailed project information is enclosed to provide additional background and information about the project. In addition, a public meeting will be held on Wednesday June 22, 2011 at the Florida International University Stadium Club from 5:30 to 8:30 p.m. The address is: 11200 SW 8th Street, Miami, Florida 33199. This meeting will provide an opportunity for members of the public to meet and talk with Park staff, learn more about the project, and provide comments. Additional project information can be viewed or downloaded from the NPS Planning, Environment and Public Comment (PEPC) site at: <http://parkplanning.nps.gov/projectHome.cfm?projectID=37220>

I would like to invite you to participate during the scoping process, or designate a member from your staff to participate. Additionally, if you would like to discuss this project in more detail, please contact my office at Everglades National Park at 305-242-7710.

Should you or your staff have other questions or need additional information, please contact Brien Culhane, Chief, Planning and Compliance at 305-242-7717 or [brien\\_culhane@nps.gov](mailto:brien_culhane@nps.gov).

Sincerely,

A handwritten signature in blue ink, appearing to read "Dan B. Kimball". The signature is fluid and cursive, with the first name "Dan" being the most prominent.

Dan B. Kimball  
Superintendent

Enclosure





**United States Department of the Interior  
NATIONAL PARK SERVICE**

**Everglades and Dry Tortugas National Parks  
40001 State Road 9336  
Homestead, Florida 33034**



In Reply Refer to:

L7621

June 8, 2011

Ms. Lauren Milligan  
Florida State Clearinghouse Coordinator  
Florida Department of Environmental Protection  
3900 Commonwealth Blvd., Mail Station 47  
Tallahassee, FL 32399-3000

Dear Ms. Milligan:

**Subject: Proposed Acquisition of Florida Power and Light Lands/Environmental Impact Statement, Everglades National Park, Miami-Dade County**

The National Park Service (NPS), in compliance with the National Environmental Policy Act of 1969 (NEPA), is initiating an Environmental Impact Statement (EIS) to evaluate options and potential impacts of acquiring lands owned by the Florida Power and Light Company (FPL) within the East Everglades Expansion Area (Expansion Area) of Everglades National Park. This will include the potential exchange of lands authorized in the Omnibus Public Land Management Act of 2009 and other reasonable alternatives. The NPS decision at the conclusion of this process is whether to exchange NPS lands for FPL's lands within the Park boundary or to acquire FPL's lands by purchase, eminent domain, or by other means identified in the EIS.

You may recall that in June 2009 the NPS began an Environmental Assessment (EA) for the proposed FPL land acquisition. During evaluation of impacts likely to result from transmission line construction and long-term operation following a land exchange and issuance of required permits and approvals, the potential for significant impacts on Park resources was identified. Thus, a decision was made to initiate the EIS process. A Federal Register Notice of Intent to prepare an EIS was published on May 26, 2011.

A Scoping Newsletter with detailed project information is enclosed to assist with the State's review. The newsletter is provided to your office for processing through appropriate State agencies. Although more specific comments will be solicited during the public review period for the draft EIS, we request that permitting and permit reviewing agencies review the enclosed information and provide any general comments they consider pertinent at this time. In addition, please provide a consistency review for this project in accordance with the State's Coastal Zone Management Program and the approved Comprehensive Plan of the local government jurisdictions.

We look forward to receiving your comments. Should you need additional information, please contact Brien Culhane, Chief, Planning and Compliance at 305-242-7717, or by email at [brien\\_culhane@nps.gov](mailto:brien_culhane@nps.gov).

Everglades National Park  
Attn: Brien Culhane, Acquisition of FPL Lands/EIS  
40001 State Road 9336  
Homestead, Florida 33034

Sincerely,

A handwritten signature in blue ink that reads "Dan B. Kimball". The signature is written in a cursive, flowing style.

Dan B. Kimball, Superintendent

Enclosure



# Florida Department of Environmental Protection

Marjory Stoneman Douglas Building  
3900 Commonwealth Boulevard  
Tallahassee, Florida 32399-3000

Rick Scott  
Governor

Jennifer Carroll  
Lt. Governor

Herschel T. Vinyard Jr.  
Secretary

July 25, 2011

Mr. Brien F. Culhane, AICP  
Chief of Planning and Compliance  
Everglades and Dry Tortugas National Parks  
40001 State Road 9336  
Homestead, FL 33034

RE: National Park Service – Scoping Notice – Proposed Acquisition of  
Florida Power & Light Company Lands in the East Everglades  
Addition of Everglades National Park – Miami-Dade County, Florida.  
SAI # FL201106215826C (Reference SAI # FL200906304829C)

Dear Mr. Culhane:

The Florida State Clearinghouse has coordinated a review of the scoping notice under the following authorities: Presidential Executive Order 12372; Section 403.061(42), *Florida Statutes*; the Coastal Zone Management Act, 16 U.S.C. §§ 1451-1464, as amended; and the National Environmental Policy Act, 42 U.S.C. §§ 4321-4347, as amended.

The Florida Department of State's (DOS) review of their records indicated that in 2009, Florida Power & Light completed an archaeological survey of the six-mile long potential exchange corridor, and no archaeological resources were identified. If this is the same corridor to be addressed in the Draft EIS, there should be no cultural resources of concern. If, however, the proposed corridor is different than that previously surveyed, additional archaeological/cultural resource surveys may be warranted. Please refer to the enclosed DOS letter for additional information.

The South Florida Water Management District (SFWMD) reports that the SFWMD Governing Board approved the proposed land exchange in August 2008, under Resolution # 2008-640.

Based on the information contained in the public notice and enclosed state agency comments, at this stage, the state has no objections to the proposed federal action. To ensure the project's consistency with the Florida Coastal Management Program (FCMP), the concerns identified by our reviewing agencies must be addressed prior to project implementation. The state's continued concurrence will be based on the activity's compliance with FCMP authorities, including federal and state monitoring of the activity

Mr. Brien F. Culhane

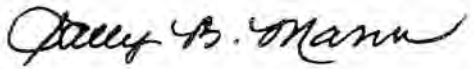
July 25, 2011

Page 2 of 2

to ensure its continued conformance, and the adequate resolution of any issues identified during this and subsequent reviews.

Thank you for the opportunity to review the proposal. Should you have any questions regarding this letter, please contact Ms. Lauren P. Milligan at (850) 245-2170.

Yours sincerely,

A handwritten signature in black ink that reads "Sally B. Mann". The signature is written in a cursive, flowing style.

Sally B. Mann, Director  
Office of Intergovernmental Programs

SBM/lm  
Enclosures

cc: Laura Kammerer, DOS  
Jim Golden, SFWMD



# Florida

Department of Environmental Protection

"More Protection, Less Process"



## Categories

[DEP Home](#) | [OIP Home](#) | [Contact DEP](#) | [Search](#) | [DEP Site Map](#)

Project Information	
Project:	FL201106215826C
Comments Due:	07/15/2011
Letter Due:	07/25/2011
Description:	NATIONAL PARK SERVICE - SCOPING NOTICE - PROPOSED ACQUISITION OF FLORIDA POWER & LIGHT COMPANY LANDS IN THE EAST EVERGLADES ADDITION OF EVERGLADES NATIONAL PARK - MIAMI-DADE COUNTY, FLORIDA.
Keywords:	NPS - ACQUIRE FP&L LANDS IN EAST EVERGLADES NATIONAL PARK - MIAMI-DADE CO.
CFDA #:	15.916
Agency Comments:	
<b>FISH and WILDLIFE COMMISSION - FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION</b>	
No comments at this time. Will review again when the draft EIS is made available.	
<b>STATE - FLORIDA DEPARTMENT OF STATE</b>	
The DOS's review of their records indicated that in 2009, Florida Power & Light completed an archaeological survey of the six-mile long potential exchange corridor, and no archaeological resources were identified. If this is the same corridor to be addressed in the Draft EIS, there should be no cultural resources of concern. If, however, the proposed corridor is different than that previously surveyed, additional archaeological/cultural resource surveys may be warranted.	
<b>TRANSPORTATION - FLORIDA DEPARTMENT OF TRANSPORTATION</b>	
No Comments from FDOT District Six	
<b>ENVIRONMENTAL PROTECTION - FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION</b>	
No comments at this time.	
<b>SOUTH FLORIDA WMD - SOUTH FLORIDA WATER MANAGEMENT DISTRICT</b>	
The South Florida Water Management District Governing Board approved the proposed land exchange in August 2008, under Resolution # 2008-640.	

For more information or to submit comments, please contact the Clearinghouse Office at:

3900 COMMONWEALTH BOULEVARD, M.S. 47  
TALLAHASSEE, FLORIDA 32399-3000  
TELEPHONE: (850) 245-2161  
FAX: (850) 245-2190

Visit the [Clearinghouse Home Page](#) to query other projects.

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FLORIDA DEPARTMENT OF STATE

Kurt S. Browning

Secretary of State

DIVISION OF HISTORICAL RESOURCES

July 11, 2011

Ms. Lauren Milligan  
Florida State Clearinghouse  
Agency Contact & Coordinator (SCH)  
3900 Commonwealth Blvd. MS-47  
Tallahassee, FL 32399-3000

RECEIVED

JUL 14 2011

DEP Office of  
Intergov't Programs

Re: SHPO/DHR Project File No.: 2011-2447 / NPS L7621  
SAI No.: FL201106215826C  
**Initiation of Environmental Impact Statement – Florida Power & Light Company Land  
Acquisition Options within the East Everglades Expansion Area  
Scoping Newsletter**  
Everglades National Park - Miami-Dade County

Dear Ms. Milligan:

This office reviewed the referenced scoping notice and our files to identify issues for possible impact to historic properties listed, or eligible for listing, in the *National Register of Historic Places*, that should be addressed in the forthcoming Environmental Impact Statement (EIS) directly with the National Park Service. Our review was conducted in accordance with Section 106 of the *National Historic Preservation Act of 1966* as amended and with the National Environmental Policy Act (NEPA) and their implementing regulations.

A review of our records and data files indicates that in 2009 the Florida Power & Light completed an archaeological survey (conducted by New South Associates) of the six-mile long potential exchange corridor. No archaeological resources were identified. If this is the entire corridor within the expansion area to be addressed in the referenced EIS, there should be no cultural resources of concern to be addressed. However, if the corridor is different in location or extent, or the proposed EIS includes an alignment(s) outside the Everglades additional archaeological/cultural resource surveys may be warranted. The actions taken by the National Park Service will be consistent with NEPA and federal consistency requirements.

If you have any questions concerning our comments, please contact Laura Kammerer at 850-245-6333 or [Laura.Kammerer@DOS.MyFlorida.com](mailto:Laura.Kammerer@DOS.MyFlorida.com). Thank you for your continued interest in protecting Florida's historic properties.

Sincerely,

Laura A. Kammerer  
Deputy State Historic Preservation Officer

500 S. Bronough Street • Tallahassee, FL 32399-0250 • <http://www.flheritage.com>

☐ Director's Office  
(850) 245-6300 • FAX: 245-6436

☐ Archaeological Research  
(850) 245-6444 • FAX: 245-6452

☒ Historic Preservation  
(850) 245-6333 • FAX: 245-6437





**United States Department of the Interior  
NATIONAL PARK SERVICE**

**Everglades and Dry Tortugas National Parks  
40001 State Road 9336  
Homestead, Florida 33034**



In Reply Refer to:

L7621

JUN 08 2011

Mr. Scott Stroh  
State Historic Preservation Officer  
Division of Historical Resources  
R.A. Gray Building  
500 S. Bronough Street  
Tallahassee, Florida 32399-0250

Dear Mr. Stroh:

The National Park Service (NPS), in compliance with the National Environmental Policy Act of 1969 (NEPA), is initiating an Environmental Impact Statement (EIS) to evaluate options and potential impacts of acquiring lands owned by the Florida Power and Light Company (FPL) within the East Everglades Expansion Area (Expansion Area) of Everglades National Park. This will include the potential exchange of lands authorized in the Omnibus Public Land Management Act of 2009 and other reasonable alternatives. The NPS decision at the conclusion of this process is whether to exchange NPS lands for FPL's lands within the Park boundary or to acquire FPL's lands by purchase, eminent domain, or by other means identified in the EIS.

The process and documentation for preparing the EIS will be used to comply with §106 of the National Historic Preservation Act of 1966. In accordance with section 800.8(c) of the Advisory Council on Historic Preservation's regulations (36 CFR Part 800), I am notifying your office in advance of the Park's intention to use the EIS to meet its obligations under §106.

I have enclosed a scoping newsletter with additional information about the project. Please provide any information, comments, or concerns you feel should be considered in the EIS during the scoping comment period which ends on July 10, 2011. Comments may be submitted electronically at the NPS Planning, Environment, and Public Comment website or by mail at the address below: <http://parkplanning.nps.gov/projectHome.cfm?projectID=37220>

NPS, Denver Service Center – Planning Division  
Attn: FPL Project Planning Team  
P.O. Box 25287  
12795 West Alameda Parkway  
Denver, CO 80225-0287

If you have questions or need any additional information, please do not hesitate to contact Brien Culhane, Chief of Planning and Compliance, at 305-242-7717 or [brien\\_culhane@nps.gov](mailto:brien_culhane@nps.gov).

Sincerely,

A handwritten signature in dark ink, appearing to read "Dan B. Kimball". The signature is fluid and cursive, with the first name "Dan" being the most prominent.

Dan B. Kimball  
Superintendent

Enclosure



**United States Department of the Interior  
NATIONAL PARK SERVICE**

**Everglades and Dry Tortugas National Parks  
40001 State Road 9336  
Homestead, Florida 33034**



In Reply Refer to:

L7621

JUN 08 2011

Mr. Reid Nelson, Director  
Office of Federal Agency Programs  
Old Post Office Building  
1100 Pennsylvania Avenue, NW, Suite 803  
Washington, DC 20004

Subject: Section 106 Compliance, Acquisition of Florida Power and Light  
Lands/Environmental Impact Statement, Everglades National Park, Miami-Dade  
County, Florida

Dear Mr. Nelson:

The National Park Service (NPS), in compliance with the National Environmental Policy Act of 1969 (NEPA), is initiating an Environmental Impact Statement (EIS) to evaluate options and potential impacts of acquiring lands owned by the Florida Power and Light Company (FPL) within the East Everglades Expansion Area (Expansion Area) of Everglades National Park. This will include the potential exchange of lands authorized in the Omnibus Public Land Management Act of 2009 and other reasonable alternatives. The NPS decision at the conclusion of this process is whether to exchange NPS lands for FPL's lands within the Park boundary or to acquire FPL's lands by purchase, eminent domain, or by other means identified in the EIS.

The process and documentation for preparing the EIS will be used to comply with §106 of the National Historic Preservation Act of 1966. In accordance with section 800.8(c) of the Advisory Council on Historic Preservation's regulations (36 CFR Part 800), I am notifying your office in advance of the Park's intention to use the EIS to meet its obligations under §106.

I have enclosed a scoping newsletter with additional information about the project. As required by 36 CFR 800, the Florida State Historic Preservation Office has been notified regarding inclusion of Section 106 compliance within the environmental assessment process.

Please provide any information, comments, or concerns you feel should be considered in the EIS during the scoping comment period which ends on July 10, 2011. Comments may be submitted electronically at the NPS Planning, Environment, and Public Comment website or at the mailing address below: <http://parkplanning.nps.gov/projectHome.cfm?projectID=37220>

NPS, Denver Service Center – Planning Division

Attn: FPL Project Planning Team  
P.O. Box 25287  
12795 West Alameda Parkway  
Denver, CO 80225-0287

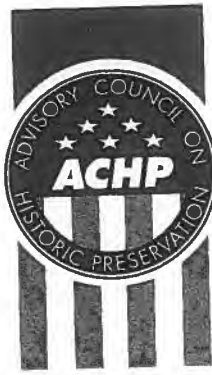
If you have questions or need any additional information, please do not hesitate to contact Brien Culhane, Chief of Planning and Compliance, at 305-242-7717 or [brien\\_culhane@nps.gov](mailto:brien_culhane@nps.gov).

Sincerely,

A handwritten signature in dark ink, appearing to read "Dan B. Kimball". The signature is written in a cursive, slightly slanted style.

Dan B. Kimball  
Superintendent

Enclosure



Preserving America's Heritage

*Copy*  
REC JUL 12 2011 D

July 7, 2011

Mr. Dan B. Kimball  
Superintendent  
Everglades and Dry Tortugas National Parks  
National Park Service  
40001 State Road 9336  
Homestead, Florida 33034

**Ref: *Proposed Acquisition of Florida Power and Light Lands  
Everglades National Park  
Miami-Dade County, Florida***

Dear Mr. Kimball:

On June 17, 2011, the Advisory Council on Historic Preservation (ACHP) received the National Park Service's (NPS) notification pursuant to Section 800.8(c) of the ACHP's regulations, "Protection of Historic Properties" (36 CFR 800). We appreciate receiving your notification, which establishes that NPS will use the process and documentation required for the preparation of an EIS/ROD to comply with Section 106 of the National Historic Preservation Act in lieu of the procedures set forth in 36 CFR 800.3 through 800.6.

In addition to notification to the ACHP, NPS must also notify the Florida State Historic Preservation Officer and meet the standards in Section 800.8(c)(1)(i) through (v) for the following:

- identify consulting parties either pursuant to 800.3(f) or through the NEPA scoping process with results consistent with § 800.3(f);
- identify historic properties and assess the effects of the undertaking on such properties in a manner consistent with the standards and criteria of § 800.4 through 800.5;
- consult regarding the effects of the undertaking on the qualifying characteristics of historic properties with the SHPO/THPO, Indian tribes, other consulting parties and the Council;
- involve the public; and
- develop in consultation with identified consulting parties alternatives and proposed measures that might avoid, minimize or mitigate any adverse effects of the undertaking on historic properties and describe them in the DEIS..

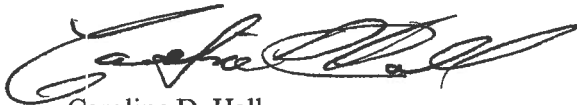
ADVISORY COUNCIL ON HISTORIC PRESERVATION

1100 Pennsylvania Avenue NW, Suite 803 • Washington, DC 20004  
Phone: 202-606-8503 • Fax: 202-606-8647 • [achp@achp.gov](mailto:achp@achp.gov) • [www.achp.gov](http://www.achp.gov)

To meet the requirement to consult with the ACHP as appropriate, the NPS should notify the ACHP in the event NPS determines, in consultation with the SHPO/THPO and other consulting parties, that the proposed undertaking(s) may adversely affect properties listed, or eligible for listing, on the National Register of Historic Places (historic properties). In addition, Section 800.8(c)(2)(i) requires that you submit to the ACHP any DEIS or EIS you prepare. Inclusion of your adverse effect determination in both the DEIS/EIS and in your cover letter transmitting the DEIS/EIS to the ACHP will help ensure a timely response from the ACHP regarding its decision to participate in consultation. Please indicate in your cover letter the schedule for Section 106 consultation and a date by which you require a response by the ACHP. The ACHP's decision to review a DEIS or EIS will be based on the applicability of the criteria in Appendix A of the ACHP's regulations.

Thank you for your notification pursuant to Section 800.8(c). If you have any questions or if we may be of assistance, please contact Katry Harris at 202-606-8520 or via e-mail at [kharris@achp.gov](mailto:kharris@achp.gov).

Sincerely,

A handwritten signature in black ink, appearing to read 'Caroline D. Hall', with a stylized flourish at the end.

Caroline D. Hall  
Assistant Director  
Office of Federal Agency Programs  
Federal Property Management Section





FLORIDA DEPARTMENT OF STATE

**Kurt S. Browning**

Secretary of State

DIVISION OF HISTORICAL RESOURCES

Bulens CY  
orig to Abby  
**RECEIVED**  
JUL 14 2011

July 11, 2011

Mr. Dan B. Kimball  
National Park Service  
Everglades and Dry Tortugas National Parks  
40001 State Road 9336  
Homestead, FL 33034

Re: SHPO/DHR Project File No.: 2011-2446 / NPS L7621  
**Initiation of Environmental Impact Statement – Florida Power & Light Company Land  
Acquisition Options within the East Everglades Expansion Area  
Scoping Newsletter**  
Everglades National Park  
Miami-Dade County

Dear Mr. Kimball:

This office reviewed the referenced scoping notice and our files to identify issues for possible impact to historic properties listed, or eligible for listing, in the *National Register of Historic Places*, that should be addressed in the forthcoming Environmental Impact Statement (EIS). Our review was conducted in accordance with Section 106 of the *National Historic Preservation Act of 1966* as amended and with the National Environmental Policy Act and their implementing regulations.

A review of our records and data files indicates that in 2009 the Florida Power & Light completed an archaeological survey (conducted by New South Associates) of the six-mile long potential exchange corridor. No archaeological resources were identified. If this is the entire corridor within the expansion area to be addressed in the referenced EIS, there should be no cultural resources of concern to be addressed. However, if the corridor is different in location or extent, or the proposed EIS includes an alignment(s) outside the Everglades additional archaeological/cultural resource surveys may be warranted.

If you have any questions concerning our comments, please contact Laura Kammerer at 850-245-6333 or [Laura.Kammerer@DOS.MyFlorida.com](mailto:Laura.Kammerer@DOS.MyFlorida.com). Thank you for your continued interest in protecting Florida's historic properties.

Sincerely,

Laura A. Kammerer  
Deputy State Historic Preservation Officer  
For Review and Compliance

500 S. Bronough Street • Tallahassee, FL 32399-0250 • <http://www.flheritage.com>

☐ Director's Office  
(850) 245-6300 • FAX: 245-6436

☐ Archaeological Research  
(850) 245-6444 • FAX: 245-6452

☒ Historic Preservation  
(850) 245-6333 • FAX: 245-6437



**United States Department of the Interior  
NATIONAL PARK SERVICE  
Everglades and Dry Tortugas National Parks**

40001 State Road 9336  
Homestead, Florida 33034



In Reply Refer to:

L7621

JUN 08 2011

Chairman Colley Billie  
Miccosukee Tribe of Indians of Florida  
P.O. Box 440021, Tamiami Station  
Miami, Florida 33144

Dear Chairman Billie:

The National Park Service (NPS), in compliance with the National Environmental Policy Act of 1969 (NEPA), is initiating an Environmental Impact Statement (EIS) to evaluate options and potential impacts of acquiring lands owned by the Florida Power and Light Company (FPL) within the East Everglades Expansion Area (Expansion Area) of Everglades National Park. This includes the potential exchange of lands authorized in the Omnibus Public Land Management Act of 2009 and other reasonable alternatives. The NPS decision at the conclusion of the EIS is whether to exchange NPS lands for FPL's lands within the Park boundary or to acquire FPL's lands by purchase, eminent domain, or by other means identified in the EIS. The process for preparing the EIS will be used to comply with §106 of the National Historic Preservation Act of 1966. With this letter Everglades National Park would like to initiate government-to-government consultation with the Miccosukee Tribe of Indians of Florida for this project.

From previous consultations, I know that the Miccosukee Tribe has delegated Section 106 compliance to Tribal representative Mr. Fred Dayhoff. Mr. Dayhoff and other Tribal representatives, identified to me recently by Dr. Terry Rice, have also been sent copies of this letter.

The Everglades National Park Protection and Expansion Act of 1989 expanded the boundaries of the Park in order to "increase the level of protection and outstanding natural values of the Park" and "to enhance and restore the ecological values, natural values and public enjoyment of the area." To date, the park has expanded by 109,600 acres in the Expansion Area. The Expansion Act, and additional legislation, authorized the NPS and U.S. Army Corps of Engineers to acquire lands within the Expansion Area and to modify the Central and Southern Florida Project to restore natural hydrological conditions in the Park.

FPL owns about 320 acres within the Expansion Area. Because the FPL property is currently undeveloped and is needed for restoration of the Everglades ecosystem, the NPS is seeking to acquire the FPL property, manage it as part of the Park, and maintain it in its undeveloped

condition. FPL is currently seeking state and federal permits to construct three major transmission lines on its existing property in the Park or on the proposed exchange corridor within the Park, authorized by the Omnibus Public Land Management Act of 2009.

In June 2009, the NPS began an Environmental Assessment for the proposed FPL land acquisition. At that time, a cultural resource survey and assessment was conducted on the proposed exchange lands and no cultural resources were identified. However, during the evaluation of impacts likely to result from transmission line construction and long-term operation following a land exchange and issuance of required permits and approvals, the potential for significant impacts to other Park resources were identified. In light of these concerns, the NPS has initiated this EIS process to more fully examine the potential impacts of land acquisition alternatives. All comments submitted during scoping for the EA in 2009 will be carried forward to this project and considered as part of scoping for this EIS.

A Notice of Intent (NOI) to prepare an EIS was published in the Federal Register on May 26, 2011. A Scoping Newsletter with detailed project information is attached. The NOI and newsletter initiate the scoping process to identify issues or concerns regarding the potential land acquisition in the Park.

A government-to-government consultation meeting would provide an opportunity to update you and/or your delegated staff on this project and other related efforts that may be of interest to the Tribe. In addition, a meeting would provide an opportunity for us to learn of any resources of concern to the Tribe that should be considered in the EIS that the Park may not be aware of at this time.

Also, I wanted to provide you with information about two upcoming project meetings where the Tribe's participation is welcome. An agency scoping meeting for invited local, state, and federal agency representatives will be held on June 21, 2011 from 1:00 to 4:30 p.m. at the Miami-Dade County Department of Environmental Resources Management's (DERM) main building. For directions go to: [http://www.miamidade.gov/derm/directions\\_downtown.asp](http://www.miamidade.gov/derm/directions_downtown.asp). The building is located next to the Historic Overtown/Lyric Theatre Metrorail station, which is one station north of the Government Center stop and there is a City of Miami parking lot immediately west of the building. The meeting will be held at:

Overtown Transit Village North  
701 NW 1st Court, 2nd floor conference room  
Miami, FL 33136

Participants unable to attend in person may call: 1-877-873-8018 and enter pass code: 8910744#. Please respond by June 15<sup>th</sup> with your availability to participate in-person or by phone Mr. Fred Herling at 305-242-7704 or by e-mail at [fred\\_herling@nps.gov](mailto:fred_herling@nps.gov).

The NPS will also conduct a public scoping meeting on June 22, 2011 at the Florida International University Stadium Club from 5:30 to 8:30 p.m. During these meetings there will be opportunities to learn more about the project, talk with Park staff, hear issues and questions from participants, and for the Tribe to identify their issues or concerns.

Please provide any comments or concerns you think should be considered in the EIS during the scoping comment period which ends on July 10, 2011. Submit comments electronically to the NPS Planning, Environment, and Public Comment:

<http://parkplanning.nps.gov/projectHome.cfm?projectID=37220>

Comments may also be submitted by mail to:  
NPS, Denver Service Center – Planning Division  
Attn: FPL Project Planning Team  
P.O. Box 25287  
12795 West Alameda Parkway  
Denver, CO 80225-0287

If you would like further information or would like to set up a government-to-government consultation meeting, please contact me or have your staff contact Brien Culhane ([brien\\_culhane@nps.gov](mailto:brien_culhane@nps.gov) or 305-242-7717) or Fred Herling ([fred\\_herling@nps.gov](mailto:fred_herling@nps.gov) or 305-242-7704) of my staff.

Thank you for your assistance. We look forward to hearing from you.

Sincerely,

A handwritten signature in dark ink, appearing to read "Dan B. Kimball". The signature is fluid and cursive, with a large initial "D" and "K".

Dan B. Kimball  
Superintendent

Enclosure

bcc:

Betty Osceola, Miccosukee Tribe Administrator  
Curtis Osceola, Miccosukee Tribal Consultant  
Bernie Roman, Miccosukee Tribal Attorney  
Fred Dayhoff, Tribal Representative  
Terry L. Rice, Colonel (Retired) PhD, PE



**United States Department of the Interior  
NATIONAL PARK SERVICE  
Everglades and Dry Tortugas National Parks**



40001 State Road 9336  
Homestead, Florida 33034

In Reply Refer to:

L7621

JUN 08 2011

Chairman James E. Billie  
Seminole Tribe of Florida  
6300 Stirling Road  
Hollywood, FL 33024

Dear Chairman Billie:

The National Park Service (NPS), in compliance with the National Environmental Policy Act of 1969 (NEPA), is initiating an Environmental Impact Statement (EIS) to evaluate options and potential impacts of acquiring lands owned by the Florida Power and Light Company (FPL) within the East Everglades Expansion Area (Expansion Area) of Everglades National Park. This includes the potential exchange of lands authorized in the Omnibus Public Land Management Act of 2009 and other reasonable alternatives. The NPS decision at the conclusion of the EIS is whether to exchange NPS lands for FPL's lands within the Park boundary or to acquire FPL's lands by purchase, eminent domain, or by other means identified in the EIS. The process for preparing the EIS will be used to comply with §106 of the National Historic Preservation Act of 1966. With this letter Everglades National Park would like to initiate government-to-government consultation with the Seminole Tribe of Florida for this project. A copy of this letter has been sent to Tribal Historic Preservation Officer Willard S. Steele.

The Everglades National Park Protection and Expansion Act of 1989 expanded the boundaries of the Park in order to "increase the level of protection and outstanding natural values of the Park" and "to enhance and restore the ecological values, natural values and public enjoyment of the area." To date, the park has expanded by 109,600 acres in the Expansion Area. The Expansion Act, and additional legislation, authorized the NPS and U.S. Army Corps of Engineers to acquire lands within the Expansion Area and to modify the Central and Southern Florida Project to restore natural hydrological conditions in the Park.

FPL owns about 320 acres within the Expansion Area. Because the FPL property is currently undeveloped and is needed for restoration of the Everglades ecosystem, the NPS is seeking to acquire the FPL property, manage it as part of the Park, and maintain it in its undeveloped condition. FPL is currently seeking state and federal permits to construct three major transmission lines on its existing property in the Park or on the proposed exchange corridor within the Park, authorized by the Omnibus Public Land Management Act of 2009.



In June 2009, the NPS began an Environmental Assessment for the proposed FPL land acquisition. At that time, a cultural resource survey and assessment was conducted on the proposed exchange lands and no cultural resources were identified. However, during the evaluation of impacts likely to result from transmission line construction and long-term operation following a land exchange and issuance of required permits and approvals, the potential for significant impacts to other Park resources were identified. In light of these concerns, the NPS has initiated this EIS process to more fully examine the potential impacts of land acquisition alternatives. All comments submitted during scoping for the EA in 2009 will be carried forward to this project and considered as part of scoping for this EIS.

A Notice of Intent (NOI) to prepare an EIS was published in the Federal Register on May 26, 2011. A Scoping Newsletter with detailed project information is enclosed. The NOI and newsletter initiate the scoping process to identify issues or concerns regarding the potential land acquisition in the Park.

A government-to-government consultation meeting would provide an opportunity to update you and/or your delegated staff on this project and other related efforts that may be of interest to the Tribe. In addition, a meeting would provide an opportunity for us to learn of any resources of concern to the Tribe that should be considered in the EIS that the Park may not be aware of at this time.

Also, I wanted to provide you with information about two upcoming project meetings where the Tribe's participation is welcome. An agency scoping meeting for invited local, state, and federal agency representatives will be held on June 21, 2011 from 1:00 to 4:30 p.m. at the Miami-Dade County Department of Environmental Resources Management's (DERM) main building. For directions go to: [http://www.miamidade.gov/derm/directions\\_downtown.asp](http://www.miamidade.gov/derm/directions_downtown.asp). The building is located next to the Historic Overtown/Lyric Theatre Metrorail station, which is one station north of the Government Center stop and there is a City of Miami parking lot immediately west of the building. The meeting will be held at:

Overtown Transit Village North  
701 NW 1st Court, 2nd floor conference room  
Miami, FL 33136

Participants unable to attend in person may call: 1-877-873-8018 and enter pass code: 8910744#. Please respond by June 15<sup>th</sup> with your availability to participate in-person or by phone Mr. Fred Herling at 305-242-7704 or by e-mail at [fred\\_herling@nps.gov](mailto:fred_herling@nps.gov).

The NPS will also conduct a public scoping meeting on June 22, 2011 at the Florida International University Stadium Club from 5:30 to 8:30 p.m. During these meetings there will be opportunities to learn more about the project, talk with Park staff, hear issues and questions from participants, and for the Tribe to identify their issues or concerns.

Please provide any comments or concerns you think should be considered in the EIS during the scoping comment period which ends on July 10, 2011. Submit comments electronically to the NPS Planning, Environment, and Public Comment:

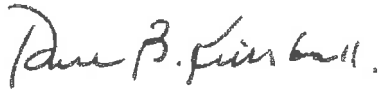
<http://parkplanning.nps.gov/projectHome.cfm?projectID=37220>

Comments may also be submitted by mail to:  
NPS, Denver Service Center – Planning Division  
Attn: FPL Project Planning Team  
P.O. Box 25287  
12795 West Alameda Parkway  
Denver, CO 80225-0287

If you would like further information or would like to set up a government-to-government consultation meeting, please contact me or have your staff contact Brien Culhane ([brien\\_culhane@nps.gov](mailto:brien_culhane@nps.gov) or 305-242-7717) or Fred Herling ([fred\\_herling@nps.gov](mailto:fred_herling@nps.gov) or 305-242-7704) of my staff.

Thank you for your assistance. We look forward to hearing from you.

Sincerely,

A handwritten signature in dark ink, appearing to read "Dan B. Kimball". The signature is fluid and cursive, with the first name "Dan" being the most prominent.

Dan B. Kimball  
Superintendent

Enclosure

bcc:

Willard S. Steele  
Seminole Tribe of Florida  
Tribal Historic Preservation Office  
30290 Josie Billie Highway, PMB 1004  
Clewiston, FL 33440



**United States Department of the Interior  
NATIONAL PARK SERVICE  
Everglades and Dry Tortugas National Parks**

40001 State Road 9336  
Homestead, Florida 33034



In Reply Refer to:

L7621

JUN 08 2011

Leonard Harjo, Principal Chief  
Seminole Nation of Oklahoma  
PO BOX 1498  
Wewoka, Oklahoma 74884

Dear Principal Chief Harjo:

The National Park Service (NPS), in compliance with the National Environmental Policy Act of 1969 (NEPA), is initiating an Environmental Impact Statement (EIS) to evaluate options and potential impacts of acquiring lands owned by the Florida Power and Light Company (FPL) within the East Everglades Expansion Area (Expansion Area) of Everglades National Park. This includes the potential exchange of lands authorized in the Omnibus Public Land Management Act of 2009 and other reasonable alternatives. The NPS decision at the conclusion of the EIS is whether to exchange NPS lands for FPL's lands within the Park boundary or to acquire FPL's lands by purchase, eminent domain, or by other means identified in the EIS. The process for preparing the EIS will be used to comply with §106 of the National Historic Preservation Act of 1966. With this letter Everglades National Park would like to initiate government-to-government consultation with the Seminole Tribe of Florida for this project.

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A government-to-government consultation meeting would provide an opportunity to update you and/or your delegated staff on this project and other related efforts that may be of interest to the Seminole Nation of Oklahoma. In addition, a meeting would provide an opportunity for us to learn of any resources of concern that should be considered in the EIS that the Park may not be aware of at this time.

Also, I wanted to provide you with information about two upcoming project meetings where the Seminole Nation of Oklahoma's participation is welcome. An agency meeting for invited local, state, and federal agency representatives will be held on June 21, 2011 from 1:00 to 4:30 p.m. at the Miami-Dade County Department of Environmental Resources Management's (DERM) main building. For directions go to: [http://www.miamidade.gov/derm/directions\\_downtown.asp](http://www.miamidade.gov/derm/directions_downtown.asp). The building is located next to the Historic Overtown/Lyric Theatre Metrorail station, which is one station north of the Government Center stop and there is a City of Miami parking lot immediately west of the building. The meeting will be held at:

Overtown Transit Village North  
701 NW 1st Court, 2nd floor conference room  
Miami, FL 33136

Participants unable to attend in person may call: 1-877-873-8018 and enter pass code: 8910744#. Please respond by June 15<sup>th</sup> with your availability to participate in-person or by phone Mr. Fred Herling at 305-242-7704 or by e-mail at [fred\\_herling@nps.gov](mailto:fred_herling@nps.gov).

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Please provide any comments or concerns you think should be considered in the EIS during the scoping comment period which ends on July 10, 2011. Submit comments electronically to the NPS Planning, Environment, and Public Comment:

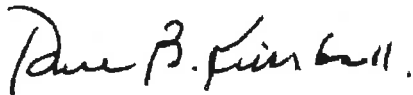
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NPS, Denver Service Center – Planning Division  
Attn: FPL Project Planning Team  
P.O. Box 25287  
12795 West Alameda Parkway  
Denver, CO 80225-0287

If you would like further information or would like to set up a government-to-government consultation meeting, please contact me or have your staff contact Brien Culhane ([brien\\_culhane@nps.gov](mailto:brien_culhane@nps.gov) or 305-242-7717) or Fred Herling ([fred\\_herling@nps.gov](mailto:fred_herling@nps.gov) or 305-242-7704) of my staff.

Thank you for your assistance. We look forward to hearing from you.

Sincerely,

A handwritten signature in black ink that reads "Dan B. Kimball". The signature is written in a cursive, slightly slanted style.

Dan B. Kimball  
Superintendent

Enclosure





FLORIDA DEPARTMENT OF STATE  
**Kurt S. Browning**  
Secretary of State  
DIVISION OF HISTORICAL RESOURCES

Mr. Matthew J. Raffenberg  
Florida Power & Light Company  
P.O. Box 14000  
Juno Beach, Florida 33408-0420

July 13, 2009

Re: DHR Project File No.: 2009-3839 / Received by DHR: June 25, 2009  
*Cultural Resource Assessment Survey Work Plan for the Turkey Point Units 6 & 7 Associated Linear Facilities*  
Miami-Dade County, Florida

Dear Mr. Raffenberg:

Our office received and reviewed the above referenced work plan in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended, and 36 C.F.R., Part 800: Protection of Historic Properties for assessment of possible adverse impact to cultural resources (any prehistoric or historic district, site, building, structure, or object) listed, or eligible for listing, in the National Register of Historic Places (NRHP).

In 2009, Janus Research conducted background research to identify previously recorded archaeological resources within 100 feet and historic cultural resources within 500 feet of the associated linear facilities, and to identify areas of high, medium, and low probability for the presence of unrecorded cultural resources. As a result of this analysis, Janus Research has made the following recommendations:

1. Archaeological and Historic Survey and Identification Plan for Access Roads and Bridges:
  - a. Historic access roads and bridges will be surveyed prior to construction.
  - b. No archaeological survey will be necessary for existing roads with no proposed widening.
  - c. A visual survey of all roads will be conducted to identify areas of high archaeological probability within new roads or areas of road widening.
  - d. A standard archaeological survey will be conducted of these high probability areas. Testing will be conducted at 25-meter intervals within the area of potential effect (APE).
2. Archaeological Survey and Identification Plan for the Transmission Line Corridors, Reclaimed Water Delivery Pipelines, and Potable Water Pipelines
  - a. Surveys will be conducted prior to construction.
  - b. The APE for the survey will be confined to the construction corridor and associated staging areas.

500 S. Bronough Street • Tallahassee, FL 32399-0250 • <http://www.flheritage.com>

☐ Director's Office  
(850) 245-6300 • FAX: 245-6436

☐ Archaeological Research  
(850) 245-6444 • FAX: 245-6452

☒ Historic Preservation  
(850) 245-6333 • FAX: 245-6437

- c. The APE will be subjected to a visual survey to refine archaeological probability areas.
  - d. All previously recorded archaeological sites in the APE will be field verified and re-evaluated. Updated Florida Master Site File (FMSF) forms will be completed for each previously recorded site.
  - e. A reconnaissance level survey will be conducted for previously surveyed areas that do not meet current professional standards.
  - f. In areas that have not been previously surveyed, a standard archaeological survey will be conducted of high and moderate probability zones. Testing will be conducted at 25-meter and 50-meter intervals respectively, with judgmental testing of low probability zones. Shovel testing will be confined to the APE.
- 3. Historic Resource Survey and Identification Plan for the Transmission Line Corridors, Reclaimed Water Delivery Pipelines, and Potable Water Pipelines
  - a. Surveys will be conducted prior to construction.
  - b. A standard historic resource survey will be conducted to identify resources in areas that have not been previously surveyed. FMSF forms will be completed for newly identified resources.
  - c. All previously recorded historic districts and individual resources in the APE will be field verified. Individual structures or buildings within the boundaries of a previously recorded historic district will not be field verified. Updated FMSF forms will be completed only if substantial changes have occurred since a resource's initial recording, including: demolition, change in National Register status, and change in original massing.
  - d. The boundaries of both previously recorded and newly identified historic districts will be noted and recorded on FMSF forms. Individual buildings within the historic district will not be recorded.
  - e. A reconnaissance level historic resource survey will be conducted of the APE for indirect impacts of the transmission line corridors. This APE will be determined in consultation with our office.
- 4. A copy of the final survey report should be sent to the five federally recognized tribes with cultural affiliation to Florida.
- 5. Due to the proximity of the project to Tribal lands associated with the Florida-resident Seminole Tribe of Florida and the Miccosukee Tribe of Indians of Florida, a meeting is recommended prior to the initiation of field investigations. The purpose of this meeting will be to review the project, address any comments resulting from the project notification letters previously sent to the Tribes, and to identify any cultural issues, sacred areas, or traditional use areas within the APE. Further coordination is recommended to resolve any potential concerns should any such issues be identified during the survey.
- 6. Prior to construction, an unanticipated finds plan should be developed to outline the procedures and identify personnel to be contacted if significant archaeological material or human remains are encountered during construction.

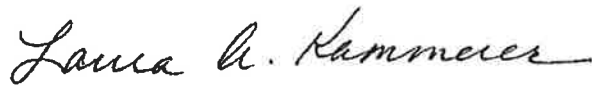
Mr. Raffenberg  
July 13, 2009  
Page 3

7. Section 106 consultation will be conducted with this office to identify and resolve any adverse effects to significant resource.

Based on the information provided, our office concurs with these recommendations as outlined in the work plan. We look forward to receipt of the final survey report for review and comment.

If you have any questions concerning our comments, please contact Samantha Earnest, Historic Preservationist, by electronic mail at [swearnest@dos.state.fl.us](mailto:swearnest@dos.state.fl.us), or by telephone at 850-245-6333 or 800-847-7278.

Sincerely,

A handwritten signature in cursive script that reads "Laura A. Kammerer".

Laura A. Kammerer  
Deputy State Historic Preservation Officer  
For Review and Compliance



FPLMTI-09-0722

Mr. Steve Terry  
Section 106 Coordinator  
Miccosukee Tribe of Indians of Florida  
PO Box Tamiami Station  
Miami, Florida 33144

December 15, 2009

SUBJECT: Information Sharing Supporting Section 106 of the *National Historic Preservation Act* for the Proposed Turkey Point Units 6 & 7 On-Site Project Facilities, Florida

Florida Power and Light Company (FPL) has submitted a Combined Operating License (COL) Application to the Nuclear Regulatory Commission (NRC) to construct and operate nuclear power Unit 6 & 7 at the Turkey Point site, located east of Homestead, Florida. The Unit 6 & 7 project would provide clean, safe and reliable power to meet the needs of FPL's customers. As part of its COL Application, FPL included an environmental report to assist the NRC prepare an environmental impact statement (EIS) under the *National Environmental Policy Act*. The decision by the NRC on whether to issue the license for construction and operation of Units 6 & 7 meets the definition of an "undertaking" under the *National Historic Preservation Act* (NHPA) and its implementing regulations 36 CFR Part 800.16(y).

FPL has shared project information with the Florida Division of Historical Resources (DHR) and the Florida State Historic Preservation Officer for this proposed project. Specifically a final cultural resources assessment (CRA) report of on-site areas and associated non-linear facilities and a preliminary CRA report on the associated linear facilities were submitted to the DHR as part of FPL's Site Certification Application (SCA).

By recommendation from the DHR, FPL hereby offers to share project information with potentially interested Tribes to assist us in identifying important cultural resources that could be present in the vicinity of the proposed undertaking. Attached is the CRA report addressing the on-site areas and other non-linear associated facilities affected by the proposed undertaking. Linear facilities (namely access roads, transmissions lines, and water pipelines) are being permitted as corridors in the SCA process. Therefore, the CRA report for the project's linear facilities will be shared with you after placement of those facilities is finalized.

### **Description of the Proposed Project**

The project would add two new nuclear generating units and supporting facilities at a site within the existing Turkey Point plant property boundaries. The Project includes the construction and operation of Turkey Point Unit 6 & 7 on the site as well as new transmission lines and other off-site associated linear and non-linear facilities.

FPL's Turkey Point plant property comprises approximately 11,000 acres in unincorporated southeast Miami-Dade County, Florida, east of Florida City and the City of Homestead, and bordered by Biscayne Bay to the east. The existing Turkey Point Plant consist of two nominal 400-megawatt (MW) natural gas/oil steam electric generating units (Units 1 & 2); two nominal 700-MW nuclear units (Units 3 & 4); and a nominal 1,150 MW natural gas-fired combined-cycle unit (Unit 5). The existing closed-loop cooling canals and industrial wastewater facility occupy approximately 5,900 acres. The location of the Turkey Point plant property is shown in Figure 1.

The site for Turkey Point Units 6 & 7 is south of Units 3 & 4 and occupies approximately 300-acres within the industrial wastewater facility. Two nuclear generating units, each with an approximate electrical out put of 1,100 MWe (net), including supporting buildings, facilities and equipment will be located on the site, along with a laydown area. Proposed off-Site associated facilities include: nuclear administration building, training building and parking area; an FPL reclaimed water treatment facility and reclaimed water pipelines; radial collector wells and delivery pipelines; equipment barge unloading area; an FPL-owned fill source; transmission lines and system improvements within Miami-Dade County; access roads and bridges; and a potable water pipeline. The site and proposed off-site associated facilities are shown in Figures 2 to 5. Because the linear facilities are being permitted as corridors, the areas shown on these figures is actually larger than the areas that will be impacted by actual construction and operation of the linear facilities.

### **Information Sharing with the Florida Division of Historical Resources**

On February 20, 2009, FPL notified the DHR that it was commencing a CRA of on-site areas and would be contacting the SHPO to obtain required information as needed. On June 25, 2009, FPL forwarded to DHR its CRA survey work plans for the on- and off-site project areas. In that submittal, FPL requested concurrence that (1) the determination and definition of the Areas of Potential Effect (APEs) are appropriate for the project and (2) implementation of the work plans would constitute a reasonable and good-faith effort to carry out appropriate identification efforts of historic properties that could potentially be impacted by the project. On July 13, 2009, the DHR concurred with all the recommendations provided by FPL in the on-and off-site CRA survey work plans. The DHR recommended that the final CRA survey results be sent to the five federally-recognized tribes with cultural affiliation to Florida.

On June 30, 2009, as part of the Site Certification Application, FPL submitted its final CRA report of on-site areas and associated non-linear facilities and the preliminary CRA report on the associated linear facilities to the DHR. On July 10, 2009, DHR found FPL's final CRA report of on-site areas and associated non-linear facilities complete and sufficient in

accordance with Chapter 1A-46 F.A.C. The DHR offered its opinion that the project would have no effect on historic properties and recommended that the CRA report of on-site areas and associated non-linear facilities be sent to the five federally recognized tribes with cultural affiliation to Florida.

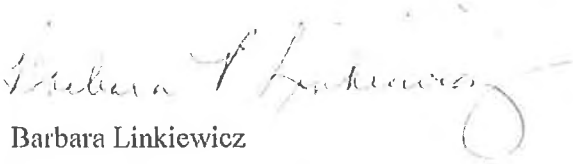
#### **Information Sharing with Potentially Interested Tribes**

The purpose of this letter is to share information with potentially interested Tribes in accordance with Section 106 of the NHPA and 36 CFR Part 800.2(c)(2)(ii). The NRC will conduct formal NHPA consultation with Tribes per Federal government-to-government guidance during the preparation of the environmental impact statement. However both the NRC and the DHR have encouraged FPL to share information with Tribes to identify tribal concerns for important cultural resources that could potentially be impacted by the proposed project. On March 20, 2009, FPL submitted a letter to the Miccosukee Tribe of Indians of Florida sharing initial project information.

FPL welcomes your input and comments on the proposed undertaking and the cultural properties of importance to you. FPL is requesting your review of this information so that you can identify concerns about cultural resources, present views about the proposed undertaking's potential effects on such properties, and participate in the resolution of adverse effects. FPL is particularly interested in any information you may have regarding resources, traditional cultural places, sites, or properties of tribal importance that may be adversely affected by the proposed project. This information will assist FPL in identifying important cultural resources in the project area. FPL requests a written response to this information review by January 29, 2010.

Mr. Matthew Raffenberg is FPL's environmental permitting lead and will be your contact for this information sharing request. Please reach Mr. Raffenberg at (561) 691-2808 or by email [matthew.raffenberg@fpl.com](mailto:matthew.raffenberg@fpl.com) if you have any questions about this information.

Sincerely,



Barbara Linkiewicz

Director of Environmental Licensing

cc: Mike Halpin, FDEP Siting Office  
Laura Kammerer, Florida Division of Historical Resources  
Kathleen Hoffman, Janus Research



## Florida Department of Environmental Protection

Marjory Stoneman Douglas Building  
3900 Commonwealth Boulevard  
Tallahassee, Florida 32399-3000

Charles Crist  
Governor

Jeff Labadie  
U.S. Senator

Michael W. Smith  
Secretary

August 13, 2009

Mr. Brien F. Culhane, AICP  
Chief of Planning and Compliance  
Everglades and Dry Tortugas National Parks  
40001 State Road 9336  
Homestead, FL 33034

RE: National Park Service - Scoping Notice - Proposed Acquisition of Florida  
Power & Light Company Lands within the East Everglades Addition of  
Everglades National Park - Miami-Dade County, Florida.  
SAI # FL200906304829C

Dear Mr. Culhane:

The Florida State Clearinghouse has coordinated a review of the scoping notice under the following authorities: Presidential Executive Order 12372; § 403.061(40), *Florida Statutes*; the Coastal Zone Management Act, 16 U.S.C. §§ 1451-1464, as amended; and the National Environmental Policy Act, 42 U.S.C. §§ 4321, 4331-4335, 4341-4347, as amended.

The Florida Department of Environmental Protection (DEP) notes that staff has collaborated with both the National Park Service (NPS) and Florida Power & Light regarding the proposed land exchange and fully supports the NPS in moving forward with the aforementioned acquisition. Continued coordination with the appropriate agencies is encouraged to ensure that adjacent areas or restoration projects will not be impacted. Please refer to the enclosed DEP memorandum and contact Ms. Annet Forkink at (850) 245-8527 for additional information and assistance.

The Florida Department of State (DOS) previously conducted a review of this project and noted that the NPS is drafting an Environmental Assessment, which will meet its obligations under Section 106 of the National Historic Preservation Act. DOS staff is awaiting this document for review and comment. Please refer to the enclosed DOS letter.

The South Florida Water Management District (SFWMD) has reviewed the scoping notice and notes that the SFWMD's Governing Board approved the proposed land swap in August, 2008 (Resolution # 2008-640).

Based on the information contained in the scoping notice and enclosed state agency comments, the state has determined that, at this stage, the proposed activities are

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[www.dep.state.fl.us](http://www.dep.state.fl.us)



Mr. Brien F. Culhane  
August 13, 2009  
Page 2 of 2

consistent with the Florida Coastal Management Program (FCMP). The concerns identified by our reviewing agencies must be addressed, however, prior to project implementation. The state's continued concurrence with the project will be based, in part, on the adequate resolution of issues identified during this and subsequent reviews. The state's final concurrence of the project's consistency with the FCMP will be determined during the environmental permitting stage, if applicable.

Thank you for the opportunity to review the proposed project. Should you have any questions regarding this letter, please contact Mr. Chris Stahl at (850) 245-2169.

Yours sincerely,



Sally B. Mann, Director  
Office of Intergovernmental Programs

SBM/cjs  
Enclosures

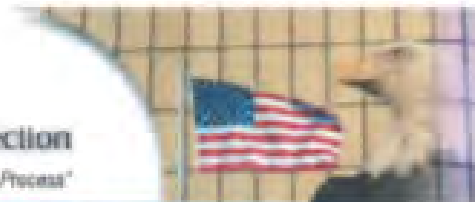
cc: Tim Gray, DEP, Southeast District  
John Outland, DEP, Ecosystem Projects  
Ernie Marks, DEP, RPPP  
Laura Kammerer, DOS  
Jim Golden, SPWMD



# Florida

## Department of Environmental Protection

"More Protection. Less Process"



Categories

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### Project Information

<b>Project:</b>	FL200908304829C
<b>Comments Due:</b>	08/04/2009
<b>Letter Due:</b>	08/13/2009
<b>Description:</b>	NATIONAL PARK SERVICE - SCOPING NOTICE - PROPOSED ACQUISITION OF FLORIDA POWER & LIGHT COMPANY LANDS WITHIN THE EAST EVERGLADES ADDITION OF EVERGLADES NATIONAL PARK - MIAMI-DADE COUNTY, FLORIDA.
<b>Keywords:</b>	NPS - ACQUIRE FP&L LANDS IN EAST EVERGLADES NATIONAL PARK - MIAMI-DADE CO.
<b>CFDA #:</b>	15.815

### Agency Comments:

**SOUTH FL RPC - SOUTH FLORIDA REGIONAL PLANNING COUNCIL**

No Comments Received

**FISH AND WILDLIFE COMMISSION - FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION**

NO COMMENT BY MICHAEL ANDERSON AND CHUCK COLLING ON 7/3/09.

**STATE - FLORIDA DEPARTMENT OF STATE**

The DOS previously reviewed this project and noted that the National Park Service is drafting an EA, which will meet its obligations under Section 105. Staff is awaiting this document for review and comment.

**TRANSPORTATION - FLORIDA DEPARTMENT OF TRANSPORTATION**

FDOT District Six has no comments.

**ENVIRONMENTAL PROTECTION - FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION**

In 1988 the Everglades National Park Protection and Expansion Act expanded ENP to include the East Everglades Addition. Contained within this addition is a strip of land, roughly 350 feet wide and 7.4 miles long, which is owned by FPL. FPL claims that they will need this land in the future for the construction of power infrastructure, specifically electrical transmission lines. The NPS contends that this strip of land will play a vital role in Everglades restoration efforts through the improvement of natural hydrologic conditions and is seeking to acquire this FPL land through a land exchange. The land being offered for trade is on the eastern boundary of the East Everglades Addition. The Department has collaborated with both the NPS and FPL regarding the proposed land exchange and fully supports the NPS in moving forward with the aforementioned acquisition. Continued coordination with the appropriate agencies is encouraged to ensure that adjacent water or restoration projects will not be impeded. The Department sincerely appreciates the opportunity to comment. Should you have any questions on the comments provided, please feel free to contact Mr. Arvid Fulpas at (850) 245-4707.

**SOUTH FLORIDA WMD - SOUTH FLORIDA WATER MANAGEMENT DISTRICT**

The SFWMD's Governing Board approved the proposed land swap in August, 2008 (Resolution 92008-0402).

For more information or to submit comments, please contact the Clearinghouse Office at:

3900 COMMONWEALTH BOULEVARD, M.S. 47  
TALLAHASSEE, FLORIDA 32399-3000  
TELEPHONE: (850) 245-2161  
FAX: (850) 245-2160

Visit the [Clearinghouse Home Page](#) to query other projects.



FLORIDA DEPARTMENT OF STATE  
**Kurt S. Browning**  
Secretary of State  
DIVISION OF HISTORICAL RESOURCES

RECEIVED

JUL 30 2009

DEP Office of  
Intergov't Programs

Ms. Lauren Milligan  
Director, Florida State Clearinghouse  
3900 Commonwealth Boulevard, Mail Station 47  
Tallahassee, Florida 32399-3000

July 28, 2009

June

RE: DHR Project File No: 2009-3969 / Received by DHR: July 6, 2009  
SAI #: FL200906304829C  
National Park Service - Scoping Notice  
Proposed Acquisition of Florida Power & Light Company Lands within the East Everglades  
Addition of Everglades National Park  
Miami-Dade County

Dear Ms. Milligan:

Our office reviewed the referenced project for possible impact to historic properties listed, or eligible for listing, in the National Register of Historic Places. The review was conducted in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended, 36 CFR Part 800: Protection of Historic Properties, Chapter 267, *Florida Statutes*, and Florida's Coastal Zone Management Program.

Our office has previously reviewed this project (DHR Project File No. 2009-3829). In a July 21, 2009 letter addressed to Mr. Dan B. Kimball of the National Park Service, we noted that the Park Service is drafting an environmental assessment for this project, and intends to use the environmental assessment to meet its obligations under Section 106. We are awaiting receipt of this document for review and comment.

If you have any questions regarding our comments, please contact Samantha Earnest, Historic Preservationist, by email [searnest@dos.state.fl.us](mailto:searnest@dos.state.fl.us), or by phone at 850-245-6333.

Sincerely,

Laura A. Kammerer  
Deputy State Historic Preservation Officer  
For Review and Compliance

500 S. Bronough Street • Tallahassee, FL 32399-0250 • <http://www.flheritage.com>

☐ Director's Office  
(850) 245-6300 • FAX: 245-6436

☐ Archaeological Research  
(850) 245-6444 • FAX: 245-6452

☒ Historic Preservation  
(850) 245-6333 • FAX: 245-6437



## United States Department of the Interior

FISH AND WILDLIFE SERVICE  
South Florida Ecological Services Office  
1339 20<sup>th</sup> Street  
Vero Beach, Florida 32960



July 29, 2009

### Memorandum

To: Brien Culhane, Chief, Planning and Compliance, Everglades National Park

From: Paul Souza, Field Supervisor, South Florida Ecological Services Office *Paul Souza*

Subject: Acquisition of Florida Power and Light Lands and Environmental Assessment  
Service Federal Activity Code: 41420-2009-FA-0560

Thank you for the opportunity to offer input to your request for scoping comments on the Acquisition of Florida Power and Light (FPL) Lands and Environmental Assessment (EA) project. Your notice of intent (NOI) to prepare a Draft Environmental Assessment (EA) under the National Environmental Policy Act (NEPA) for the project was received by the U.S. Fish and Wildlife Service on July 5, 2009. The stated purpose of your NOI is to request information to assist with refining issues and concerns to be addressed in your NEPA document.

The goal of the Acquisition of FPL Lands and EA project is to exchange right-of-way (ROW) land owned by FPL for land owned by the Everglades National Park (ENP). The proposed land exchange is for undeveloped FPL property that is located in the interior portion of ENP for property owned by ENP on the eastern property boundary that abuts the L-31 canal levee. The land under consideration covers approximately 320 acres in the East Everglades Addition in Everglades National Park; Miami-Dade County, Florida.

### Issues and Concerns

The Service recommends considering the potential impacts on wetland habitats, hydrology, fire ecology, plants and wildlife, particularly threatened and endangered species such as the eastern indigo snake, Everglade snail kite, Florida panther, and wood stork in accordance with section 7 of the Endangered Species Act of 1973, as amended (87 Stat. 884; 16 U.S.C. 1531 *et seq.*). The Service also recommends the evaluation of potential impacts to migratory birds in accordance with the Migratory Bird Treaty Act (40 Stat. 755; 16 U.S.C. 701 *et seq.*). Additional assessments should provide detailed information on the existing condition of the habitats in the ROWs, and how transferring of ownership may affect these habitat conditions, and associated wildlife, as well as Everglades restoration.

We greatly appreciate your efforts in helping to protect the fish and wildlife resources of south Florida. If you have questions regarding this letter, please call Steve Mortellaro at 772-562-3909, extension 322.

TAKE PRIDE<sup>®</sup>  
IN AMERICA 

cc: electronic copy only

Corps, Jacksonville, Florida (Rebecca Griffith)

DOI, Miami, Florida (Joan Lawrence)

DOI, West Palm Beach, Florida (Dennis Duke)

FWC, Tallahassee, Florida (Ken Haddad)

NPS, Homestead, Florida (David Hallac, Alicia LoGalbo, Mike Zimmerman)

Service, Atlanta, Georgia (David Horning, Jeff Weller)

Service, Jacksonville, Florida (Miles Meyer)



FLORIDA DEPARTMENT OF STATE  
Kurt S. Browning  
Secretary of State  
DIVISION OF HISTORICAL RESOURCES

Mr. Greg Smith  
New South Associates  
804-C Anastasia Boulevard  
St. Augustine, Florida 32080

October 1, 2009

Re: DHR Project File No.: 2009-05046 / Received by DHR: August 27, 2009  
*Phase I Archaeological Survey for a 6-Mile Florida Power & Light Corridor, Everglades  
National Park, Miami-Dade County, Florida*

Dear Mr. Smith:

Our office received and reviewed the above referenced survey report in accordance with Section 106 of the *National Historic Preservation Act of 1966* (Public Law 89-665), as amended in 1992, and 36 *C.F.R., Part 800: Protection of Historic Properties*, and Chapter 267, *Florida Statutes*, for assessment of possible adverse impact to cultural resources (any prehistoric or historic district, site, building, structure, or object) listed, or eligible for listing, in the National Register of Historic Places (NRHP).

In July 2009, New South Associates, Inc. (NSA) conducted an archaeological and historical Phase I survey of a six-mile transmission line corridor on behalf of Florida Power & Light Company. NSA identified no cultural resources within the project area during the investigation.

NSA determined that the proposed project will have no effect on cultural resources listed, or eligible for listing, on the NRHP. NSA recommends no further investigation of the corridor.

Based on the information provided, our office concurs with these determinations and finds the submitted report complete and sufficient in accordance with Chapter 1A-46, *Florida Administrative Code*.

For any questions concerning our comments, please contact Rudy Westerman, Historic Preservationist, by electronic mail at [rjwesterman@dos.state.fl.us](mailto:rjwesterman@dos.state.fl.us), or by phone at (850) 245-6333. We appreciate your continued interest in protecting Florida's historic properties.

Sincerely,

A handwritten signature in cursive script that reads "Laura A. Kammerer".

Laura A. Kammerer  
Deputy State Historic Preservation Officer  
For Review and Compliance

500 S. Bronough Street • Tallahassee, FL 32399-0250 • <http://www.flheritage.com>

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# United States Department of the Interior


FISH AND WILDLIFE SERVICE  
South Florida Ecological Services Office  
1339 20<sup>th</sup> Street  
Vero Beach, Florida 32960



August 12, 2010

## Memorandum

To: Dan Kimball, Superintendent, Everglades and Dry Tortugas National Park,  
Homestead, Florida

From:  Paul Souza, Field Supervisor, South Florida Ecological Services Office,  
Vero Beach, Florida

Subject: Florida Power and Light Company's preferred transmission corridor along the eastern boundary of Everglades National Park

The Service is submitting this preliminary assessment of the potential effects to threatened and endangered species and Everglades wetlands resulting from Florida Power and Light Company's (FPL) proposed construction of a transmission line project located along the eastern boundary of Everglades National Park (ENP). The proposed corridor would extend along the western edge of the L-31N levee from the 8.5 Square Mile Area north to Tamiami Trail, a distance of approximately 6.5 miles (see attachment). We focused our assessment of the proposed transmission line on the section of the corridor to be constructed within ENP.

### Project Description

FPL proposes to construct 73 fill pads along the length of the corridor in order to build the towers required to carry two 500 kilovolt (kV) transmission lines and one 230 kV transmission line. Each of the 37 towers designed to carry the 500 kV lines are approximately 160 feet high, supported by 8 guy wires, and spaced at 1,000-foot intervals. Each of the 73 towers designed to carry the 230 kV line are approximately 80 high, supported by two guy wires, and spaced at 500-foot intervals. According to preliminary design specifications, the transmission corridor is projected to be approximately 330 feet wide and constructed within an area 79 to 170 feet west of the L-31N levee. [Note - Figures of the towers and their proposed alignment are attached.]

### Wetlands

The proposed corridor is projected to fill approximately 100 wetland acres of Everglades marsh along the eastern edge of the Northeast Shark River Slough. Mitigation options should be considered to offset the final impacts to these wetlands.





Wood storks

The proposed corridor is within 0.60 mile of active wood stork colonies, Tamiami Trail East<sup>1</sup> and Tamiami Trail East 1, a distance beyond the threshold of 0.47 mile for a “may affect” determination. However, the proposed corridor will result in eliminating or altering suitable foraging habitat within the core foraging area (CFA) of at least five active wood stork colonies: Tamiami Trail East, Tamiami Trail East 1, Tamiami Trail West, and Grossman Ridge West in ENP and 3BMud East north of ENP. The loss of these wetlands may reduce foraging opportunities for wood storks. To minimize these potential adverse effects, we recommend compensation be provided in the form of wetlands with the same hydroperiod located within the CFA of the affected wood stork colonies. This compensation guidance is consistent with the conservation measures we developed for wood storks (Service 2010). Under some circumstances, we may consider wetland compensation outside the CFA of the affected colonies.

A potential direct effect to wood storks is injury or death from electrocution and from collisions with the towers and associated guy wires within the corridor; however, these injuries or mortalities of wood storks from this aspect of the project will be difficult to quantify. The proposed configuration for both the 500 kV and 230 kV powerlines present, though minimized, an electrocution risk to these large birds.

Deng (1998) noted that, since 1989, the Florida Fish and Wildlife Conservation Commission found considerable mortality of wetland birds along a powerline bordering the Miami Canal in WCA-3A, including large numbers of great blue herons and wood storks (approximately 170 dead birds per year). Many of the birds were initially thought to have been electrocuted; however, subsequent necropsies discovered that all birds examined died from collision impacts. The Service (2000) developed guidance to address the potential effects on avian fauna from guy wires associated with communication towers less than 200 feet in height. This guidance may be useful or appropriate for electrical transmission towers with guy wires.

Everglade snail kites

The proposed corridor is likely to affect the Everglade snail kite by eliminating or altering existing nesting and foraging habitat (see attachment). Deng (1998) suggested that this species is probably at low risk from colliding with the towers and associated guy wires because of their very slow flight patterns, high maneuverability and diurnal habits.

Eastern indigo snakes

Heavy equipment used to construct the transmission corridor will eliminate suitable habitat for eastern indigo snakes and may injure or kill them, if they are present during construction. The Service (2004) developed guidance and conservation measures designed to avoid or minimize construction-related disturbance, injury and mortality of this species.

---

<sup>1</sup> This colony appears to be identified as Tamiami Trail East 2 in the *South Florida Wading Bird Report, Volume 15* (Cook and Kobza 2009).

Florida panthers

Florida panthers have been documented within and around the area of the proposed location of the transmission corridor. The corridor's location is within the Primary Zone of the Panther Focus Area. However, constructing and maintain the transmission corridor is not likely to result in the loss and fragmentation of habitat or the loss of available prey. Furthermore, the proposed corridor will not result in an increase potential for traffic-related mortalities. Any potential effects to the panther are likely to be limited to temporary disturbance for which minimization measures, to address the potential effects described above, may not be warranted.

Other threatened and endangered species

Based on this preliminary assessment, there appears to be no other federally listed species that may be affected by the proposed corridor.

Migratory Birds

Unlike wood storks and snail kites, migratory bird collisions with tower structures and powerlines are well documented. Numerous studies of powerline collisions have resulted in United States estimates of up to 200 avian fatalities per mile per year (Manville 2005). Conservatively, 4-5 million birds are estimated to die each year from communication tower and guy wire collisions (Manville 2008). Manville (2008) cites studies that suggest flashing or blinking lights mounted to the towers may reduce avian collisions. If FPL were to equip their towers as such, the potential to reduce the risk of collisions for migratory birds could extend to wood storks.

Deng (1998) noted that the overhead ground wire, the highest mounted cable associated with 500 kV powerlines, is the principal feature responsible for the majority of avian collisions. The ground wire is typically much smaller in diameter than the transmission lines making it harder to see by birds in flight. Subsequent to the construction of the Levee-Midway 500 kV transmission corridor in 1995, Deng (1998) observed marked (with flight diverters) and unmarked sections of the Levee-Midway powerlines to determine avian collision rates. Given that he observed an extremely small number of collisions with any part of the powerline, Deng concluded the diverters might have had effects on avoidance behavior.

FPL's Avian Protection Plan

FPL (2007) developed an Avian Protection Plan (APP) to provide protection for Federal and State-listed species as well as all migratory birds from activities relating to FPL projects. The APP contains a risk assessment component designed to evaluate the risk to birds from FPL's electric utility structures. The risk to birds is in the form of injury or death from electrocution and collision. Developed by FPL, the risk assessment methodology considers the spatial interaction between avian biology and utility structure characteristics. For instance, a large bird with a long wing span nesting on a power pole with a complex spatial configuration (e.g., multiple distribution lines) is considered a high risk interaction. To date, FPL has yet to provide a risk assessment of the proposed corridor on wood storks and snail kites and the specific measures to be taken to reduce the risk of harm to these avian species.

## **Summary**

Based on our preliminary assessment, we have concluded the proposed transmission corridor, if constructed, is likely to: (1) adversely affect the Everglade snail kite by eliminating or altering existing nesting habitat; (2) adversely affect the Everglade snail kite and wood stork by eliminating or reducing foraging habitat; and (3) may increase the risk of injury or death of wood storks and migratory birds from collision impacts. If we were reviewing a proposed Federal action for the transmission corridor, we would consult on potential effects from the proposed action to wood storks and snail kites under section 7 of the Endangered Species Act and provide technical assistance to avoid and minimize impacts to migratory birds.

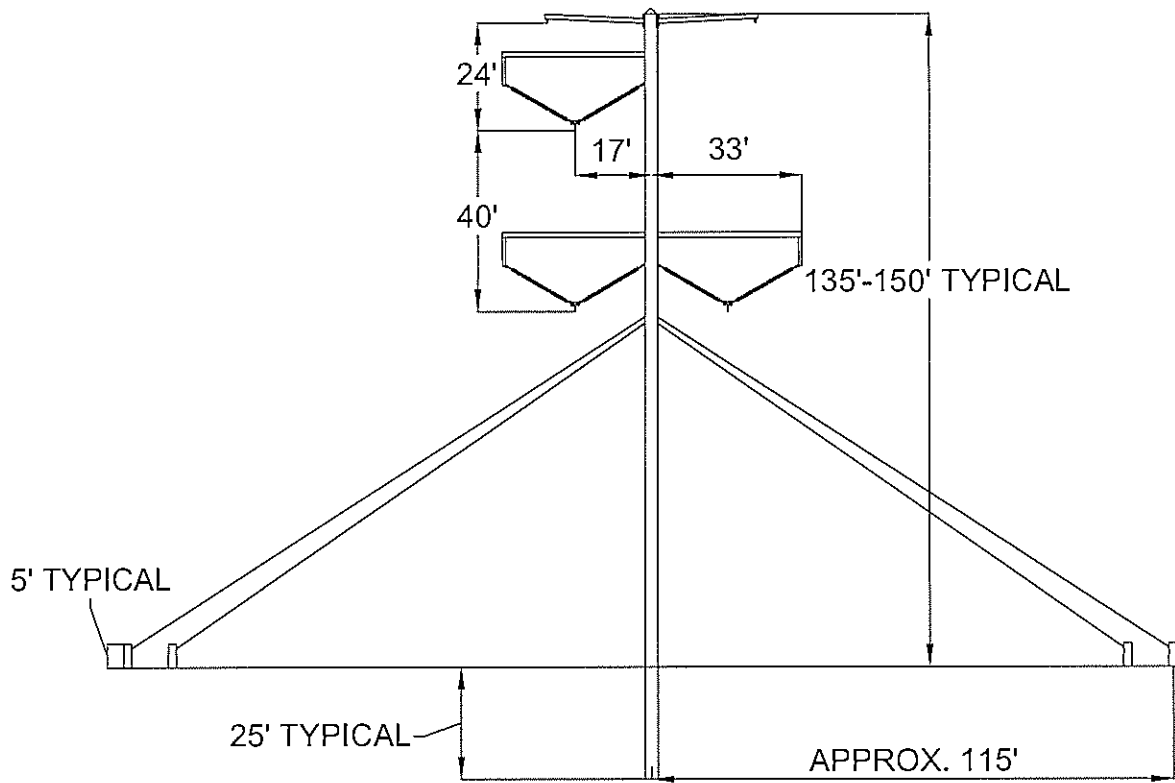
If you have any questions, please contact Kalani Cairns of my office at 772 562-3909, extension 240, or by email at [kalani\\_cairns@fws.gov](mailto:kalani_cairns@fws.gov).

## **Attachments**

### LITERATURE CITED

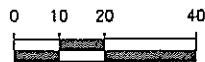
- Cook, M.I., and M. Kobza. 2009. South Florida Wading Bird Report, Volume 15, November 2009. South Florida Water Management District, West Palm Beach, Florida. 52 pages.
- Deng, J. 1998. Bird-strike mortality of wetland birds on a 550kv high-voltage powerline in the Everglades of Florida. Master's thesis, University of Florida, Gainesville, Florida. 117 pages.
- Florida Power and Light Company. 2007. Avian Protection Plan. Florida Power and Light Company, Juno Beach, Florida. 148 pages.
- Manville, A.M. 2005. Bird strikes and electrocutions at power lines, communication towers, and wind turbines: State of the Art and State of the Science – Next steps toward mitigation. Pages 1051-1064 in Bird Conservation Implementation and Integration in the Americas. Proceedings of the Third International Partners in Flight Conference, Asilomar, California.
- Manville, A.M. 2008. Towers, turbines, power lines, and buildings - steps being taken by the U.S. Fish and Wildlife service to avoid or minimize take of migratory birds at these structures. Pages 262-272 in Tundra to Tropics: Connecting Birds, Habitats and People. Proceedings of the Fourth International Partners in Flight Conference, McAllen, Texas.
- U.S. Fish and Wildlife Service. 2000. Interim Guidelines for Recommendations on Communication Tower Siting, Construction, Operation, and Decommissioning. U.S. Fish and Wildlife Service, Washington, DC.
- U.S. Fish and Wildlife Service. 2004. Species conservation guidelines for the eastern indigo snake in south Florida. U.S. Fish and Wildlife Service, Vero Beach, Florida.
- U.S. Fish and Wildlife Service. 2010. South Florida Programmatic Concurrence for the wood stork. U.S. Fish and Wildlife Service, Vero Beach, Florida.

# TYPICAL SINGLE-POLE GUYED 500-kV STRUCTURE



NOTE: EACH STRUCTURE WILL HAVE EIGHT GUY WIRES CONNECTED TO CONCRETE PILE ANCHORS.

GRAPHIC SCALE



SCALE IN FEET

PROJECT

TURKEY POINT UNITS 6 & 7 PROJECT:  
TRANSMISSION LINES

TITLE

TYPICAL SINGLE-POLE GUYED 500-kV STRUCTURE



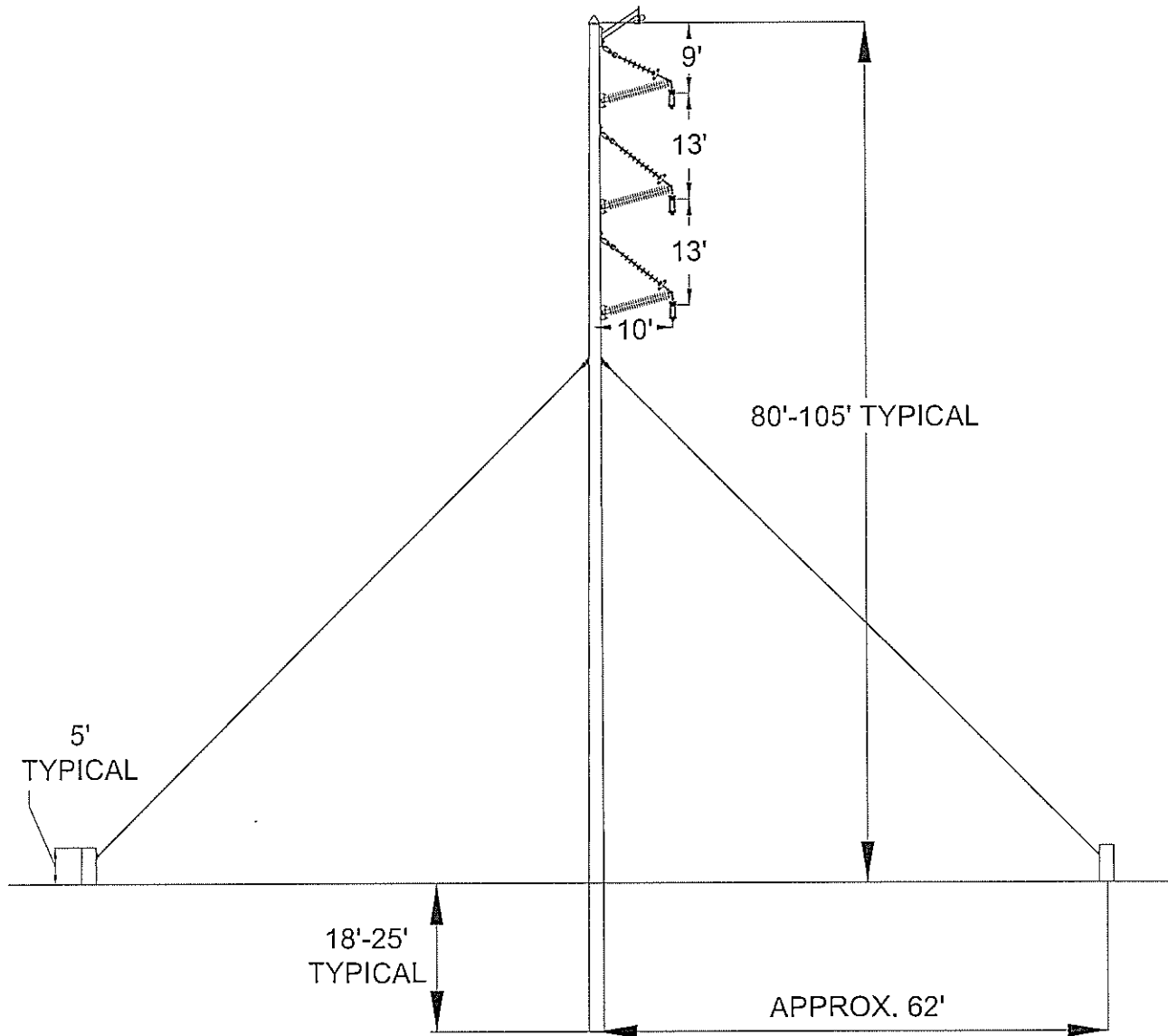
FILE No. 080489-0100

REV. 0

PLOT DATE 05/18/2009

FIGURE  
W9.2.0-2

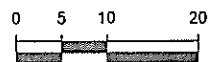
# TYPICAL SINGLE-CIRCUIT GUYED 230-kV STRUCTURE



## NOTES:

1. GUYED STRUCTURES ARE CONNECTED TO CONCRETE PILE ANCHORS.
2. STRUCTURES MAY BE UNGUYED AT CERTAIN LOCATIONS.

## GRAPHIC SCALE



SCALE IN FEET

## PROJECT

TURKEY POINT UNITS 6 & 7 PROJECT:  
TRANSMISSION LINES

## TITLE

TYPICAL SINGLE-CIRCUIT  
GUYED 230-kV STRUCTURE



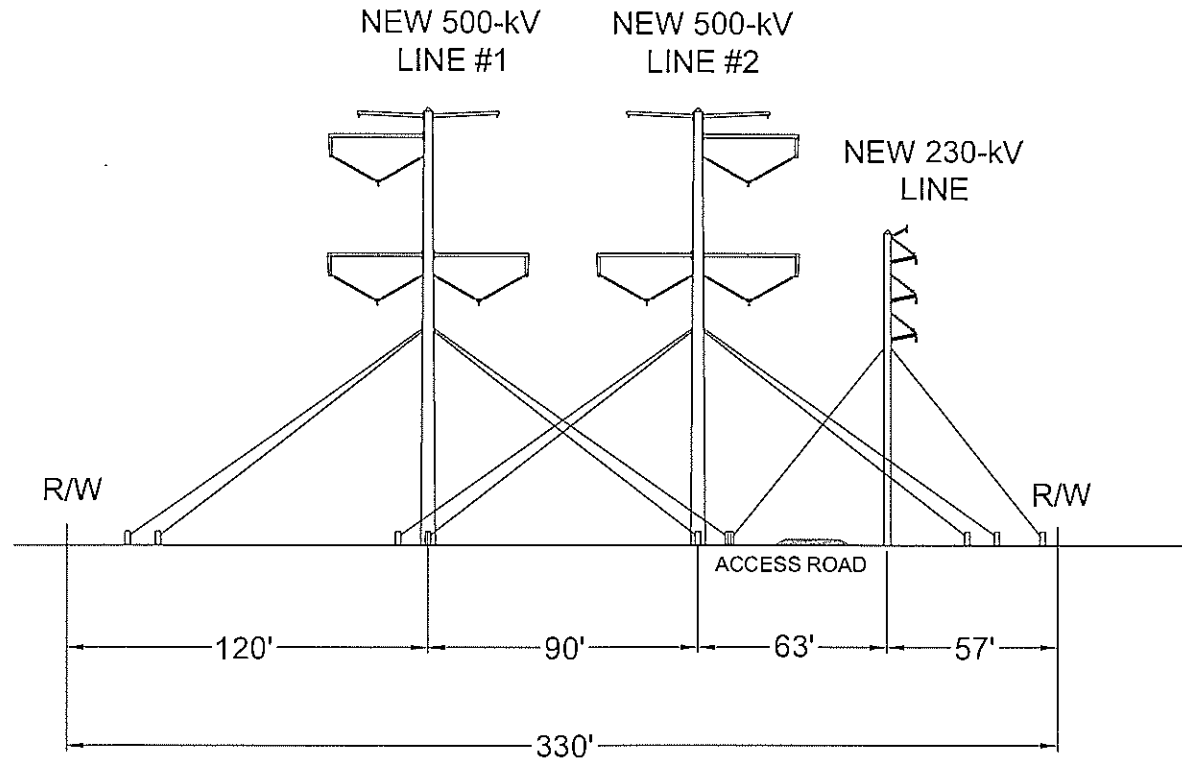
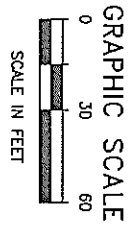
FILE No. 090489-0100

REV. 0

PLOT DATE 05/19/2009


FIGURE  
W9.2.0-3

# (W4) CLEAR SKY-LEVEE #1 & #2 500-kV & CLEAR SKY-PENNSUCO 230-kV DESIGN ALONG SFWMD LEVEES WITH 230-kV LINE TO WEST LOOKING SOUTH



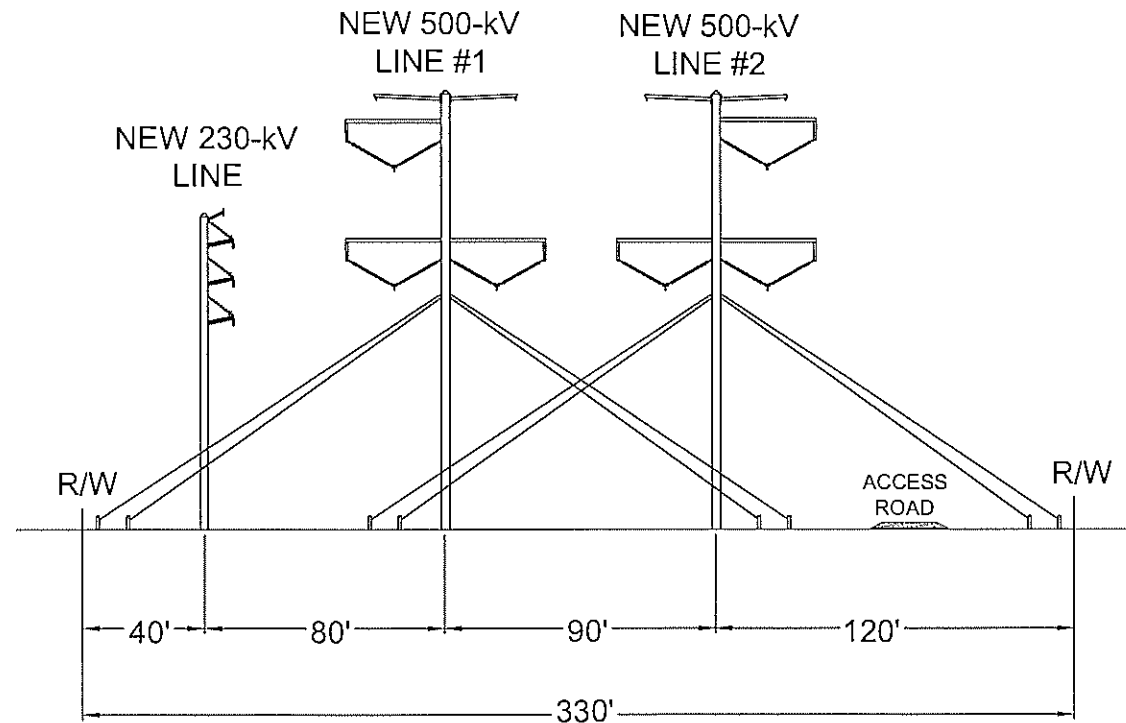
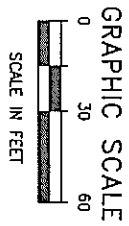
## NOTES:

1. STRUCTURES MAY BE SPACED AT DIFFERING INTERVALS LONGITUDINALLY ALONG THE RIGHT-OF-WAY.
2. CONCEPTUAL CONFIGURATION SHOWN. FINAL CONFIGURATION MAY VARY.

PROJECT		TURKEY POINT UNITS 6 & 7 PROJECT: TRANSMISSION LINES	
TITLE		(W4) ALONG SFWMD LEVEES	
 EPL.	FILE NO. 080485-0100	FIGURE W9.2.0-13	
	REV. 0		
	PLOT DATE 05/15/2009		



(W5) CLEAR SKY-LEVEE #1 & #2 500-kV & CLEAR SKY-PENNSUCO 230-kV  
DESIGN ALONG SFWMD LEVEES WITH 230-kV LINE TO THE EAST  
LOOKING SOUTH  
(ALTERNATIVE CONFIGURATION)



NOTES:

1. STRUCTURES MAY BE SPACED AT DIFFERING INTERVALS LONGITUDINALLY ALONG THE RIGHT-OF-WAY.
2. CONCEPTUAL CONFIGURATION SHOWN. FINAL CONFIGURATION MAY VARY.

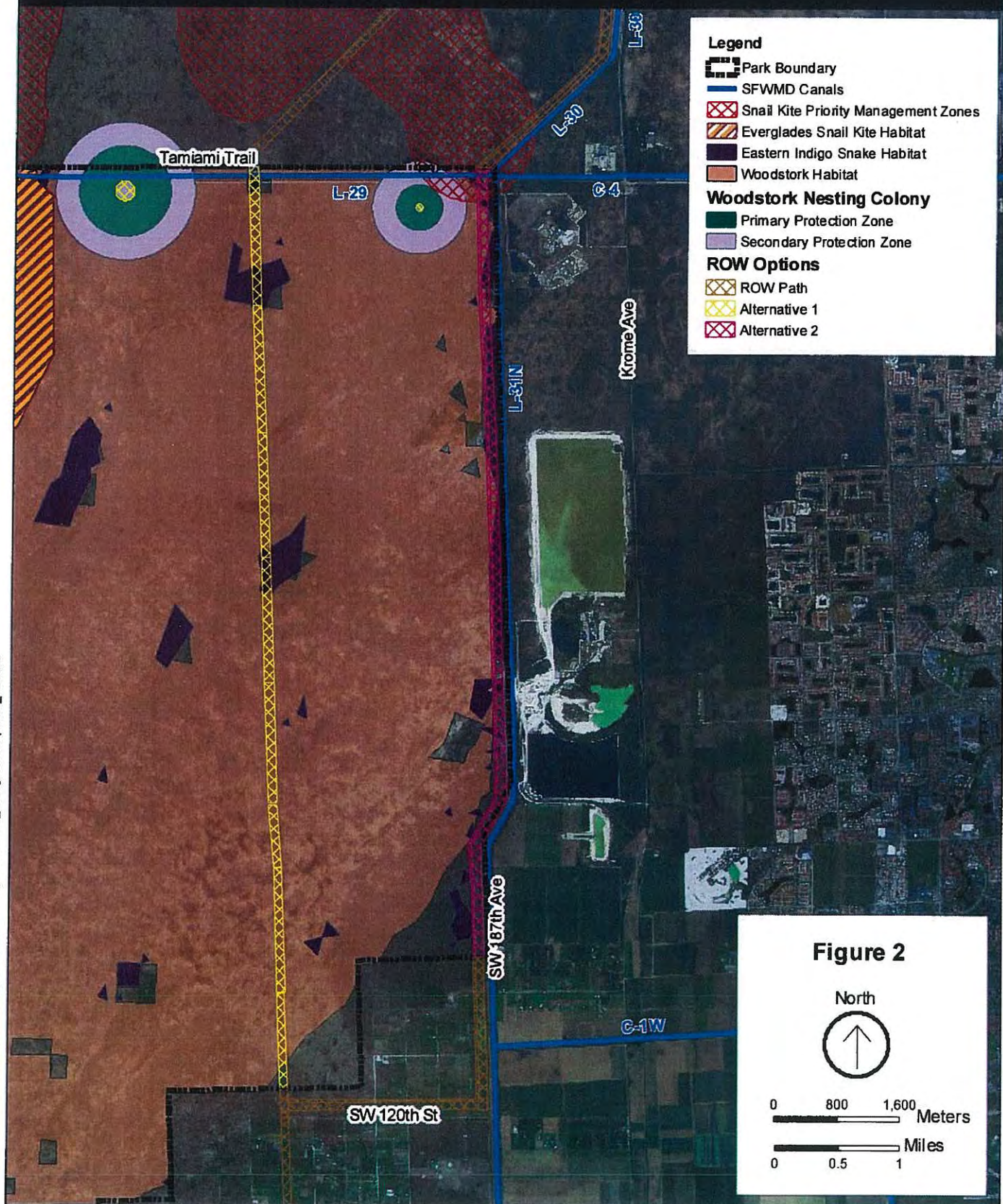


FILE No. 080485-0100  
REV. 0  
PLOT DATE 05/19/2009

PROJECT: TURKEY POINT UNITS 6 & 7 PROJECT:  
TRANSMISSION LINES  
TITLE: (W5) ALONG SFWMD LEVEES  
(ALTERNATIVE CONFIGURATION)

FIGURE  
W9.2.0-14







# Everglades National Park Expansion Area Threatened & Endangered Species








#### LEGEND

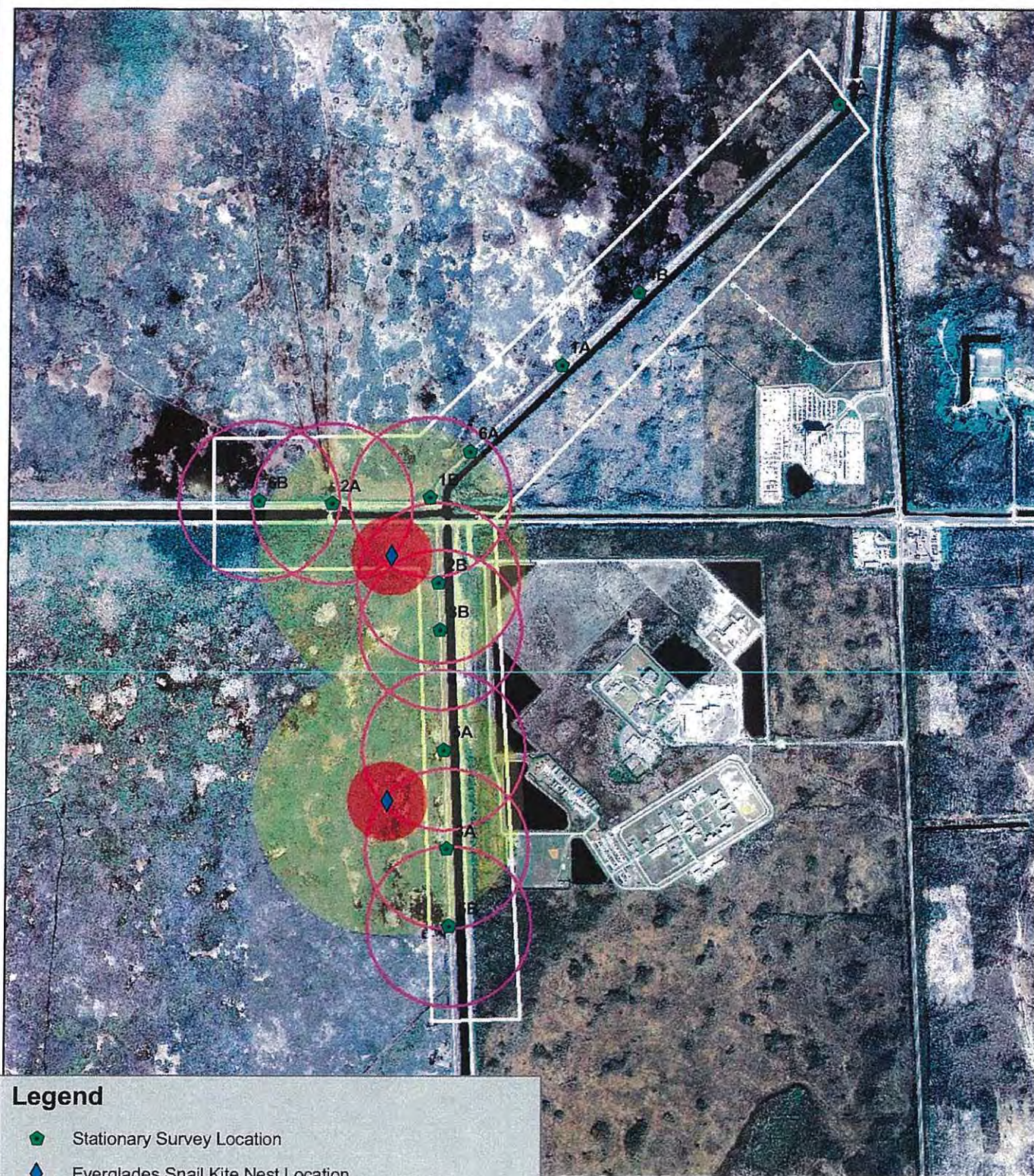
-  Wood Stork Colony
-  1000' Primary Zone
-  2500' Secondary Zone
-  West Preferred Corridor
-  West Secondary Corridor
-  Access Corridor

#### REFERENCES

Sources: FWC, 2009; NRCS, 2007; SFWMD, 2009; FPL, 2009; Miami-Dade County, 2008, 2009; ECT, 2009.

PLOT DATE 12/18/2009 REV. 0 FILE NO. 000531-0100	<b>LOCATION OF WOOD STORK COLONIES (WITHIN 5 MILES) AND ZONES</b>	PROJECT <b>TURKEY POINT UNITS 6 &amp; 7 PROJECT: TRANSMISSION LINES</b>	
--------------------------------------------------------	-------------------------------------------------------------------------------	--------------------------------------------------------------------------------	---------------------------------------------------------------------------------------





## Legend

- ◆ Stationary Survey Location
- ◆ Everglades Snail Kite Nest Location
- No Entry Buffer (150 meters)
- Limited Activity Buffer (500 meters)
- Everglades Snail Kite Observation Area
- Wildlife Survey Area



0 255 510 1,020 1,530 Meters

## EVERGLADES SNAIL KITE OBSERVATIONS AND NEST LOCATIONS

### L31N (L-30) SEEPAGE MANAGEMENT PILOT PROJECT

Scale: 1 inch = 500 meters

Drawn By: MR

Date: March 2010

Approved By: MH



J10-1151

Figure 11



## **APPENDIX F: CONSTRUCTION AND OPERATION OF ELECTRICAL POWER TRANSMISSION FACILITIES**

Under all the alternatives there would exist the reasonably foreseeable potential for Florida Power & Light Company (FPL) to develop a high-voltage electrical transmission corridor from Clear Sky Substation to Levee (or Pennsuco) Substation. Although the location and construction methods of the transmission corridor would vary under the alternatives, transmission facilities, components, and operations and maintenance needs would be similar regardless of location. Access methods and routes would vary based on location.

### **TRANSMISSION CORRIDOR CHARACTERISTICS AND STRUCTURES**

FPL's transmission line facilities are designed to comply with all applicable codes, guidelines, and standards. The primary code used in the design of transmission lines is the National Electrical Safety Code (NESC 2007). The NESC is an American National Standards Institute (ANSI) standard that covers electrical clearances and loading and strength requirements, including extreme wind. Codes and standards of other agencies and standard organizations that provide rules, guidelines, and conditions for particulars not specified by the NESC, used to design the proposed transmission lines, include:

- Occupational Safety and Health Administration rules provide requirements for safe minimum approach distances.
- American Society of Civil Engineers Manual 74, Guidelines for Electrical Transmission Line Structural Loading, and Standard 48-05, Design of Steel Transmission Pole Structures.
- Federal Aviation Administration guidelines cover requirements in the vicinity of airports.
- Florida Department of Transportation 2007 Utility Accommodation Manual.

These codes, guidelines, and standards provide design parameters and guidelines with the goal of protecting public safety.

It is intended that all three transmission lines associated with the Turkey Point 6 and 7 Project would be constructed within a 330-foot right-of-way. An additional 90-foot vegetation management buffer could also be needed to facilitate operations and management needs and for exotic species control.

Based on information provided in the FPL Site Certification Application (SCA) for the Turkey Point Units 6 & 7 Project (FPL 2009), the analysis assumes a span of 1,000 feet for the 500-kV line and a span of 500 feet for the 230-kV line, but it is recognized that this will vary with length of line between angles and the need to avoid or span some areas. The two proposed Clear Sky-Levee 500-kV transmission lines are to be constructed typically using 135- to 150-foot-tall, single-circuit, guyed, concrete poles directly embedded into the ground. Other structure types that may be used along the route include single-circuit, guyed, hybrid poles (bottom section of the structure is concrete; the top section is tubular steel) or single-circuit, un-guyed, tubular steel poles installed on concrete caisson foundations. Guyed, multi-pole structures will also be used where the transmission lines turn large angles or cross other major linear facilities. The 500-kV transmission lines will typically be framed in a triangular configuration. The conductor to be used for these transmission lines is anticipated to be a three conductor bundle of 1,272-thousand circular mil (kcmil) aluminum conductor, steel-reinforced, alumoweld core. The maximum current rating for this conductor is 4,215 amperes. The maximum current rating is the nominal value that would be expected to cause the conductor to reach a design temperature limit of 115 degrees Celsius (°C).

The proposed Clear Sky-Pennsuco 230-kV transmission line will typically be constructed using 80- to 105-foot-tall, single-circuit, concrete poles directly embedded into the ground using a typical guyed structure. Alternative designs may be used along the corridor to accommodate location-specific conditions. Double-circuit guyed concrete poles will be used in portions of existing rights-of-way where the line will be collocated with existing transmission lines. Alternative guyed configurations, which may include multiple guyed structures, will be used where the transmission line turns large angles or crosses other major linear facilities. In some areas of the line, due to localized considerations, variations to these typical designs may be needed. The six conductors (two per phase) of the proposed Clear Sky-Pennsuco 230-kV transmission line will typically be framed in a vertical configuration. Each conductor is anticipated to be one 954-kcmil aluminum conductor, steel-reinforced alumoweld core. The maximum current rating for the transmission line will be 2,990 amperes. The maximum current rating is the nominal value that would be expected to cause the conductor to reach its design temperature limit of 115°C.

Diagrams of potential structure types and configurations are presented in figures D-1 through D-7.

## **CONSTRUCTION TECHNIQUES**

Construction phases would typically consist of right-of-way clearing, access road and structure pad construction (where necessary), line construction, and right-of-way restoration. Several crews may work simultaneously along the length of the line. During the construction of the transmission line, the duration of a crew's stay in any one area would be relatively short (approximately 1 to 2 weeks per location). Foundation construction (if needed) would take approximately 1 day per structure location. Assembly and erection of a structure would each take a few hours to accomplish. Stringing (installing) the conductors would take 3 to 5 days per location, with stringing locations/wire-pulling equipment approximately 2 to 3 miles apart. Cleanup would likely take a few hours at each location. Crew sizes vary depending on the task. The largest crew in any one location could consist of 20 to 30 members; however, on the average, crew size will be approximately 10 to 15 members.

### **RIGHT-OF-WAY CLEARING**

Where vegetation clearing is required, all trees and shrubs within the right-of-way limits whose mature height could exceed 14 feet and are proximate to the transmission lines would be evaluated for pruning or clearing to ground level consistent with the requirements of ANSI A300 (part I)-2000 Pruning Standards and ANSI Z133.1-2000 Pruning, Repairing, Maintaining and Removing Trees, and Cutting Brush-Safety Requirements. In addition, exotic vegetation that may present a fire hazard outside the right-of-way may be removed.

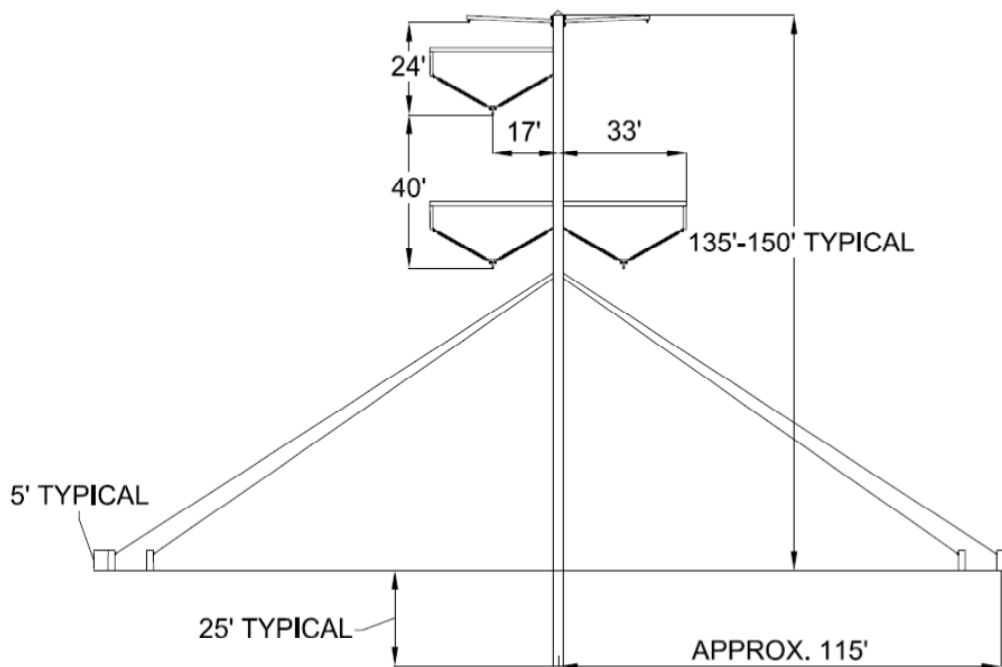
Where trees are cut to ground level, stumps would either be cut or ground down to natural grade and treated with an approved herbicide to prevent regrowth, or the entire stump and root mat would be grubbed to at or below grade. Chipped material would be spread uniformly in uplands along the right-of-way unless landowner restrictions require disposal in another manner. When chipped material is not spread in uplands along the right-of-way, vegetation debris may be hauled to landfills or piled and burned within the limits of the right-of-way consistent with state and local regulations.

June 2009

W9-4


0838-7584

## TYPICAL SINGLE-POLE GUYED 500-kV STRUCTURE



NOTE: EACH STRUCTURE WILL HAVE EIGHT GUY WIRES CONNECTED TO CONCRETE PILE ANCHORS.

GRAPHIC SCALE  
0 10 20 40  
SCALE IN FEET

PROJECT		TURKEY POINT UNITS 6 & 7 PROJECT: TRANSMISSION LINES	
TITLE		TYPICAL SINGLE-POLE GUYED 500-kV STRUCTURE	
	FILE No. 080489-0100	<b>FIGURE W9.2.0-2</b>	
	REV. 0		
	PLOT DATE 05/18/2009		

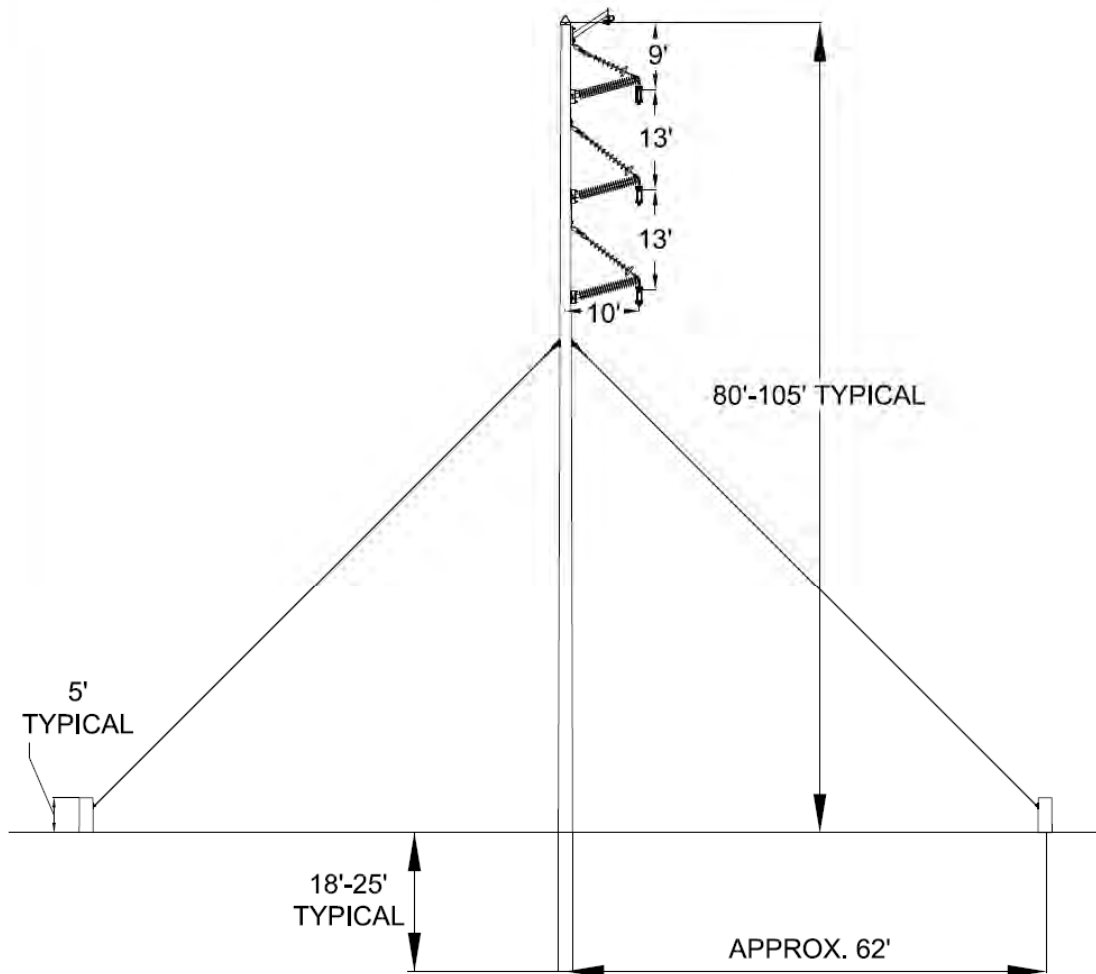
**FIGURE D-1: TYPICAL SINGLE-POLE GUYED 500-kV STRUCTURE**

June 2009

W9-6

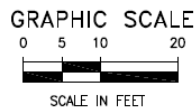
0838-7584

### TYPICAL SINGLE-CIRCUIT GUYED 230-kV STRUCTURE



## NOTES:

1. GUYED STRUCTURES ARE CONNECTED TO CONCRETE PILE ANCHORS.
2. STRUCTURES MAY BE UNGUYED AT CERTAIN LOCATIONS.



## PROJECT

TURKEY POINT UNITS 6 & 7 PROJECT;  
TRANSMISSION LINES

## TITLE

TYPICAL SINGLE-CIRCUIT  
GUYED 230-kV STRUCTURE



FILE No. 080489-0100

REV. 0

PLOT DATE 05/19/2009

**FIGURE  
W9.2.0-3**

**FIGURE D-2: TYPICAL SINGLE-CIRCUIT GUYED 23-kV STRUCTURE**

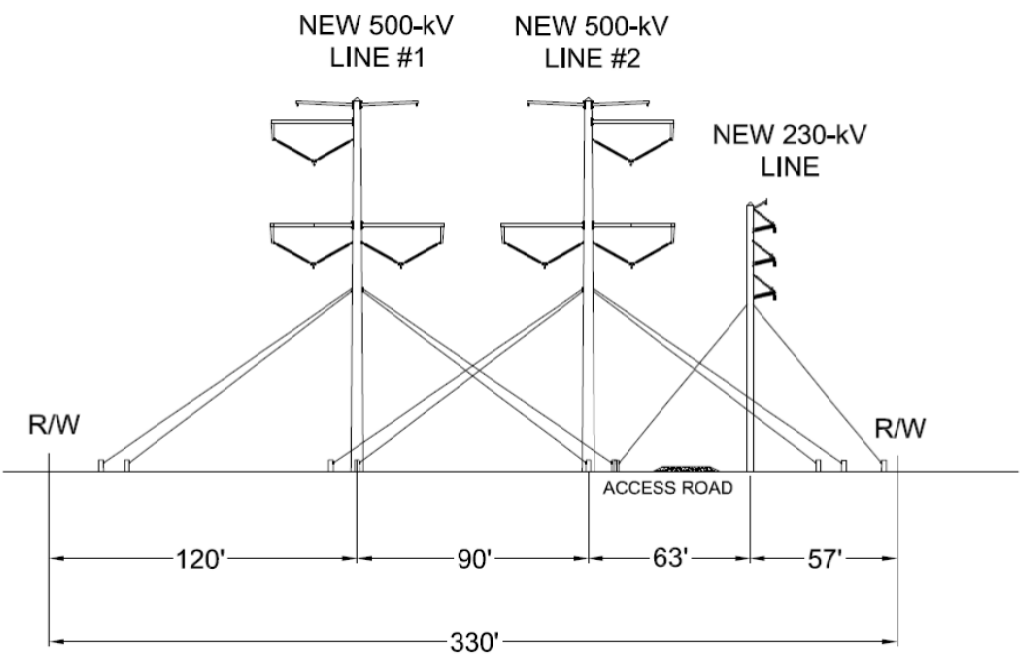


June 2009

W9-17

0838-7584

(W4) CLEAR SKY-LEVEE #1 & #2 500-kV & CLEAR SKY-PENNSUCO 230-kV DESIGN  
ALONG SFWMD LEVEES WITH 230-kV LINE TO WEST  
LOOKING SOUTH



- NOTES:
1. STRUCTURES MAY BE SPACED AT DIFFERING INTERVALS LONGITUDINALLY ALONG THE RIGHT-OF-WAY.
  2. CONCEPTUAL CONFIGURATION SHOWN, FINAL CONFIGURATION MAY VARY.

GRAPHIC SCALE  
0 30 60  
SCALE IN FEET

PROJECT	TURKEY POINT UNITS 6 & 7 PROJECT:		
	TRANSMISSION LINES		
	(W4) ALONG SFWMD LEVEES		
	TITLE		
FPL	FILE NO. 0804584-100		
	REV. 0		
	PLOT DATE 06/18/2009		
	FIGURE W9.2.0-13		

FIGURE D-3: (W4) ALONG SOUTH FLORIDA WATER MANAGEMENT DISTRICT LEVEES

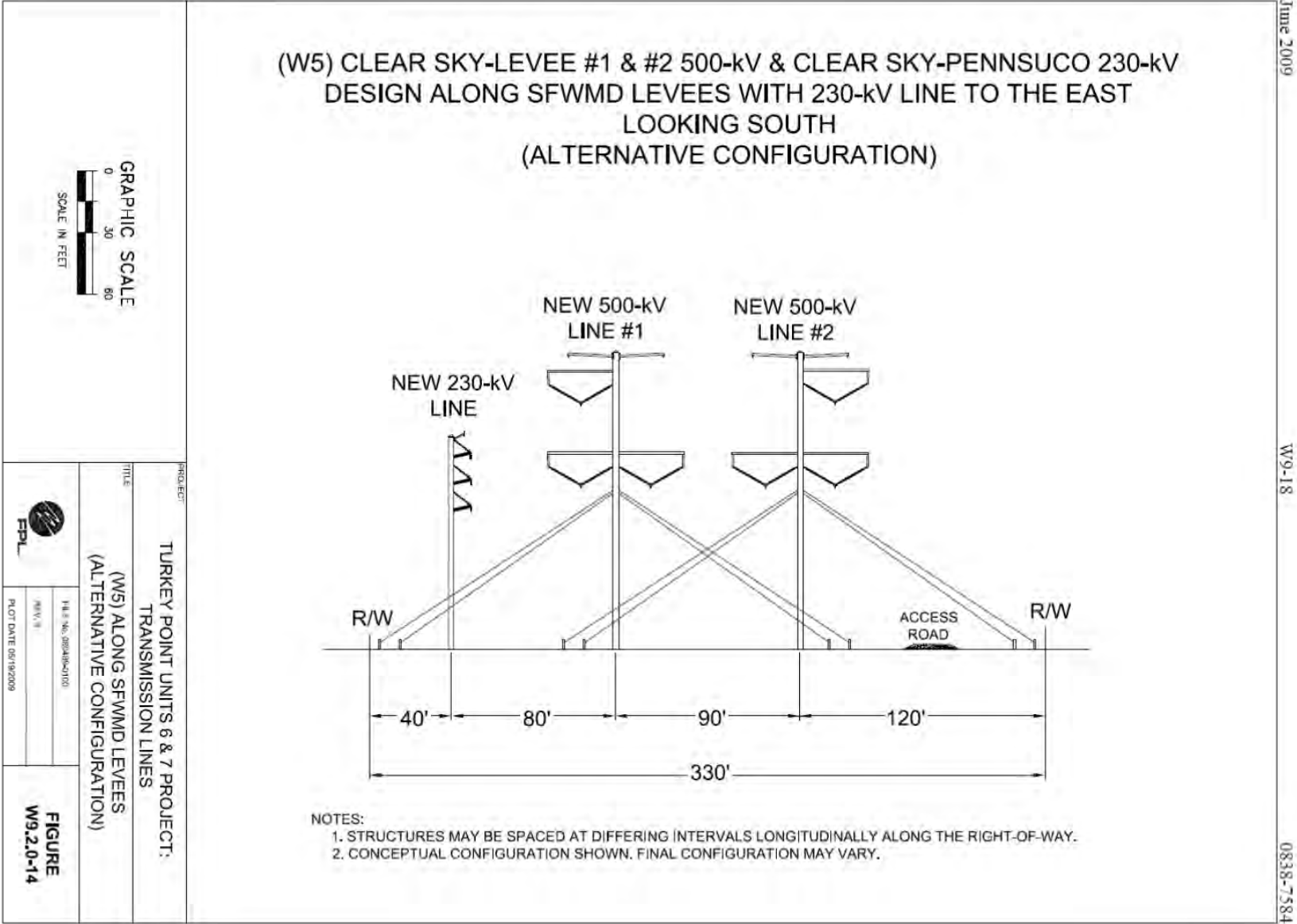


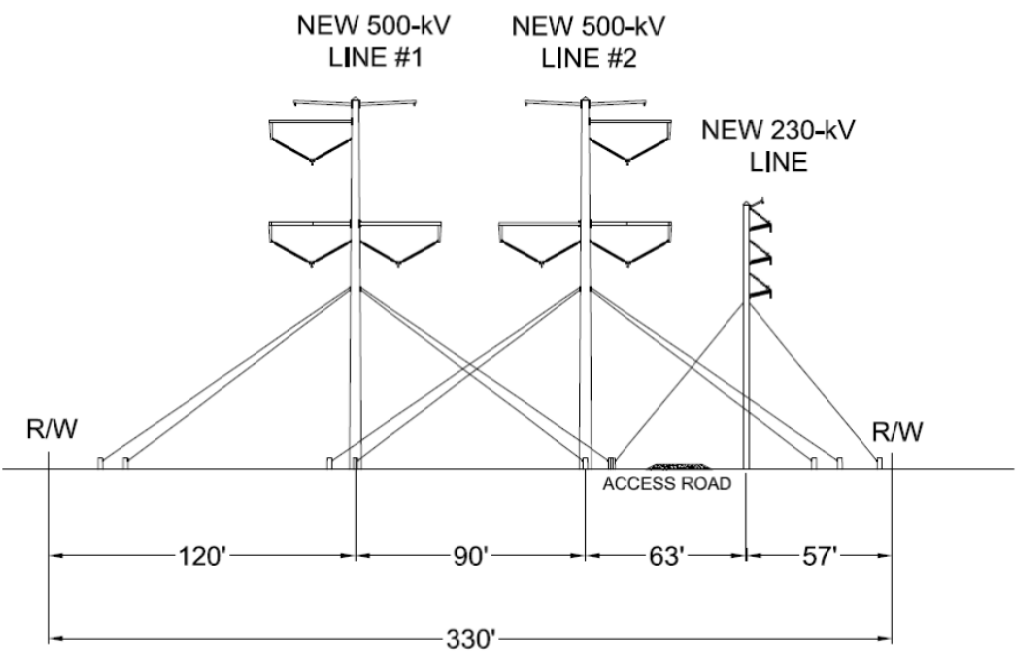
FIGURE D-4: (W5) ALONG SOUTH FLORIDA WATER MANAGEMENT DISTRICT LEVEES (ALTERNATIVE CONFIGURATION)

June 2009

W9-19

0838-7584

(W6) CLEAR SKY-LEVEE #1 & #2 500-kV & CLEAR SKY-PENNSUCO 230-kV  
KROME AVENUE EAST TO LEVEE SUBSTATION WITH 230-kV LINE TO THE NORTH  
LOOKING WEST



- NOTES:
1. STRUCTURES MAY BE SPACED AT DIFFERING INTERVALS LONGITUDINALLY ALONG THE RIGHT-OF-WAY.
  2. CONCEPTUAL CONFIGURATION SHOWN. FINAL CONFIGURATION MAY VARY.

<p>GRAPHIC SCALE</p> <p>SCALE IN FEET</p>	<p>PROJECT: TURKEY POINT UNITS 6 &amp; 7 PROJECT: TRANSMISSION LINES</p> <p>TITLE: (W6) KROME AVENUE EAST TO LEVEE SUBSTATION</p> <p>FILE NO. 080486-0100</p> <p>REV. 0</p> <p>PLOT DATE 05/19/2009</p> <p>FIGURE W9.2.0-15</p>
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FIGURE D-5: (W6) KROME AVENUE EAST TO LEVEE SUBSTATION

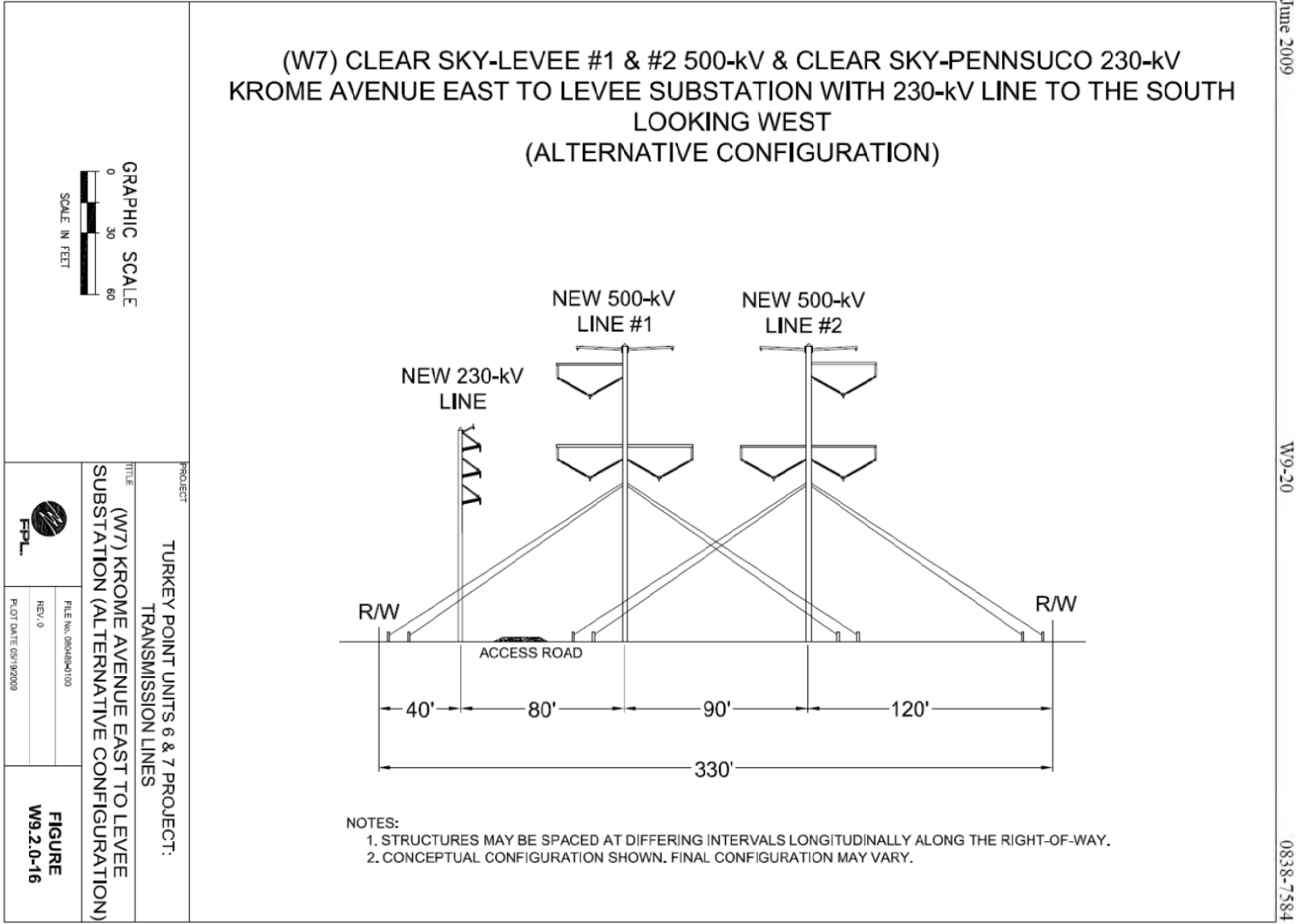


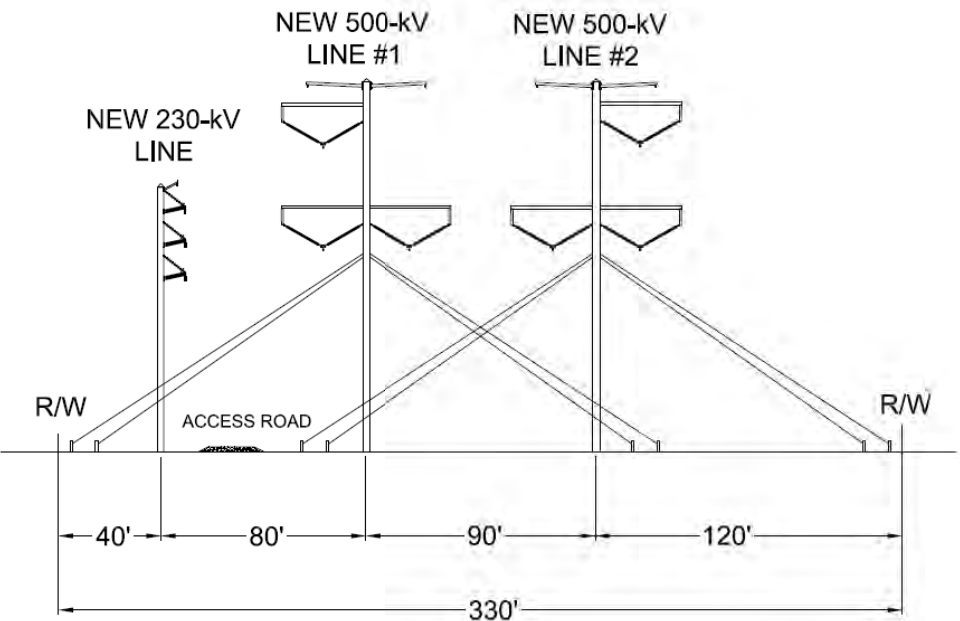
FIGURE D-6: (W7) KROME AVENUE EAST TO LEVEE SUBSTATION (ALTERNATIVE CONFIGURATION)

June 2009

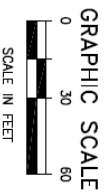
W9-27


0838-7584

(W14) CLEAR SKY-LEVEE #1 & #2 500-kV & CLEAR SKY-PENNSUCO 230-kV  
WEST SECONDARY CORRIDOR  
LOOKING SOUTH  
(ALTERNATIVE CONFIGURATION)



- NOTES:
1. STRUCTURES MAY BE SPACED AT DIFFERING INTERVALS LONGITUDINALLY ALONG THE RIGHT-OF-WAY.
  2. CONCEPTUAL CONFIGURATION SHOWN. FINAL CONFIGURATION MAY VARY.



PROJECT		
TURKEY POINT UNITS 6 & 7 PROJECT: TRANSMISSION LINES		
(W14) WEST SECONDARY CORRIDOR (ALTERNATIVE CONFIGURATION)		
	FILE No. 080484-100	<b>FIGURE</b> <b>W9.2.0-23</b>
	REV. 0	
	PLOT DATE 06/18/2009	

**FIGURE D-7: (W14) WEST SECONDARY CORRIDOR (ALTERNATIVE CONFIGURATION)**

Clearing in wetlands and sensitive communities along the right-of-way would be accomplished using restrictive clearing techniques. Restrictive clearing is performed by hand, usually with chain saws or with low ground pressure shear or rotary type machines, which reduce soil compaction and vegetation disturbance.

Use of herbicides for vegetation control on the rights-of-way would meet federal, state, and local regulations. Typically, herbicides would be used on exotic and incompatible species. Care would be taken to retain a cover of compatible native species. For the portions of the right-of-way that would be adjacent to the Everglades National Park, herbicide use would be in compliance with the National Park Service (NPS) Integrated Pest Management Plan.

## **ACCESS ROAD/STRUCTURE PAD CONSTRUCTION**

A single access road will be needed to access the structure pads for the two 500-kV and one 230-kV transmission lines along the length of the right-of-way. Access roads would be used for initial line construction and would remain for routine maintenance and emergency access. FPL would evaluate existing access roads (e.g., agricultural roads, public roadways, and South Florida Water Management District levees) for possible use of these existing facilities. In some cases, these existing access roads may need to be improved to accommodate the construction and maintenance equipment. Where access roads are currently not available or where existing roads need to be enhanced, the construction or enhancement of these roads would be completed with clean fill and the roads would be unpaved.

Construction of access roads and pads (where required) in uplands would be accomplished by first completing the clearing and grubbing of the road footprint and then placing, spreading, shaping, and compacting hauled clean fill to the design elevation.

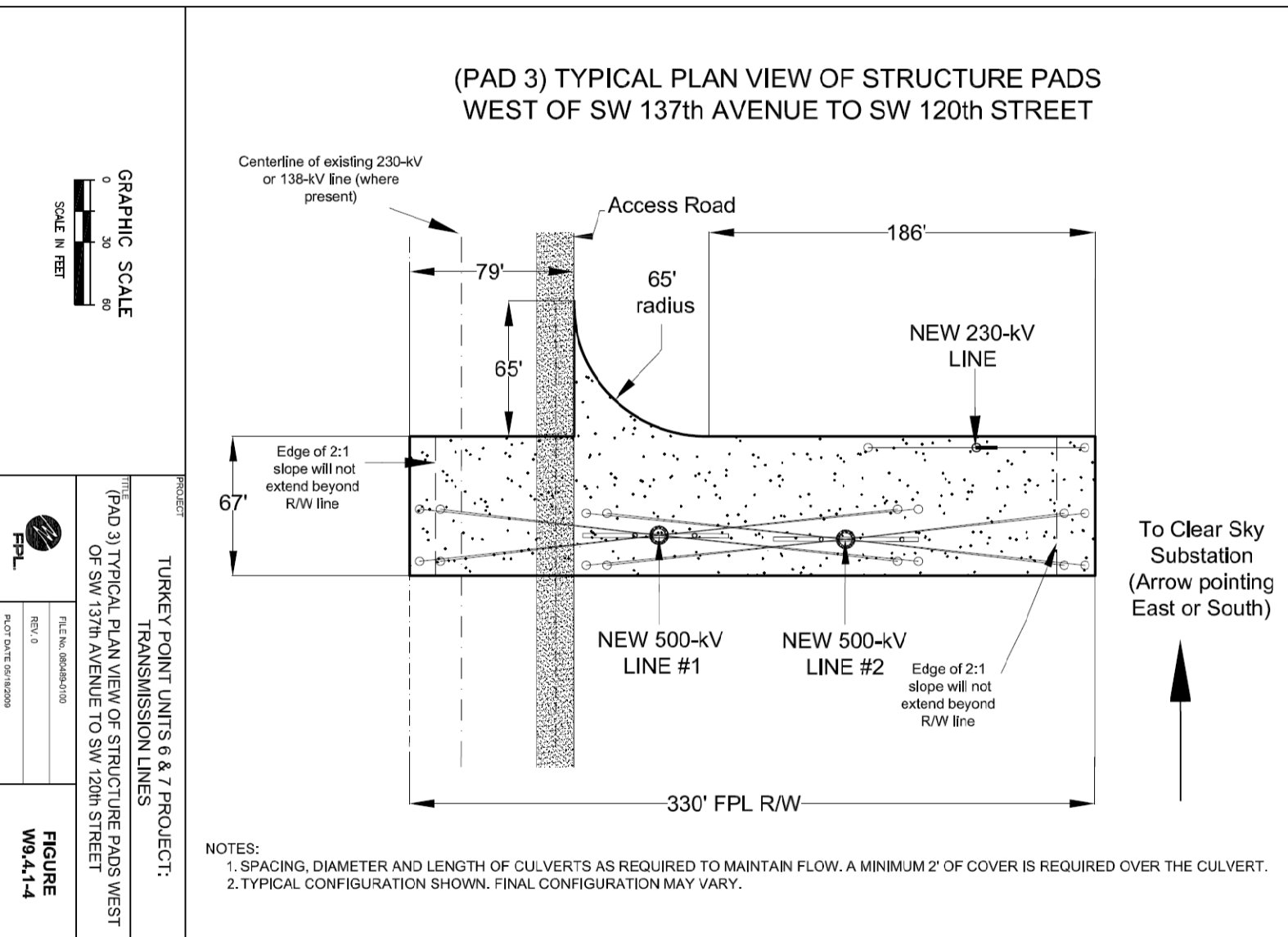
Construction of access roads and pads in wetlands would be accomplished by first installing silt fences or hay bales along the perimeter of the work area of the right-of-way, followed by selective clearing of the right-of-way to remove vegetation whose mature height could exceed 14 feet. Then an additional silt fence would be installed along both sides of the proposed access road and pad footprints, followed by a final clearing and grubbing of the areas to be filled. After clearing and grubbing is complete, a geotextile liner may be laid and staked before road and pad construction commences. The final grade of access roads and structure pads is typically set to be 12 inches above the expected seasonal high water (or controlled high water) elevation.

The typical pads to be constructed for structure support are depicted in figures D-8 through D-11. For purposes of assessing area of disturbance from pads, information provided by FPL was used to supplement the information included in the Site Certification Application (SCA). Based on the figures in the SCA, the typical larger pad size (without side slopes) is assumed to be about 67 by 330 feet for areas containing the 500-kV structures, and 35 by 55 feet for areas with just a 230-kV line present. FPL figures provided in its data needs response were reviewed with FPL (Braun, pers. comm. 2012) and were used to estimate the acres of filled/disturbed areas in order to do a comparative analysis among alternative transmission line scenarios in the EIS. All these figures are rough estimates subject to change and are based on preliminary design only. The larger pad including side slopes was assumed to be about 1 acre in wetland areas (where more fill is needed) and 0.35 acres in non-wetland or upland areas. The smaller 230-kV pads were assumed to be about 0.63 acres in wetlands and 0.05 acres in uplands. If the existing levee road could be used, small finger pads would be needed to connect to the levee road for portions of the West Preferred corridor; these are about 18 by 125 feet on the average and were not included in the estimates used in the EIS, which assumed that a new access road would be built along the length of the right-of-way for all routes analyzed.

June 2009

W9-103

0838-7584



**FIGURE D-8: (PAD 3) TYPICAL PLAN VIEW OF STRUCTURE PADS WEST OF SW 137th AVENUE TO SW 120th STREET**



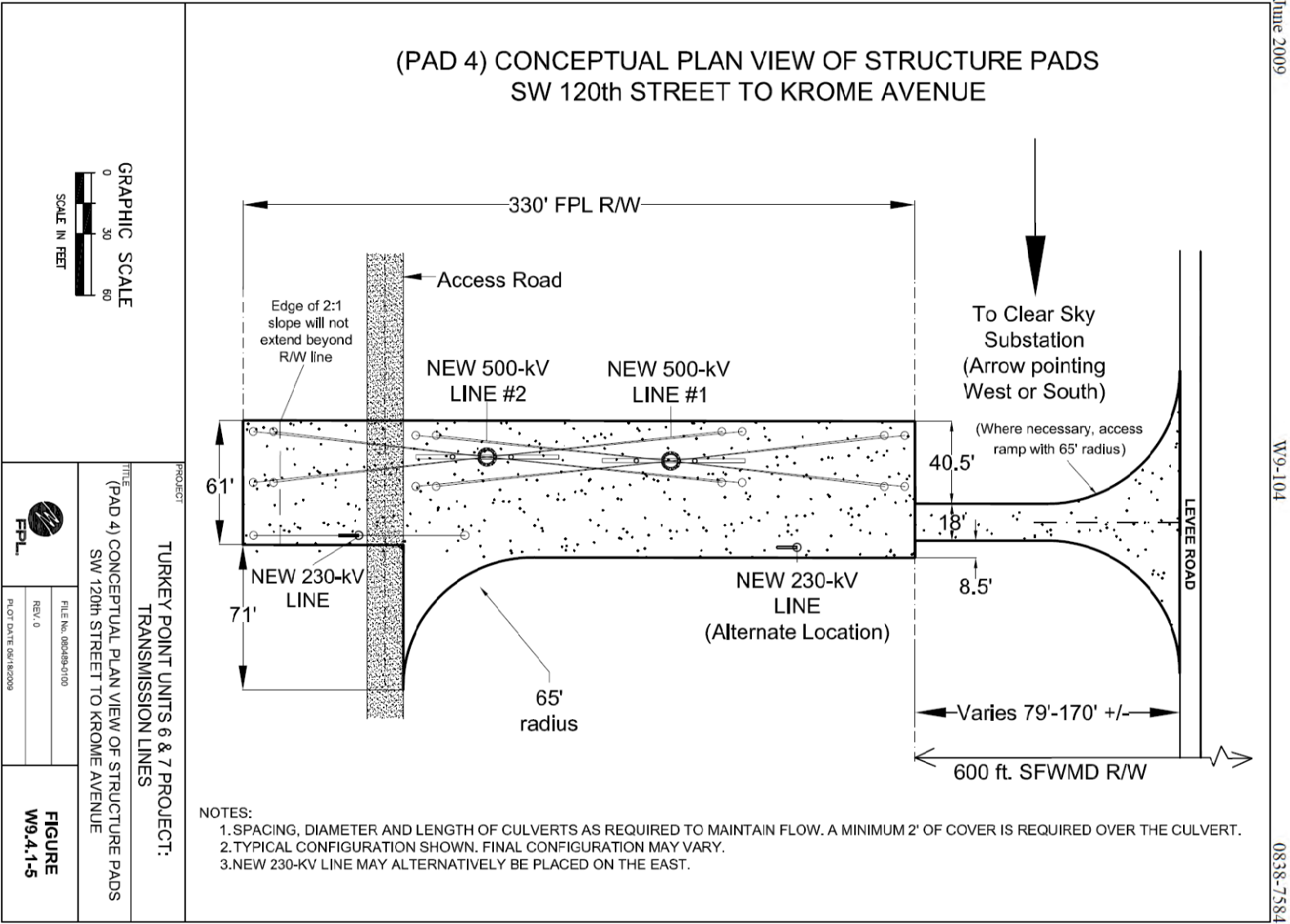
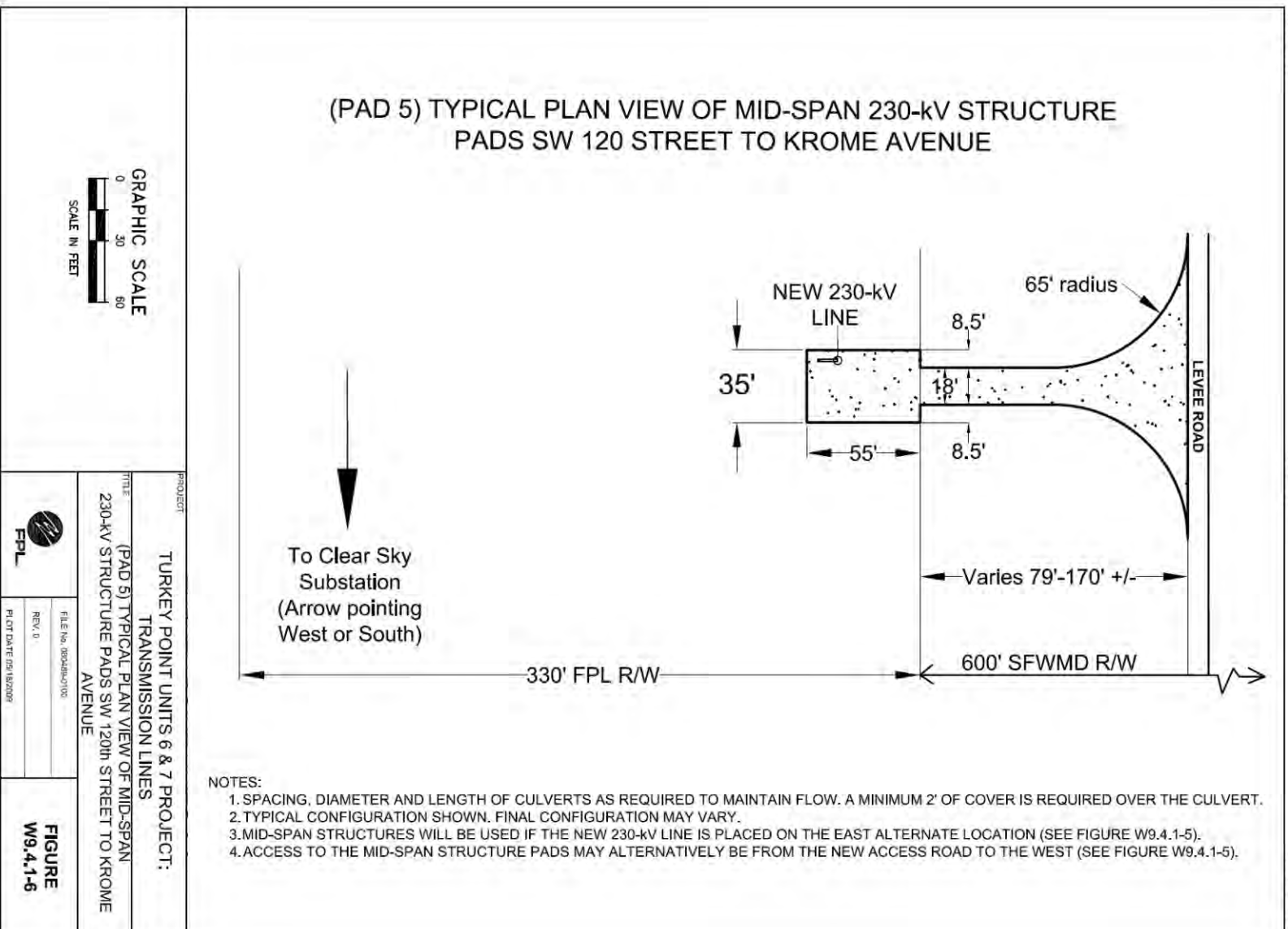


FIGURE D-9: (PAD 4) CONCEPTUAL PLAN VIEW OF STRUCTURE PADS SW 120TH STREET TO KROME AVENUE

June 2009

W9-105

0838-7584



**FIGURE D-10: (PAD 5) TYPICAL PLAN VIEW OF MID-SPAN 230-kV STRUCTURE PADS SW 120TH STREET TO KROME AVENUE**

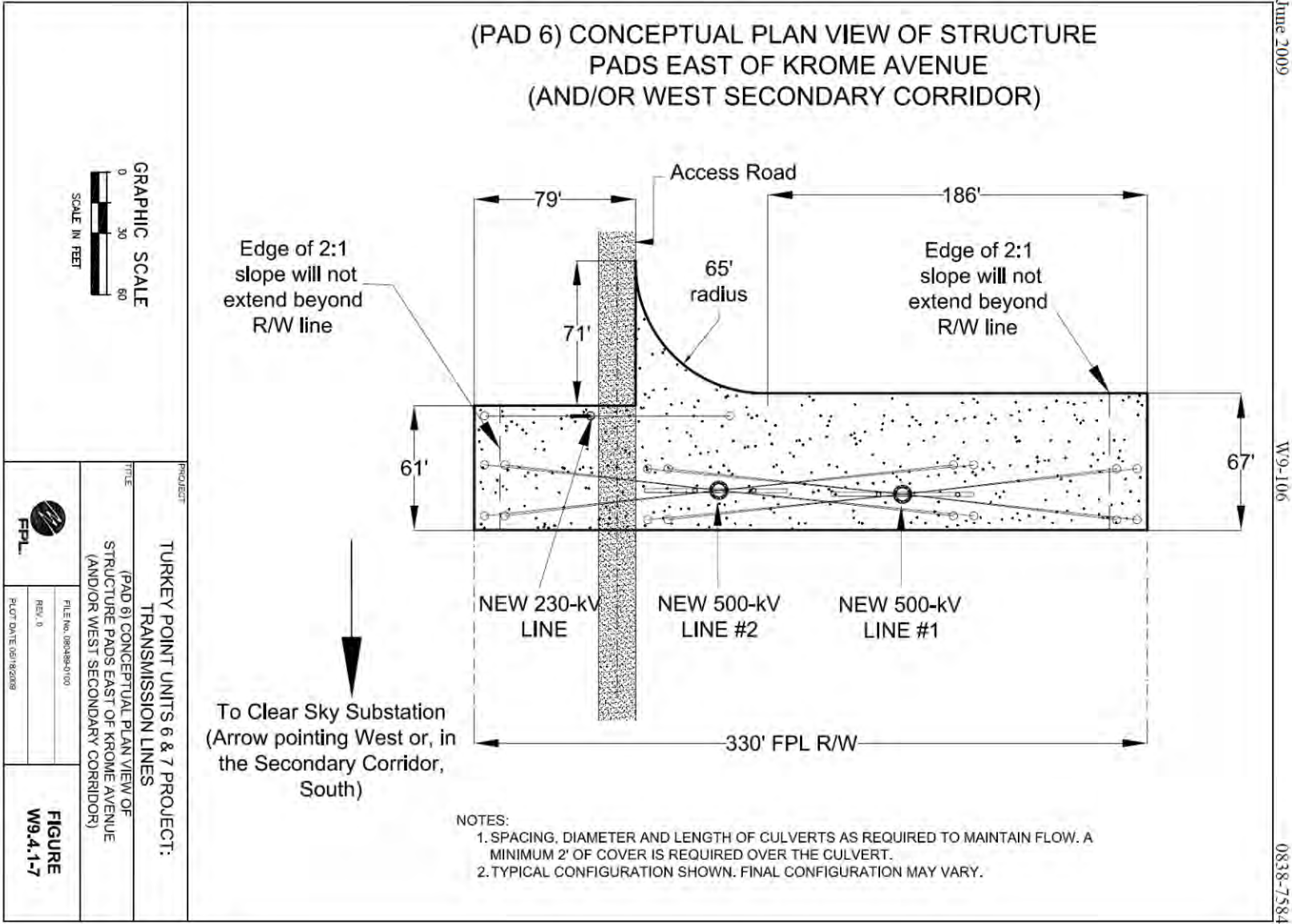


FIGURE D-11: (PAD 6) CONCEPTUAL PLAN VIEW OF STRUCTURE PADS EAST OF KROME AVENUE  
(AND/OR WEST SECONDARY CORRIDOR)

A cross-section of a typical access road/pad is shown in figure D-12. Typical width of the travel lane of the access road would be 18 feet, although the total area disturbed and graveled (including the side slopes) was assumed to be 42 feet in wetlands (where more fill is needed) and 22 feet in uplands.

Specific locations and design of access roads through wetlands would be part of the final design of the transmission line to be submitted to agencies as a post-certification submittal in compliance with the conditions of certification. Transmission line construction stormwater discharges released into waters of the state will be addressed through compliance with Rule 62-621.300(4) (Generic Permit for Stormwater from Large and Small Construction Activities).

Culverts are included under access roads in wetlands to maintain channel flow and/or overland flow. Typically a minimum of 2 feet of cover is installed over culverts to ensure they are not crushed by vehicle loads. The culverts are installed so that their invert elevations match the wetland floor elevation. A combination of 18-, 24-, 30-, and 36-inch culverts is expected to be used on the transmission line access roads and structure pads where required to maintain existing surface water flows. Smaller diameter culverts are preferred, as practicable, to limit the depth of fill to be installed. However, larger diameter culverts may be required in some locations.

Culverts and access roads would be designed based on best available information and good engineering practice to equalize the water volume created from a small rainfall event. Culvert sizing for the access roads and structure pads in extensive wetland areas would be based on appropriate hydrological studies and comply with applicable codes and requirements. Where construction of access roads and structure pads is required in wetlands, turbidity screens and erosion control devices would be used to minimize construction impacts to wetlands and water bodies and ensure that state water quality standards for turbidity are met.

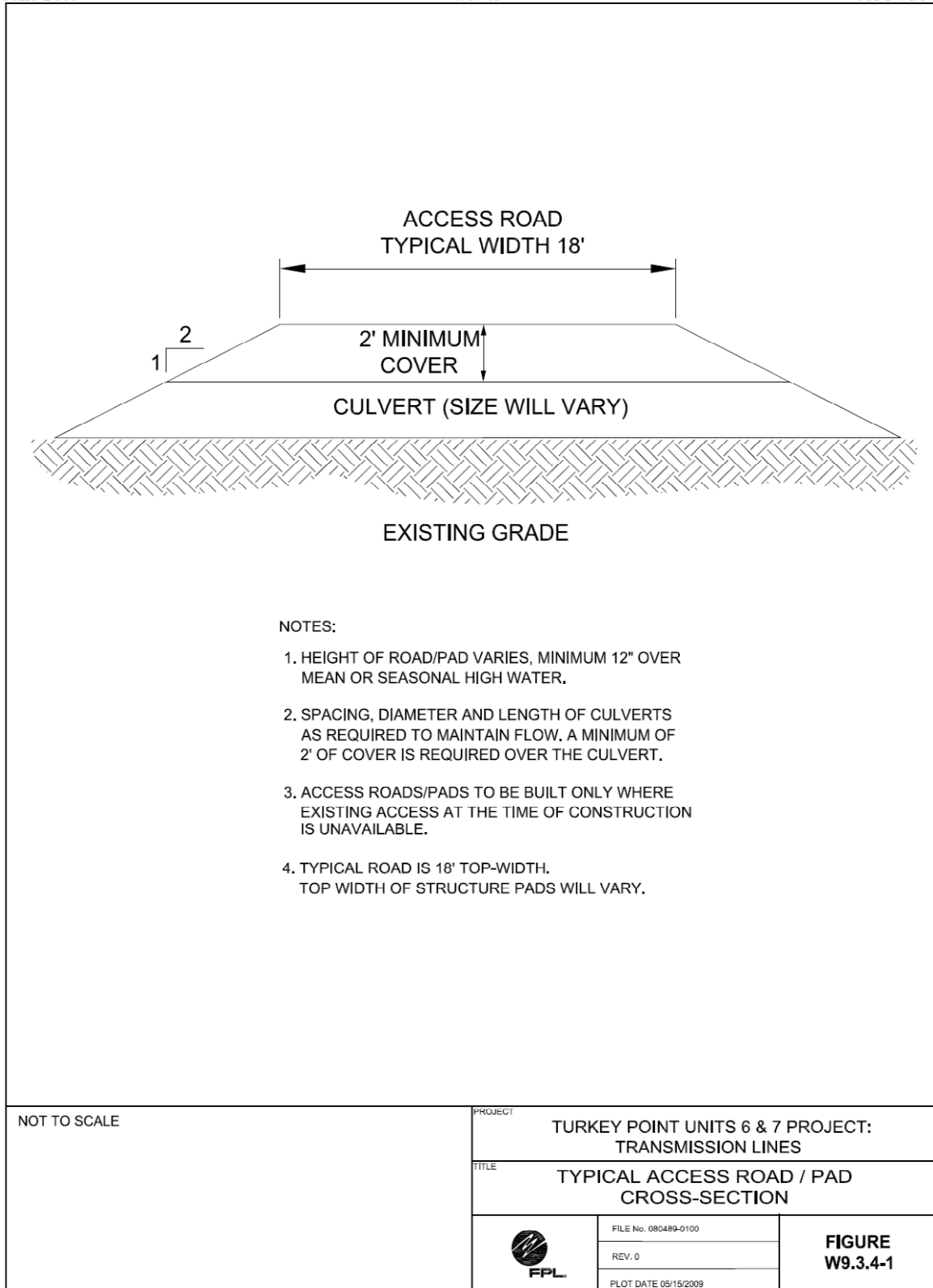
## **TRANSMISSION LINE CONSTRUCTION**

Transmission structures are generally delivered to the work area using semi-trailer trucks with open trailers. Structure transport would comply with applicable state and local road regulations. Assembly would occur as close as possible to the design location. Typically the structures are framed with the insulator and overhead ground wire assemblies while lying on the ground. Installing the transmission line structures requires an auger truck, which will typically auger a hole approximately 18- to 25-feet deep and approximately 72 inches (6 feet) in diameter on average. Dewatering of the holes during construction, in the unlikely event it is required, may discharge water to catch basins, temporary settling basins, or watercourses if the water is sufficiently free of sediments. The concrete single-pole or hybrid single-pole structures (where the bottom section of the pole is concrete, and the top section of the pole is tubular steel) will be embedded directly into the hole and backfilled with crushed rock. (Use of taller, multiple-piece, single-pole concrete or taller hybrid pole structures, localized geography, or poor subsurface conditions may require the selection of additional setting depths.) Multiple-piece structures could be assembled on the ground prior to lifting in place, or they could be installed in the air one section at a time with the use of a crane. Where tubular steel, single-pole, un-guyed structures are used, they will require augering a hole approximately 108 inches (9 feet) in diameter to accommodate the installation of concrete caisson foundations. A caisson foundation is composed of a reinforcing steel cage with poured-in-place concrete. Excess excavated fill material would be spread evenly onto adjacent uplands, preferably onto existing or recently constructed access roads or pads.

June 2009

W9-49

0838-7584

**FIGURE D-12: TYPICAL ACCESS ROAD / PAD CROSS-SECTION**

Guys and anchors may be required at structure locations. Anchors used would typically be either multi-helix screw-in-type anchors or pile-type anchors. Pile anchors provide strength applications by embedding a short reinforced concrete pole section to a required depth with backfill. Multi-helix anchors are installed using truck-mounted equipment to screw the anchor into the ground to the required length or torque to meet design requirements. Guy wires are attached to hardware connected to the pole section extending above the ground.

Construction would be performed to minimize disturbance to natural ground cover. Turbidity screens and other erosion control devices (silt fences) would be used where there is erosion potential to minimize any impacts to wetlands and water bodies and ensure that state water quality standards for turbidity are met.

Cranes, bucket trucks, flatbed trucks, semi-trailer trucks, front-end loaders, bulldozers, and other support vehicles are typically used in structure erection and anchor/guying installations. Laydown areas for equipment and materials would be located in uplands to the fullest extent practical. If laydown areas must be located where no uplands exist then they would be permitted as a temporary impact then fully restored. The size of the laydown or staging areas would be dependent on the type and amount of equipment needed in those areas.

Prior to construction, FPL would provide notification to the Federal Aviation Administration via form 7460-1 for appropriate structures and construction equipment and will coordinate with licensed airports as necessary.

Insulator and conductor installation would follow structure erection. Installing conductors between structures requires stringing a lead line between each structure's stringing block to form a continuous connection between end points of a conductor stringing pull. The lead line is used to pull the conductors into position. The conductor is then tensioned to design specifications, transferred to the support clamp at the structure, and then clipped into its final position. This operation is repeated for each of the conductors and overhead ground wires on the transmission line. Bucket trucks, wire-pulling equipment, wire reels, trailers, tensioners, and other support vehicles are typically used in conductor and overhead ground wire installation operations; however, helicopters may also be used. Pulling areas are typically up to 1 acre in size.

## **RIGHT-OF-WAY RESTORATION**

Once construction is completed, construction debris, if any, will be removed, and FPL would employ various methods to restore the right-of-way. These methods will be specific to each location. Restoration may include stabilizing potentially erodible areas, typically through seeding and mulching. Limited permanent alterations would be associated with right-of-way clearing.

Construction practices in wetlands will retain the vegetative root mat in the right-of-way in areas not filled for road or structure pad construction. Outside of areas where filling may be necessary for roads or structure pads, freshwater marsh/wet prairie systems crossed by the transmission lines would not be affected by construction activities since no clearing will be required, and proper culverting would maintain the existing hydroperiod. Forested wetlands would be permanently converted to herbaceous or shrub-scrub wetlands through line clearing and maintenance activities.

## **POST-CONSTRUCTION ACTIVITIES**

### **LINE MAINTENANCE**

Safe and reliable operation of the new transmission lines would be maintained through regular inspection of the poles, conductors, insulators, hardware, access areas, and vegetation in proximity to the facilities. The inspections would primarily consist of truck patrols but may also include aerial (helicopter/airplane) patrols. Electric transmission lines normally require minimal maintenance; however, FPL would inspect the transmission lines on a regular basis to look for problems caused by weather, vandalism, vegetation regrowth, etc.

Vegetation maintenance would likely take place twice yearly. Vegetation would be maintained in the right-of-way to ensure the safe, reliable operation of the transmission lines. FPL would manage vegetation on the transmission line right-of-way by a variety of methods, including trimming, mowing, and the use of approved growth regulators and herbicides, targeting species that are incompatible with the safe access and operation and maintenance of the transmission system.

FPL's right-of-way maintenance program is specific to each location, and a maintenance prescription is often detailed down to the individual spans between poles. The exact manner in which right-of-way maintenance would be performed would depend on the location, type of terrain, surrounding environment, and regulatory control. Vegetation removal would be minimized consistent with safe and reliable operation of the transmission line. In non-urbanized or non-cultivated portions of the right-of-way, fast-growing vegetation species and other vegetation whose mature height could exceed 14 feet would be pruned or removed from the area between the structures to avoid interference with the conductor clearance. Any vegetation that could restrict access to the right-of-way would be removed. Other species are generally allowed to remain, resulting in a shrubby and herbaceous cover within the right-of-way.

FPL would also work to control the spread of nuisance plants that could present a fire hazard within the right-of-way through the use of approved herbicides and other removal techniques. Use of herbicides for vegetation control would be selective. Application of these herbicides would meet applicable federal, state, and local regulations. Where vegetation maintenance activities occur within or adjacent to Everglades National Park, herbicide use or other removal techniques would be coordinated with Everglades National Park and in accordance with the NPS Integrated Pest Management Plan.

Some vegetation maintenance activities outside the right-of-way are occasionally necessary. To enhance the safe, reliable operation of the proposed transmission lines, FPL may trim or remove danger timber outside the FPL right-of-way in coordination with the adjacent property owner(s). Danger timber includes trees in danger of falling or leaning into the conductors or, in areas of wildfire hazard, other vegetation that may provide excessive fuel loading in proximity to the transmission lines. FPL may acquire the necessary property rights to maintain such vegetation, as needed.

### **MULTIPLE USES**

FPL rights-of-way are frequently used for other purposes compatible with the safe and reliable operation and maintenance of transmission lines. Multiple uses of a transmission line right-of-way typically include grazing, citrus and row-crop farming, other agricultural operations, controlled landscaping, recreational uses such as golf courses and hiking/biking trails, and other compatible activities that do not interfere with FPL's full use of the right-of-way and the safe, reliable function of the transmission line facilities. In most cases, FPL's property rights consist of an easement for the construction, maintenance, and operation of its transmission line, as well as the rights of ingress and egress to the line, from another party who retains the fee-simple interest in the property. The easement may provide for the acceptable use of the



right-of-way by the fee owner for activities that do not interfere with FPL's full use of its easement and the safe, reliable function of the transmission line facilities.

In some cases, FPL owns or purchases a fee interest in its rights-of-way. If FPL owns the right-of-way, all rights to the property would be held by FPL. If a party wishes to use the company-owned property, a license agreement may be negotiated, allowing for activities that do not interfere with FPL's full use of the right-of-way and the safe, reliable function of the transmission line facilities.

## **MITIGATION MEASURES**

FPL's construction designs would include features to minimize impacts to avian species including the wood stork. For example, the spacing between transmission conductors (wires) for the proposed 230- and 500-kV lines would be far greater than the 61-inch wingspan for the wood stork, greatly minimizing the threat for electrical harm to the bird. These designs would be consistent with the Florida Fish and Wildlife Conservation Commission (FFWCC) recommended Conditions of Certification to install flight diverters on overhead ground wires to minimize bird interactions with the lines in areas within 0.5 mile of active wood stork colonies and FPL's design standard of installing perch discouragers on all new 230- and 500-kV transmission line structures. FPL's designs would be consistent with the mitigation concepts document shared previously with the NPS.

Further, an Avian Protection Plan specifically for this project, consistent with the mitigation concepts document and Avian Power Line Interaction Committee guidelines, would be developed in consultation with U.S. Fish and Wildlife Service (USFWS). In the mitigation concepts document, FPL suggested that various mitigation options are available in certain areas to reduce potential impacts to wading birds. These options include wildlife and wading bird colony surveys to document which species and in what areas of the right-of-way alignment potential impacts are possible in addition to the design features, such as perch discouragers on the towers and flight diverters mentioned above.

Subsequent to submission of that document to the NPS, FPL has been negotiating proposed Conditions of Certification with FFWCC and South Florida Water Management District. Included in those proposed Conditions of Certification are requirements for pre-construction listed species surveys all along the right-of-way and ground and follow-flight surveys of wading bird usage along the right-of-way in areas of known wading bird colonies. The proposed Conditions of Certification also require potential design alternatives such as perch discouragers and flight diverters in areas of those known colonies. FPL would also work with FFWCC to design a post-construction mitigation effectiveness monitoring study. Based on the results of such a study, FPL may be required to implement further mitigation measures, such as additional flight diverters. A specific design has not yet been selected, so these measures are not specifically incorporated into the analysis in this EIS.

Specific mitigation measures taken from the FPL SCA are listed below.

## **SPECIAL STATUS SPECIES**

1. For any species documented within the proposed right-of-way as a result of post-certification surveys, FPL will work with USFWS (for any federally listed species) or Florida Department of agriculture and Consumer Services or FFWCC (for any state-listed species) to identify appropriate steps to avoid, minimize, mitigate, or otherwise appropriately address impacts to species within the respective agencies' jurisdiction.
2. FPL will comply with any federal permit conditions regarding wood stork colonies.

3. FPL will work with USFWS/FFWCC to mitigate any potential impacts to Florida panther habitat once a corridor is certified and a specific right-of-way is designed.
4. Appropriate erosion control measures will be used to prevent impacts to aquatic species habitat. The transmission lines will span water bodies where manatees could occur.
5. Maintenance activities will be in conformance with FPL's *Threatened and Endangered Species Evaluation and Management Plan*, which was submitted as Appendix 10.7.1 of the FPL SCA for Turkey Point Units 6 & 7.
6. FPL will construct, operate, and maintain the transmission line in compliance with its Avian Protection Plan (FPL 2007).

## **WATER RESOURCES**

1. Construction of access roads and pads in wetlands would be accomplished by first installing silt fences or hay bales along the perimeter of the work area of the right-of-way, followed by selective clearing of the right-of-way to remove vegetation whose mature height could exceed 14 feet. Then an additional silt fence would be installed along both sides of the proposed access road and pad footprints, followed by a final clearing and grubbing of the areas to be filled. After clearing and grubbing is complete, a geotextile liner may be laid and staked before road and pad construction commences. Stormwater discharges released into waters of the state during transmission line construction will be addressed through compliance with Rule 62-621.300(4) (Generic Permit for Stormwater from Large and Small Construction Activities).
2. Culvert sizing for the access roads and structure pads in extensive wetland areas would be based on appropriate hydrological studies and comply with applicable codes and requirements. Where construction of access roads and structure pads is required in wetlands, turbidity screens and erosion control devices would be used to minimize construction impacts to wetlands and water bodies and ensure that state water quality standards for turbidity are met.
3. In the event of inadvertent equipment or vehicle fluid release, construction crews will be equipped with spill containment and absorption materials.

## **VEGETATION**

1. Where trees are cut to ground level, stumps will either be cut or ground down to natural grade and treated with an approved herbicide to prevent regrowth, or the entire stump and root mat will be grubbed to at or below grade. Chipped material will be spread uniformly in uplands along the right-of-way unless landowner restrictions require disposal in another manner. When chipped material is not spread in uplands along the right-of-way, vegetation debris may be hauled to landfills or piled and burned within the limits of the right-of-way consistent with state and local regulations.
2. All required tree pruning will conform to the current edition of ANSI A300 (Part I)-2000 Pruning Standards and ANSI Z133.1-2000 Pruning, Repairing, Maintaining and Removing Trees, and Cutting Brush-Safety Requirements.
3. Clearing in wetlands and sensitive communities along the right-of-way will be accomplished using restrictive clearing techniques. Restrictive clearing is performed by hand, usually with chain saws or with low ground pressure shear or rotary type machines, which reduce soil compaction and vegetation disturbance.
4. Use of herbicides for vegetation control on the rights-of-way will meet federal, state, and local regulations. Typically, herbicides will be used on exotic and incompatible species. Care will be

taken to retain a cover of compatible native species. For the portions of the right-of-way that will be adjacent to the park, herbicide use will be in compliance with the NPS' Integrated Pest Management Plan.

5. Once construction is completed, construction debris, if any, will be removed, and FPL will employ various methods to restore the right-of-way. These methods will be specific to each location. Restoration may include stabilizing potentially erodible areas, typically through seeding and mulching.

## **WETLANDS**

1. Construction practices in wetlands will retain the vegetative root mat in the right-of-way in areas not filled for road or structure pad construction, thereby minimizing impacts to wetland vegetation.
2. Wetland impacts will be mitigated in accordance with federal and state laws. FPL will comply with all conditions in the environmental resource permit, including those relating to mitigation.
3. Mitigation for impacts to wetlands due to transmission line and access road construction may include a combination of regional wetland restoration, enhancement, and preservation consistent with the regional restoration goals of the Comprehensive Everglades Restoration Plan within the Biscayne Bay Coastal Wetlands study area and Model Lands Basin, as well as the use of Florida Department of Environmental Protection- and U.S. Army Corps of Engineers-approved mitigation banks. The restoration, enhancement, and preservation projects that will potentially be used to mitigate for impacts to wetlands are described in the *FPL Turkey Point Units 6 & 7 Mitigation Plan* (Golder 2009) that was submitted as Appendix 10.4, Section 2, Attachment E of the FPL Turkey Point SCA environmental resource permit. This states that all transmission line impacts are proposed to be mitigated through purchase of mitigation credits from the Hole-in-the-Donut Wetland Mitigation Bank, which is located within the park, using a mitigation ratio of 1:1.

## **CULTURAL RESOURCES**

1. Every attempt will be made to avoid known cultural resources along the corridor. This can be accomplished with alignment of the actual right-of-way and structure and pad placement.
2. If requested by Division of Historical Resources (DHR), an archaeological resource assessment survey will be conducted of archaeologically sensitive areas (as determined by DHR and the archaeologist retained by FPL) within the eventual right-of-way, and the report of the survey will be submitted to DHR for review. If any archaeological resources within the right-of-way are determined to be significant, DHR will be consulted regarding appropriate procedures for either preservation or excavation of the significant resource(s).
3. If unforeseen archaeological finds are discovered during construction, DHR will be notified. Following a determination of the importance of such finds, FPL will work with DHR to assess mitigation measures necessary to minimize adverse impacts.

## **MISCELLANEOUS**

1. Solid wastes would be collected and removed for disposal in compliance with state and local landfill regulations, chipped and spread in uplands, or piled and burned within the limits of the right-of-way in compliance with state and local regulations.
2. Where required, the transmission line construction contractor will follow Florida Department of Transportation guidelines for traffic control.

3. FPL standards require that fences and gates either crossing or parallel to and within the transmission rights-of-way be grounded to mitigate shock hazard. FPL will provide this grounding as part of its construction activities.

## REFERENCES

### Golder

- 2009 FPL Turkey Point Units 6 & 7 Mitigation Plan. Submitted as Appendix 10.4, Section 2, Attachment E of the FPL Turkey Point Site Certification Application Environmental Resource Permit Application.

### Florida Power & Light Company (FPL)

- 2007 Avian Protection Plan. Prepared by Pandion Systems, Inc. Gainesville, FL to Florida Department of Environmental Protection, Tallahassee, Florida as part of Florida Power & Light's First Response to Incompleteness Determination
- 2009 Site Certification Application (SCA) for the Turkey Point Units 6 & 7 Project, June, 2009, Chapter W9.0 and Appendix 10.2.4, Sec. 3. Available on the internet:  
[http://publicfiles.dep.state.fl.us/Siting/Outgoing/FPL\\_Turkey\\_Point/Units\\_6\\_7/Application/](http://publicfiles.dep.state.fl.us/Siting/Outgoing/FPL_Turkey_Point/Units_6_7/Application/).

### National Electrical Safety Code (NESC)

- 2007 <https://law.resource.org/pub/us/cfr/ibr/004/ieee.c2.2007.pdf>.

## Personal Communications

### Braun, Florette (FPL)

- 2012 Personal communication via telephone with Nancy Van Dyke of the Louis Berger Group and Brien Culhane of NPS regarding acres of disturbance and line lengths to clarify data provided to the NPS in response to data needs and to provide reasonable estimates of areas of disturbance for pads and access roads for general comparison among routes.

## **APPENDIX G: DRAFT TERMS AND CONDITIONS FEE FOR FEE EXCHANGE ALTERNATIVE**



**Everglades National Park  
Acquisition of Florida Power and Light Land in the East  
Everglades Expansion Area Environmental Impact Statement**



**Draft Terms and Conditions  
Fee for Fee Exchange Alternative**

**November 2012**

The land exchange would be subject to terms and conditions that are to be agreed upon between National Park Service (NPS) and Florida Power & Light Company (FPL) and incorporated into a binding exchange agreement to ensure that any power transmission lines and infrastructure on the property to be conveyed to FPL that may be built are designed, constructed, and operated to avoid, or minimize impacts, to the maximum extent practicable, to park resources, including but not limited to, hydrology, wetlands, flora and fauna (including threatened and endangered species), cultural resources, tree islands, wilderness character, visitor experiences, and viewshed and visual aesthetics. The proposed terms and conditions are not intended to alter the conditions and requirements of any other applicable local, state, or federal law or regulation. It is not the intent of the NPS to address or modify the applicable certification or permit requirements of local, state, or other federal agencies. NPS will seek to be consistent with known requirements of other agencies. The NPS anticipates the final terms and conditions will be negotiated with FPL after the Record of Decision is signed concluding the National Environmental Policy Act process for this project.

For ease of understanding, the term “FPL Fee Property” in the following terms and conditions refers to the 260 acres of NPS land along the eastern park boundary that is proposed to be conveyed by NPS to FPL in exchange for the acquisition of FPL lands within Everglades National Park; the term “FPL Vegetation Easement Area” in these terms and conditions refers to the vegetation management easement that is proposed to be conveyed by NPS to FPL. The term “Park Property” in these terms and conditions refers to land that will remain within Everglades National Park.

A summary of the types of terms and conditions that would be considered for inclusion into the exchange agreement is set forth below:

**Proposed Terms and Conditions**

1. **Land Purposes:**
  - a. The FPL Fee Property shall not be used for any purposes other than conservation or utility-related facilities. All property uses shall also be consistent with the terms and conditions herein and shall be identified and addressed in Item 5, “Resource Stewardship Plans” of these terms and conditions.
  - b. Should any future utility-related use be contemplated by FPL other than electric transmission facilities, the design, construction and operation of these facilities must be consistent with these terms and conditions. The mechanism for initiating consideration of such a use is Item 14, “Modifications of Terms and Conditions”.
2. **Perpetual Flowage Easement:** The FPL Fee Property will be subject to a perpetual flowage easement. FPL will allow the perpetual right, power, privilege and easement in, upon, over and across the property for the purposes of overflowing, flooding and submerging said property lying at a level



consistent with hydrologic restoration requirements. Support structure pads, all other infrastructure and equipment that remains on the property, if any, shall be constructed to sustain water levels no greater than 10.7 feet NGVD29 for significant periods. The flowage easement supports Everglades restoration goals and objectives, including the construction, operation and maintenance of projects authorized by the Act of Congress approved December 13, 1989 as the Everglades National Park Protection And Expansion Act of 1989 (Public Law 101-229); the Comprehensive Everglades Restoration Plan as authorized by Public Law 106-541 and any subsequent project authorizations; and the Tamiami Trail Next Steps Project as authorized by Public Law 112-74.

3. Compatibility with Ecosystem Restoration: FPL shall allow without compensation reasonable future use by the United States of the FPL Fee Property in furtherance of ecosystem restoration and/or environmental projects that would not interfere with FPL's proposed use of the property for utility-related facilities.
4. Protection of Everglades National Park Resources and Values: FPL shall ensure that construction, maintenance, or other activities carried out on the FPL Fee Property shall not adversely impact park resources to the maximum extent practicable. In the event of adverse impacts on park resources, NPS and FPL shall jointly identify necessary and appropriate remediation efforts, to be undertaken by FPL, and mutually determine how to implement such remediation efforts within a reasonable period of time.
5. Resource Stewardship Plans
  - a. Within 180 days of execution of the exchange agreement, FPL shall develop and provide to NPS for its review and concurrence an initial resource stewardship plan (RSP). The initial RSP shall address management of the FPL Fee Property and specifically efforts by FPL to avoid and minimize impacts to park resources to the maximum extent practicable. The RSP shall address topics such as control of nonnative and exotic species, fire management, provisions allowing restoration activities to go forward, natural resource monitoring, impacts to visitor use and recreational opportunities on adjacent Park Property, access control, and law enforcement activities.
  - b. Prior to any construction on the FPL Fee Property, FPL shall prepare and submit to NPS for its review and concurrence a construction RSP. The construction RSP shall address efforts by FPL to avoid and minimize impacts during construction to park resources, including natural resources, cultural resources, and other park resources. In addition, the construction RSP shall include information on necessary permits, approvals, or authorizations that have been received for the proposed construction on the FPL Fee Property, including such information as permit type/name, agency(s) responsible, status, anticipated milestones schedule, and any mitigation requirements. In preparing the construction RSP, FPL will consult with NPS to obtain current plans for any projects that have been approved or approved for funding, including ecosystem restoration, natural resource monitoring, fire management, visitor use and recreational opportunities, and law enforcement activities, and other such plans as NPS determines to be potentially relevant. The construction RSP shall specifically cover, but not be limited to, the range of topics described in Items 6 through 12, as well as the following information, subjects, plans, surveys, or reports, as applicable:
    - i. Wetland Impacts – Provide a description of steps proposed to avoid, minimize, and mitigate wetland impacts to the maximum extent practicable, including temporary impacts that occur during construction.
    - ii. Pollution/Contaminant/Hazardous Materials Management – Describe how pollutants, contaminants, or hazardous materials, used or present during construction, will be managed

- to minimize impacts, and how the contingency/containment plan will be implemented to prevent environmental transport in case of spill.
- iii. Sediment and Erosion Control – Describe how sediment will be managed to limit erosion and impacts to water quality. No wetlands on the FPL Fee Property shall be excavated for the purpose of obtaining fill.
  - iv. Vegetation – Describe methods for pre-construction and construction vegetation surveys and analyses to be performed and what constitutes suitable habitats for these species. Describe what mitigation measures will be put into place to avoid and minimize impacts to vegetation during construction and maintenance.
  - v. Wildlife – Describe methods for pre-construction and construction wildlife surveys and analyses to be performed and what constitutes suitable habitats for these species. Describe what mitigation measures will be put into place to avoid and minimize impacts to wildlife during construction and maintenance.
  - vi. Sheetflow/Hydrology – Describe methods and results of hydrologic analysis to avoid and minimize impacts to sheetflow on Park Property to the maximum extent practicable.
  - vii. Exotic and Invasive Species Control – Describe the planned exotic vegetation management targets and performance standards and methods to control exotic and invasive plants and animals within the FPL Fee Property and FPL Vegetation Easement Area. Describe the sequence of removing exotic vegetation prior to construction, including the decontamination of all equipment used for exotic vegetation removal on the FPL Fee Property and FPL Vegetation Easement Area, to prevent the unintentional introduction of exotic and invasive plant species within Park Property during construction.
  - viii. Special Status Species – Provide a discussion of steps to be taken on FPL Fee Property to avoid, minimize, and mitigate impacts to listed species to the maximum extent practicable as a result of construction activities. This plan will include provisions consistent with the Avian and Bat Protection Plan (described in Item 9).
  - ix. Cultural Resources – Describe methods for a pre-construction survey of sensitive cultural resources to be performed and steps to be taken to avoid and minimize impacts to cultural resources during construction. If cultural resources are discovered during survey or construction in the FPL Fee Property, FPL will be required to immediately notify the Park Superintendent (or representative) and work with the Florida State Historic Preservation Office (SHPO) to define appropriate mitigation measures. Any artifacts found on the FPL Fee Property are recognized as property of the NPS.
  - x. Access Control – Describe how access and uses on the FPL Fee Property and adjacent Park Property will be controlled during construction and how unauthorized access to Park Property will be minimized and/or prevented.
  - xi. Other plans, surveys or reports associated with utility-related facilities deemed necessary by NPS, with FPL concurrence, to address any unanticipated potential impacts to Park Property to protect park resources.
- c. Following construction of any facilities on the FPL Fee Property, FPL shall update the initial RSP to address long-term operations and maintenance needs and planned activities on the FPL Fee Property (Operations and Maintenance (O&M) RSP). This O&M RSP shall be submitted to NPS for its review and concurrence. The O&M RSP shall address efforts by FPL to avoid and minimize impacts to park resources to the maximum extent practicable and address topics such as

operations and maintenance protocols, natural resource monitoring, threatened and endangered species, fire management coordination, impacts to visitor use and recreational opportunities on adjacent Park Property, access control and coordination with law enforcement activities. A revised O&M RSP shall be submitted by FPL to NPS upon any material changes to operations and maintenance procedures, proposed changes to the O&M RSP or substantive new information that is identified by NPS or FPL that is expected to impact Park Property. NPS may request that FPL review the O&M RSP in the event it is determined necessary.

6. Hydrology

- a. All utility-related infrastructure shall be constructed, operated, and maintained utilizing state-of-the-art practices to eliminate or reduce adverse impacts to wetlands or other surface waters of the adjacent Park Property to the maximum extent practicable. Such practices shall be consistent with the terms and conditions herein and shall be identified and addressed in Item 5, "Resource Stewardship Plans" of these terms and conditions. FPL must also comply with substantive criteria for elimination or reduction of adverse impacts to jurisdictional waters of the U.S. as defined by all applicable regulatory agencies. In locations where NPS determines, in consultation with FPL, that maximizing the level of protection for wetlands, hydrology, or surface waters is warranted, roadless and padless construction methods shall be used to the maximum extent practicable. These methods would be evaluated in consultation with appropriate agency personnel prior to implementation.
- b. The following represent practices that FPL will implement during construction and operation to the maximum extent practicable. (1) Maximize or vary the location and span between power poles to eliminate or reduce wetland impacts. (2) Use existing roads to provide access to the property for construction, operation, and maintenance purposes. (3) Minimize permanent wetland impacts by employing stabilized at-grade roads or geoswales that would not extend above existing wetland grades, constructing elevated roadways to bridge slough features, or using other appropriate design alternatives to maintain historical drainage patterns and sheetflow. For those areas where wetland will be impacted, wetland control elevations shall be established to maintain or improve pre-construction hydroperiods within all affected areas. (4) Unavoidable fill pads necessary for construction, but not operation, of transmission lines shall be removed after construction and the land restored to pre-construction conditions to the extent practicable.

7. Water Quality: To allow for stabilization of all disturbed areas, immediately prior to construction, during and after construction, and for the appropriate period of time after construction of facilities on the FPL Fee Property, FPL shall implement and maintain erosion and sediment control best management practices, such as silt fences, berms, set-backs, erosion control blankets, sediment traps, polyacrylamide, floating turbidity screens, or other state-of-the-art methods to retain sediment on-site and to prevent violations of State water quality standards. These devices shall be installed, used, and maintained at all locations where the possibility of transferring suspended solids into a receiving water body to which state surface water quality standards apply due to the licensed work. Controls shall remain in place at all locations until construction in that location is completed and soils are stabilized and vegetation is established. FPL shall correct any erosion or shoaling that causes adverse impacts to the water resources as soon as practicable. Once project construction is complete in an area, and before conversion to the operation and maintenance phase, all silt screens and fences, temporary baffles, and other materials that are no longer required for erosion and sediment control shall be removed.

8. Fire Management

- a. Prescribed Fire Plan – NPS periodically uses prescribed fire to maintain its lands. For any prescribed burns on Park Property adjacent to the FPL Fee Property, NPS shall provide prior notice to FPL and the opportunity to coordinate the times and management of such prescribed burns. FPL may use prescribed fire to maintain the FPL Fee Property. To the extent FPL proposes to use such practices, FPL will develop and submit for NPS review and concurrence a plan detailing use of prescribed fire to ensure consistency with park fire management goals.
- b. Wildland Fire Investigation – Fires resulting from power transmission structures, or their operation and management, could increase unnatural fire frequencies in the park. The NPS and FPL will jointly conduct a full investigation of all fires started in proximity to the power transmission lines on the FPL Fee Property or that occur on the Vegetation Easement Area or adjacent Park Property.

9. Avian and Bat Species Protection: All utility-related infrastructure shall be constructed, operated, and maintained utilizing state-of-the-art practices to eliminate or reduce injury/mortality of avian and bat species to the maximum extent practicable. These practices shall include mitigation measures that follow appropriate guidelines, including but not limited to Avian Power Line Interaction Committee guidelines, both during and after construction, including operations and maintenance activities. In locations where NPS determines, in consultation with FPL, that maximizing the level of protection of avian species is warranted, guy wires will not be used to the maximum extent practicable and transmission structure spacing and sizing will be varied to lower certain structures or stagger the normal span distances in areas within proximity of wading bird colonies to minimize possible interactions. Other design alternatives may also be available in certain locales. Measures for eliminating or reducing injury/mortality of avian and bat species would all be evaluated in consultation with appropriate agency personnel prior to implementation.

- a. Prior to commencing any construction, FPL shall develop a detailed pre- and post-construction avian and bat protection plan with concurrence of NPS and input from other appropriate federal and state agencies. The plan shall reflect the requirements for avian protection required by appropriate regulatory authorities. The plan will include pre- and post-construction monitoring to address avian and bat flight presence, flight level, position and frequency in flight in relation to the power transmission line configurations. The plan will focus on federal- and state-listed species in the vicinity of the proposed transmission route and assess impacts of transmission infrastructure on their populations. The pre-construction study will be conducted over an appropriate time period agreed upon by NPS and other appropriate federal and state agencies prior to initiating construction to address data variations related to inter-annual variation in the location and quality of habitat and food resources, climatic variability and will also be conducted throughout the year to address seasonal migratory species and flight patterns.
- b. The plan shall be reviewed and updated on an annual basis. Reporting requirements for FPL should include a discussion of avian and bat injury and mortality and the consideration of additional injury/mortality mitigation.

10. Exotic and Invasive Vegetation Management: FPL shall develop and submit, for NPS review and concurrence, an Exotic and Invasive Vegetation Management Plan as part of each RSP. The Exotic and Invasive Vegetation Management Plan shall describe how both the FPL Fee Property and the FPL Vegetation Easement Area is to be managed consistent with applicable State and county guidelines on exotic species eradication, NPS management policies, park management goals and activities in the area, as well as ongoing ecosystem restoration projects.

11. Notification: NPS and FPL shall establish notification protocols that provide adequate notice to the other party in the development and circulation of any plan or other filing described in these conditions. In particular, FPL shall provide NPS with prior notice of any proposed construction or demolition, including the nature and purpose of the activity, plans, and areas affected, as part of the filing of the construction RSP. A dispute resolution approach will be developed and included in the exchange agreement.
12. Access: FPL shall secure access to the FPL Fee Property to prevent unauthorized access to the FPL structures and to Park Property. The FPL Fee Property shall be closed to the public, and shall be secured via locked gates or other appropriate methods or techniques to prevent motorized public access. After construction, at reasonable times and with reasonable notice, except in cases of emergency or law enforcement response, and recognizing that safety hazards will exist at the FPL Fee Property, FPL shall agree to requests from NPS and its governmental cooperators for access to the FPL Fee Property for the purposes of official business and as set forth in this document. Access may be limited to those NPS employees or governmental cooperators who have had safety training appropriate to conditions on the property.
13. Right of First Refusal: In the event that FPL seeks to sell the FPL Fee Property other than to a related entity, or an entity acquiring all or substantially all of the assets of FPL, or an entity acquiring a project built by FPL on the FPL Fee Property, the United States shall have the right of first refusal of any bona fide offer for sale of FPL's interests in the FPL Fee Property.
14. Modification of Terms and Conditions: Either party will notify the other party of desired changes to Terms and Conditions within 30 days of being made aware of the required/desired modification. The responding party would have at least 30 days to review and raise issues/concerns. Any modification shall be agreed upon by both parties.

## **APPENDIX H: DRAFT TERMS AND CONDITIONS FEE FOR EASEMENT EXCHANGE ALTERNATIVE**





**Everglades National Park  
Acquisition of Florida Power and Light Land in the East  
Everglades Expansion Area Environmental Impact Statement**



**Draft Terms and Conditions  
Fee for Easement Exchange Alternative**

**March 18, 2013**

The land exchange would be subject to terms and conditions that are to be agreed upon between National Park Service (NPS) and Florida Power & Light Company (FPL) and incorporated into a binding exchange agreement to ensure that any power transmission lines and infrastructure on the interest in land conveyed to FPL are designed, constructed, and operated to avoid, or minimize impacts, to the maximum extent practicable, to park resources, including but not limited to, hydrology, wetlands, flora and fauna (including threatened and endangered species), cultural resources, tree islands, wilderness character, visitor experiences, and viewshed and visual aesthetics. The proposed terms and conditions are not intended to alter the conditions and requirements of any other applicable local, state, or federal law or regulation. It is not the intent of the NPS to address or modify the applicable certification or permit requirements of local, state, or other federal agencies. NPS will seek to be consistent with known requirements of other agencies. The NPS anticipates the final terms and conditions will be negotiated with FPL after the Record of Decision is signed concluding the National Environmental Policy Act process for this project.

For ease of understanding, the term “FPL Utility Easement Area” in the following terms and conditions refers to the 260 acres of NPS land along the eastern park boundary over which the NPS would grant an easement to FPL in exchange for the acquisition of FPL lands within Everglades National Park; the term “FPL Vegetation Easement Area” in these terms and conditions refers to the vegetation management easement that is proposed to be granted by NPS to FPL. The NPS would retain ownership of the property underlying these easement areas.

In this alternative, the property interest exchanged for the FPL lands in Everglades National Park would be an easement for the purpose of potential transmission lines on a 330-foot-wide corridor covering approximately 260 acres along 6.5 miles of the eastern boundary of the East Everglades Addition in Everglades National Park. As with the Fee for Fee Alternative, NPS would also grant to FPL a 90 foot-wide perpetual easement covering approximately 71 acres on a corridor of land contiguous to the FPL Utility Easement Area for the purpose of vegetation management.

A summary of the types of terms and conditions that would be considered for inclusion into the exchange agreement is set forth below:

**Proposed Terms and Conditions**

1. **Land Purposes:** The FPL Utility Easement Area shall not be used for any purposes other than conservation or the potential construction and operation of electric transmission lines and appurtenant facilities. All property uses shall also be consistent with the terms and conditions herein and shall be identified and addressed in Item 5, “Resource Stewardship Plans” of these terms and conditions.
2. **Perpetual Flowage Easement:** The FPL Utility Easement Area will be subject to a perpetual flowage easement. FPL will allow the perpetual right, power, privilege and easement in, upon, over and across

the easement area for the purposes of overflowing, flooding and submerging said property lying at a level consistent with hydrologic restoration requirements. Support structure pads, all other infrastructure and equipment that remains on the property, if any, shall be constructed to sustain water levels no greater than 10.7 feet NGVD29 for significant periods. The flowage easement supports Everglades restoration goals and objectives, including the construction, operation and maintenance of projects authorized by the Act of Congress approved December 13, 1989 as the Everglades National Park Protection And Expansion Act of 1989 (Public Law 101-229); the Comprehensive Everglades Restoration Plan as authorized by Public Law 106-541 and any subsequent project authorizations; and the Tamiami Trail Next Steps Project as authorized by Public Law 112-74.

3. Compatibility with Ecosystem Restoration: FPL shall allow without compensation reasonable future use by the United States of the FPL Utility Easement Area in furtherance of ecosystem restoration and/or environmental projects that would not interfere with FPL's proposed use of the property for electric transmission facilities.
4. Protection of Everglades National Park Resources and Values: FPL shall ensure that construction, maintenance, or other activities carried out on the FPL Utility Easement Area shall not adversely impact park resources to the maximum extent practicable. In the event of adverse impacts on park resources, NPS and FPL shall jointly identify necessary and appropriate remediation efforts, to be undertaken by FPL, and mutually determine how to implement such remediation efforts within a reasonable period of time.
5. Resource Stewardship Plans
  - a. Prior to any construction on the FPL Utility Easement Area, FPL shall prepare and submit to NPS for its review and approval a construction Resource Stewardship Plan (RSP). The construction RSP shall address efforts by FPL to avoid and minimize impacts during construction to park resources, including natural resources, cultural resources, and other park resources. In addition, the construction RSP shall include information on necessary permits, approvals, or authorizations that have been received for the proposed construction on the FPL Utility Easement Area, including such information as permit type/name, agency(s) responsible, status, anticipated milestones schedule, and any mitigation requirements. In preparing the construction RSP, FPL will consult with NPS to obtain current plans for any projects that have been approved or approved for funding, including ecosystem restoration, natural resource monitoring, fire management, visitor use and recreational opportunities, and law enforcement activities, and other such plans as NPS determines to be potentially relevant. The construction RSP shall specifically cover, but not be limited to, the range of topics described in Items 6 through 12, as well as the following information, subjects, plans, surveys, or reports, as applicable:
    - i. Wetland Impacts – Provide a description of steps proposed to avoid, minimize, and mitigate wetland impacts to the maximum extent practicable, including temporary impacts that occur during construction.
    - ii. Pollution/Contaminant/Hazardous Materials Management – Describe how pollutants, contaminants, or hazardous materials, used or present during construction, will be managed to minimize impacts, and how the contingency/containment plan will be implemented to prevent environmental transport in case of spill.
    - iii. Sediment and Erosion Control – Describe how sediment will be managed to limit erosion and impacts to water quality. No wetlands on the FPL Utility Easement Area shall be excavated for the purpose of obtaining fill.

- iv. Vegetation – Describe methods for pre-construction and construction vegetation surveys and analyses to be performed and what constitutes suitable habitats for these species. Describe what mitigation measures will be put into place to avoid and minimize impacts to vegetation during construction and maintenance.
  - v. Wildlife – Describe methods for pre-construction and construction wildlife surveys and analyses to be performed and what constitutes suitable habitats for these species. Describe what mitigation measures will be put into place to avoid and minimize impacts to wildlife during construction and maintenance.
  - vi. Sheetflow/Hydrology – Describe methods and results of hydrologic analysis to avoid and minimize impacts to sheetflow on Park Property to the maximum extent practicable.
  - vii. Exotic and Invasive Species Control – Describe the planned exotic vegetation management targets and performance standards and methods to control exotic and invasive plants and animals within the FPL Utility Easement Area and FPL Vegetation Easement Area. Describe the sequence of removing exotic vegetation prior to construction, including the decontamination of all equipment used for exotic vegetation removal on the FPL Utility Easement Area and FPL Vegetation Easement Area, to prevent the unintentional introduction of exotic and invasive plant species within the park during construction.
  - viii. Special Status Species – Provide a discussion of steps to be taken on the FPL Utility Easement Area to avoid, minimize, and mitigate impacts to listed species to the maximum extent practicable as a result of construction activities. This plan will include provisions consistent with the Avian and Bat Protection Plan (described Item 9).
  - ix. Cultural Resources – Describe methods for a pre-construction survey of sensitive cultural resources to be performed and steps to be taken to avoid and minimize impacts to cultural resources during construction. If cultural resources are discovered during survey or construction in the FPL Utility Easement Area, FPL will be required to immediately notify the Park Superintendent (or representative) and work with the Florida State Historic Preservation Office (SHPO) to define appropriate mitigation measures. Any artifacts found on the FPL Utility Easement Area are recognized as property of the NPS.
  - x. Access Control – Describe how access and uses on the FPL Utility Easement Area and adjacent Park Property will be controlled during construction and how unauthorized access will be minimized and/or prevented.
  - xi. Other plans, surveys or reports associated with utility-related facilities deemed necessary by NPS, with FPL concurrence, to address any unanticipated potential impacts to Park Property to protect park resources.
- b. Following construction of any facilities on the FPL Utility Easement Area, FPL shall update the RSP to address long-term operations and maintenance needs and planned activities on the FPL Utility Easement Area (Operations and Maintenance (O&M) RSP). This O&M RSP shall be submitted to NPS for its review and approval. The O&M RSP shall address efforts by FPL to avoid and minimize impacts to park resources to the maximum extent practicable and address topics such as operations and maintenance protocols, natural resource monitoring, threatened and endangered species, fire management coordination, impacts to visitor use and recreational opportunities on adjacent Park Property, access control and coordination with law enforcement activities. A revised O&M RSP shall be submitted by FPL to NPS upon any material changes to operations and maintenance procedures, proposed changes to the O&M RSP or substantive new

information that is identified by NPS or FPL that is expected to impact Park Property. NPS may request that FPL review the O&M RSP in the event it is determined necessary.

6. Hydrology

- a. All electric transmission-related infrastructure shall be constructed, operated, and maintained utilizing state-of-the-art practices to eliminate or reduce adverse impacts to wetlands or other surface waters of the FPL Utility Easement Area and adjacent Park Property to the maximum extent practicable. Such practices shall be consistent with the terms and conditions herein and shall be identified and addressed in Item 5, "Resource Stewardship Plans" of these terms and conditions. FPL must also comply with substantive criteria for elimination or reduction of adverse impacts to jurisdictional waters of the U.S. as defined by all applicable regulatory agencies. In locations where NPS determines, in consultation with FPL, that maximizing the level of protection for wetlands, hydrology, or surface waters is warranted, roadless and padless construction methods shall be used to the maximum extent practicable. These methods would be evaluated in consultation with appropriate agency personnel prior to implementation.
- b. The following represent practices that FPL will implement during construction and operation to the maximum extent practicable. (1) Maximize or vary the location and span between power poles to eliminate or reduce wetland impacts. (2) Use existing roads to provide access to the property for construction, operation, and maintenance purposes. (3) Minimize permanent wetland impacts by employing stabilized at-grade roads or geoswales that would not extend above existing wetland grades, constructing elevated roadways to bridge slough features, or using other appropriate design alternatives to maintain historical drainage patterns and sheetflow. For those areas where wetland will be impacted, wetland control elevations shall be established to maintain or improve pre-construction hydroperiods within all affected areas. (4) Unavoidable fill pads necessary for construction, but not operation, of transmission lines shall be removed after construction and the land restored to pre-construction conditions to the extent practicable.

7. Water Quality: To allow for stabilization of all disturbed areas, immediately prior to construction, during and after construction, and for the appropriate period of time after construction of facilities on the FPL Utility Easement Area, FPL shall implement and maintain erosion and sediment control best management practices, such as silt fences, berms, set-backs, erosion control blankets, sediment traps, polyacrylamide, floating turbidity screens, or other state-of-the-art methods to retain sediment on-site and to prevent violations of State water quality standards. These devices shall be installed, used, and maintained at all locations where the possibility of transferring suspended solids into a receiving water body to which state surface water quality standards apply due to the licensed work. Controls shall remain in place at all locations until construction in that location is completed and soils are stabilized and vegetation is established. FPL shall correct any erosion or shoaling that causes adverse impacts to the water resources as soon as practicable. Once project construction is complete in an area, and before conversion to the operation and maintenance phase, all silt screens and fences, temporary baffles, and other materials that are no longer required for erosion and sediment control shall be removed.

8. Fire Management

- a. Prescribed Fire Plan – NPS periodically uses prescribed fire to maintain its lands. For any prescribed burns on Park Property adjacent to the FPL Utility Easement Area, NPS shall provide prior notice to FPL and the opportunity to coordinate the times and management of such prescribed burns. FPL may use prescribed fire to maintain the FPL Utility Easement Area. To the extent FPL proposes to use such practices, FPL will develop and submit for NPS review and

approval a plan detailing use of prescribed fire to ensure consistency with park fire management goals.

- b. Wildland Fire Investigation – Fires resulting from power transmission structures, or their operation and management, could increase unnatural fire frequencies in the park. The NPS will conduct a full investigation of all fires started in proximity to the power transmission lines on the FPL Utility Easement Area in close coordination with FPL.
9. Avian and Bat Species Protection: All electric transmission-related infrastructure shall be constructed, operated, and maintained utilizing state-of-the-art practices to eliminate or reduce injury/mortality of avian and bat species to the maximum extent practicable. These practices shall include mitigation measures that follow appropriate guidelines, including but not limited to Avian Power Line Interaction Committee guidelines, both during and after construction, including operations and maintenance activities. In locations where NPS determines, in consultation with FPL, that maximizing the level of protection of avian species is warranted, guy wires will not be used to the maximum extent practicable and transmission structure spacing and sizing will be varied to lower certain structures or stagger the normal span distances in areas within proximity of wading bird colonies to minimize possible interactions. Other design alternatives may also be available in certain locales. Measures for eliminating or reducing injury/mortality of avian and bat species would all be evaluated in consultation with appropriate agency personnel prior to implementation.
  - a. Prior to commencing any construction, FPL shall develop a detailed pre- and post-construction avian and bat protection plan with approval of NPS and input from other appropriate federal and state agencies. The plan shall reflect the requirements for avian protection required by appropriate regulatory authorities. The plan will include pre- and post-construction monitoring to address avian and bat flight presence, flight level, position and frequency in flight in relation to the power transmission line configurations. The plan will focus on federal- and state-listed species in the vicinity of the proposed transmission route and assess impacts of transmission infrastructure on their populations. The pre-construction study will be conducted over an appropriate time period agreed upon by NPS and other appropriate federal and state agencies prior to initiating construction to address data variations related to inter-annual variation in the location and quality of habitat and food resources, climatic variability and will also be conducted throughout the year to address seasonal migratory species and flight patterns.
  - b. The plan shall be reviewed and updated on an annual basis. Reporting requirements for FPL should include a discussion of avian and bat injury and mortality and the consideration of additional injury/mortality mitigation.
10. Exotic and Invasive Vegetation Management: FPL shall develop and submit, for NPS review and approval, an Exotic and Invasive Vegetation Management Plan as part of each RSP. The Exotic and Invasive Vegetation Management Plan shall describe how both the FPL Utility Easement Area and the FPL Vegetation Easement Area is to be managed consistent with applicable State and county guidelines on exotic species eradication, NPS management policies, park management goals and activities in the area, as well as ongoing ecosystem restoration projects.
11. Notification: NPS and FPL shall establish notification protocols that provide adequate notice to the other party in the development and circulation of any plan or other filing described in these conditions. In particular, FPL shall provide NPS with prior notice of any proposed construction or demolition, including the nature and purpose of the activity, plans, and areas affected, as part of the filing of the construction RSP. A dispute resolution approach will be developed and included in the exchange agreement.

12. Access: FPL shall secure access to the FPL Utility Easement Area to prevent unauthorized access to the FPL structures and Park Property. The FPL Utility Easement Area shall be closed to the public, and shall be secured via locked gates or other appropriate methods or techniques to prevent motorized public access. After construction, at reasonable times and with reasonable notice, except in cases of emergency or law enforcement response, and recognizing that safety hazards will exist at the FPL Utility Easement Area, FPL shall agree to requests from NPS and its governmental cooperators for access to the FPL Utility Easement Area for the purposes of official business and as set forth in this document. Access may be limited to those NPS employees or governmental cooperators who have had safety training appropriate to conditions on the property.
13. Right of First Refusal: In the event that FPL seeks to sell the FPL Utility Easement other than to a related entity, or an entity acquiring all or substantially all of the assets of FPL, or an entity acquiring a project built by FPL on the FPL Utility Easement Area, the United States shall have the right of first refusal of any bona fide offer for sale of FPL's interests in the FPL Utility Easement Area.
14. Modification of Terms and Conditions: Either party will notify the other party of desired changes to Terms and Conditions within 30 days of being made aware of the required/desired modification. The responding party would have at least 30 days to review and raise issues/concerns. Any modification shall be agreed upon by both parties.

# **APPENDIX I: VEGETATION IN FLORIDA POWER & LIGHT COMPANY CORRIDORS**





Species (Scientific Name)	Common Name	State status (T=threatened, E=endangered)	Nativity (N=native, E=exotic)	FLEPPC category (I=category I invasive, II=category II invasive, NL=not listed)	Listed for potential occurrence on FPL West Secondary Corridor in ENP	Listed for potential occurrence on FPL West Preferred Corridor in ENP
<i>Acrostichum danaeifolium</i>	Giant leather fern		N		X	X
<i>Agalinis fasciculata</i>	Beach false foxglove		N			X
<i>Aeschynomene pratensis</i>	Sensitive joint-vetch, Meadow joint-vetch	E	N		X	
<i>Amaranthus australis</i>	Southern water-hemp, Southern amaranth		N			X
<i>Ampelopsis arborea</i>	Peppervine		N		X	X
<i>Andropogon glomeratus var. pumilis</i>	Common bushy bluestem		N		X	X
<i>Andropogon virginicus</i>	Broomsedge bluestem		N		X	X
<i>Anemia adiantifolia</i>	Pine fern, Maidenhair pineland fern		N		X	X
<i>Angadenia berteroi</i>	Pineland-allamanda, Pineland golden trumpet	T	N			X
<i>Annona glabra</i>	Pond-apple		N		X	X
<i>Ardisia elliptica</i>	Shoe-button ardisia		E	I		X
<i>Ardisia escallonioides</i>	Marlberry		N			X
<i>Aristida purpurascens</i>	Arrowfeather threeawn		N		X	X
<i>Aster bracei</i>	Brace's aster		N			X
<i>Baccharis glomeruliflora</i>	Silverling		N			X
<i>Bacopa caroliniana</i>	Lemon hyssop, Lemon bacopa, Blue waterhyssop		N		X	X
<i>Bidens alba var. radiata</i>	Spanish-needles		N			X
<i>Blechnum serrulatum</i>	Swamp fern, Toothed midsorus fern		N		X	
<i>Boehmeria cylindrica</i>	Button-hemp, False nettle, Bog hemp		N		X	X
<i>Carica papaya</i>	Papaya		E	NL		X
<i>Casuarina equisetifolia</i>	Australian-pine, Horsetail casuarina		E	I	x	x
<i>Centella asiatica</i>	Coinwort, Spadeleaf		N		X	
<i>Cephalanthus occidentalis</i>	Common buttonbush		N		X	X
<i>Chamaesyce conferta</i>	Everglades key sandmat		N			X
<i>Chamaesyce hirta</i>	Hairy spurge, Pillpod sandmat		N			X
<i>Chamaesyce hyssopifolia</i>	Eyebane, Hyssopleaf sandmat		N			X
<i>Chiococca parvifolia</i>	Pineland snowberry		N			X
<i>Chromolaena odorata</i>	Jack-in-the-bush		N			X
<i>Cirsium horridulum</i>	Purple thistle		N			X
<i>Chrysobalanus icaco</i>	Coco-plum		N		X	
<i>Cladium jamaicensis</i>	Saw-grass, Jamaica swamp sawgrass		N		X	X
<i>Coelorachis rugosa</i>	Wrinkled jointtail grass		N		X	X

Species (Scientific Name)	Common Name	State status (T=threatened, E=endangered)	Nativity (N=native, E=exotic)	FLEPPC category (I=category I invasive, II=category II invasive, NL=not listed)	Listed for potential occurrence on FPL West Secondary Corridor in ENP	Listed for potential occurrence on FPL West Preferred Corridor in ENP
<i>Conoclinium coelestinum</i>	Blue mistflower		N		X	X
<i>Conyza canadensis</i> var. <i>pusilla</i>	Dwarf Canadian horseweed		N		X	X
<i>Crinum americanum</i>	Swamp-lily, Seven-sisters, String-lily		N		X	X
<i>Cuphea strigulosa</i>	Stiffhair waxweed		E	NL		X
<i>Cyperus haspan</i>	Haspan flatsedge		N			X
<i>Dichanthelium aciculare</i>	Needleleaf witchgrass		N		X	X
<i>Dichanthelium dichotomum</i>	Cypress witchgrass		N			X
<i>Dichanthelium erectifolium</i>	Erectleaf witchgrass		N		X	X
<i>Echites umbellata</i>	Devil's-potato, Rubbervine		N			X
<i>Eleocharis cellulosa</i>	Gulf Coast spikerush		N		X	X
<i>Eragrostis elliotii</i>	Elliott's love grass		N		X	
<i>Erigeron quercifolius</i>	Southern-fleabane, Oakleaf fleabane		N			X
<i>Eugenia axillaris</i>	White stopper		N			X
<i>Eupatorium leptophyllum</i>	Falsefennel		N		X	X
<i>Eustachys glauca</i>	Prairie fingergrass, Saltmarsh fingergrass		N			X
<i>Eustachys petraea</i>	Common fingergrass, Pinewoods fingergrass		N			X
<i>Ficus aurea</i>	Strangler fig, Golden fig		N		X	X
<i>Ficus citrifolia</i>	Short-leaf fig, Wild banyan tree		N			X
<i>Fimbristylis cymosa</i>	Hurricane sedge, Hurricanegrass		N			X
<i>Flaveria linearis</i>	Narrowleaf yellowtops		N			X
<i>Fuirena breviseta</i>	Saltmarsh umbrellasedge		N		X	X
<i>Heliotropium polyphyllum</i>	Pineland heliotrope		N			X
<i>Hibiscus grandiflora</i>	Swamp hibiscus, Swamp rosemallow		N		X	
<i>Hypericum brachyphyllum</i>	Coastalplain St. John's-wort		N			X
<i>Hypericum hypericoides</i>	St. Andrew's-cross		N			X
<i>Hyptis alata</i>	Musky mint, Clustered bushmint		N		X	X
<i>Ilex cassine</i>	Dahoon holly, Dahoon		N		X	X
<i>Imperata cylindrica</i>	Congongrass, Cogongrass		E	I		X
<i>Ipomoea alba</i>	Common moonflowers, Moonflowers		N			X
<i>Ipomoea sagittata</i>	Everglades morningglory		N		X	
<i>Iva microcephala</i>	Piedmont marshelder		N		X	X
<i>Lantana camara</i>	Shrubverbena		E	I		X

Species (Scientific Name)	Common Name	State status (T=threatened, E=endangered)	Nativity (N=native, E=exotic)	FLEPPC category (I=category I invasive, II=category II invasive, NL=not listed)	Listed for potential occurrence on FPL West Secondary Corridor in ENP	Listed for potential occurrence on FPL West Preferred Corridor in ENP
<i>Justicia angusta</i>	Narrow-leaved waterwillow		N		X	
<i>Kosteletzkya virginica</i>	Virginia saltmarsh mallow		N		X	
<i>Leersia hexandra</i>	Southern cutgrass		N		X	
<i>Linum medium var. texanum</i>	Stiff yellow flax		N		X	
<i>Ludwigia curtissii</i>	Curtiss's primrosewillow		N			X
<i>Ludwigia microcarpa</i>	Smallfruit primrosewillow		N		X	X
<i>Ludwigia octovalvis</i>	Mexican primrosewillow		N		X	
<i>Magnolia virginiana</i>	Sweet-bay		N			X
<i>Mecardonia acuminata ssp. peninsularis</i>	Axilflower		N			X
<i>Melaleuca quinquenervia</i>	Punktree		E	I	X	X
<i>Mikania scandens</i>	Climbing hempweed, Climbing hempvine		N		X	X
<i>Mitreola sessilifolia</i>	Mitrewort, Swamp hornpod		N		X	X
<i>Muhlenbergia capillaris</i>	Muhlygrass, Hairawnmuhly		N		X	X
<i>Myrica cerifera</i>	Wax myrtle, Southern Bayberry		N		X	X
<i>Neyraudia reynaudiana</i>	Burmareed, Silkreed		E	I		X
<i>Nuphar lutea</i>	Spatterdock, Yellow Pondlily		N			X
<i>Nymphaea odorata</i>	American white waterlily		N		X	
<i>Nymphoides aquatica</i>	Big floatingheart		N		X	
<i>Oxypolis filiformis</i>	Water dropwort, Water cowbane		N		X	
<i>Panicum hemitomom</i>	Maidencane		N		X	X
<i>Panicum rigidulum</i>	Redtop panicum		N		X	X
<i>Panicum tenerum</i>	Bluejoint panicum		N		X	
<i>Parthenocissus quinquefolia</i>	Virginia-creeper, Woodbine		N		X	
<i>Paspalidium geminatum</i>	Egyptian paspalidium		N			X
<i>Paspalum caespitosum</i>	Blue paspalum, Blue crowngrass		N			X
<i>Paspalum monostachyum</i>	Gulfdune paspalum		N			X
<i>Passiflora suberosa</i>	Corkystem passionflower		N		X	X
<i>Persea palustris</i>	Swamp bay		N		X	X
<i>Phyla nodiflora</i>	Frogfruit, Turkey tangle fogfruit, Capeweed		N		X	X
<i>Phyla stoeadifolia</i>	Southern fogfruit	E	N		X	X
<i>Phyllanthus caroliniensis ssp. saxicola</i>	Rock Carolina leafflower		N			X
<i>Physalis walteri</i>	Walter's groundcherry		N		X	X

Species (Scientific Name)	Common Name	State status (T=threatened, E=endangered)	Nativity (N=native, E=exotic)	FLEPPC category (I=category I invasive, II=category II invasive, NL=not listed)	Listed for potential occurrence on FPL West Secondary Corridor in ENP	Listed for potential occurrence on FPL West Preferred Corridor in ENP
<i>Pluchea caroliniana</i>	Cure-for-all		N		X	X
<i>Pluchea rosea</i>	Rosy camphorweed		N			X
<i>Poinsettia cyathophora</i>	Paintedleaf, Fire-on-the-mountain		N			X
<i>Polygala grandiflora</i>	Bigleafed Milkwort		N		X	X
<i>Polygonum hydropiperoides</i>	Mild water-pepper, Swamp smartweed		N		X	X
<i>Pontederia cordata</i>	Pickernelweed		N		X	
<i>Proserpinnaca palustris</i>	Mermaid weed, Marsh mermaidweed		N			X
<i>Psychotria nervosa</i>	Shiny-leaved wild coffee		N			X
<i>Psychotria sulzeri</i>	Shortleaf wild coffee		N			X
<i>Pteris bahamensis</i>	Bahama ladder brake	T	N			X
<i>Pteris vittata</i>	China brake		E	II		X
<i>Rapanea punctata</i>	myrsine		N			X
<i>Rhynchelytrum repens</i>	natal grass		E	I		X
<i>Rhynchospora colorata</i>	Starrush whitetop		N			X
<i>Rhynchospora divergens</i>	Spreading beaksedge		N		X	X
<i>Rhynchospora inundata</i>	Narrowfruit horned beaksedge		N		X	
<i>Rhynchospora microcarpa</i>	Southern beaksedge		N		X	X
<i>Rhynchospora odorata</i>	Fragrant beaksedge		N			X
<i>Rhynchospora tracyi</i>	Tracy's beaksedge		N		X	X
<i>Sabal palmetto</i>	Cabbage palm		N		X	X
<i>Saccharum giganteum</i>	Sugarcane plumegrass		N		X	X
<i>Sagittaria lancifolia</i>	Bulltongue arrowhead, lance-leaved arrowhead		N		X	X
<i>Salix caroliniana</i>	Coastal Plain willow		N		X	X
<i>Samolus ebracteatus</i>	Water pimpernel, Limewater brookweed		N		X	X
<i>Sarcostemma clausa</i>	Whitevine, White twinevine		N		X	X
<i>Schinus terebinthifolius</i>	Brazilian-pepper		E	I	x	x
<i>Schizachyrium rhizomatum</i>	Rhizomatous bluestem		N		X	X
<i>Scleria verticillata</i>	Low nutrush		N			X
<i>Setaria magna</i>	Giant bristlegrass		N		X	
<i>Setaria parviflora</i>	Knotroot foxtail, Yellow bristlegrass		N		X	X
<i>Sida acuta</i>	Common wireweed, Common fanpetals		N			X
<i>Smilax bona-nox</i>	Saw greenbrier		N			X

Species (Scientific Name)	Common Name	State status (T=threatened, E=endangered)	Nativity (N=native, E=exotic)	FLEPPC category (I=category I invasive, II=category II invasive, NL=not listed)	Listed for potential occurrence on FPL West Secondary Corridor in ENP	Listed for potential occurrence on FPL West Preferred Corridor in ENP
<i>Smilax laurifolia</i>	Catbrier, Laurel greenbrier, Bamboo vine		N		X	
<i>Solidago sp. (not stricta; e.g. gigantea)</i>	Giant goldenrod		N		X	X
<i>Solidago stricta</i>	Narrow-leaved goldenrod, Wand goldenrod		N		X	X
<i>Spartina bakeri</i>	Sand cordgrass		N		X	
<i>Spermacoce assurgens</i>	Woodland false buttonweed		N			X
<i>Spermacoce verticellata</i>	Shrubby false buttonweed		E	NL		X
<i>Spigelia anthelmia</i>	West Indian pinkroot		N			X
<i>Sporobolus indicus var. pyramidalis</i>	West Indian dropseed		E	NL		X
<i>Stachytarpheta jamaicensis</i>	Blue porterweed, Joee		N			X
<i>Teucrium canadense</i>	Wood sage, Canadian germander		N			X
<i>Thelypteris kunthii</i>	Southern shield fern		N		X	X
<i>Trema micrantha</i>	Florida trema, Nettle tree		N			X
<i>Typha domingensis</i>	Southern cat-tail		N		X	X
<i>Utricularia purpurea</i>	Eastern purple bladderwort		N			X
<i>Vernonia blodgettii</i>	Florida ironweed		N			X
<i>Vitis rotundifolia</i>	Muscadine, Muscadine grape		N			X
<i>Waltheria indica</i>	Sleepy morning		N			X
<b>Total native</b>					<b>76</b>	<b>109</b>
<b>Total exotic</b>					<b>3</b>	<b>13</b>
<b>Total species</b>					<b>79</b>	<b>122</b>
<b>Total state listed threatened</b>					<b>0</b>	<b>2</b>
<b>Total state listed endangered</b>					<b>2</b>	<b>1</b>





# **APPENDIX J: AVIAN RISK ASSESSMENT ASSOCIATED WITH ENVIRONMENTAL IMPACT STATEMENT FOR EVERGLADES AND BISCAYNE NATIONAL PARKS**





**Avian Risk Assessment  
Associated with  
Environmental Impact  
Statement (EIS) for  
Everglades and Biscayne  
National Parks**



**Avian Risk Assessment Associated  
with Environmental Impact  
Statement (EIS) for Everglades and  
Biscayne National Parks**

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# Contents

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	<u>Page</u>
<b>List of Figures</b>	<b>v</b>
<b>List of Tables</b>	<b>xi</b>
<b>Executive Summary</b>	<b>xii</b>
<b>1 Introduction</b>	<b>1</b>
1.1 Birds and Electric Utility Infrastructure	1
1.2 Collision Risk	2
1.3 Electrocutation Risk	2
1.4 Avian Power Line Interaction Committee	4
1.5 Approach to the Avian Risk Assessment	4
<b>2 Methods</b>	<b>7</b>
2.1 Focal Species Selection	7
2.2 Data Sources	9
2.2.1 Wood Stork Data	10
2.2.2 Little Blue Heron, Snowy Egret, Tricolored Heron, Roseate Spoonbill, and White Ibis Data	11
2.2.3 Additional Wading Bird and Colonial Waterbird Data	12
2.2.4 Snail Kite Data	13
2.3 Risk Assessment Assumptions	14
2.4 Maximizing the Distance to Known Risk Factors: Assessing Relative Risks	15
2.4.1 Data-Based Relative Risk Assessment	15
2.4.2 Habitat-Based Relative Risk Assessment	17
2.5 Measuring Distances from Key Resources for Each Transmission Corridor	17
<b>3 Results</b>	<b>19</b>
3.1 Relative Risk Assessment Results	19
3.1.1 Family Pelecanidae	19
3.1.2 Family Phalacrocoracidae	19
3.1.3 Family Anhingidae	20
3.1.4 Family Ardeidae	20
3.1.5 Family Threskiornithidae	21

3.1.6	Family Ciconiidae	22
3.1.7	Family Gruidae	22
3.1.8	Family Aramidae	23
3.1.9	Family Rallidae	23
3.1.10	Family Accipitridae	23
3.1.11	Family Falconidae	24
3.1.12	Family Columbidae	24
3.1.13	Family Cuculidae	24
3.1.14	Family Tytonidae	25
3.1.15	Family Picidae	25
3.1.16	Family Laniidae	25
3.1.17	Family Vireonidae	25
3.1.18	Family Troglodytidae	26
3.1.19	Family Turdidae	26
3.1.20	Family Parulidae	26
3.1.21	Family Icteridae	26
3.1.22	Family Cardinalidae	27
3.1.23	Family Emberizidae	27
3.2	Amount of Potential Avian Habitat Associated with Each Potential Corridor	27
<b>4</b>	<b>Discussion</b>	<b>28</b>
4.1	Relative Risks of the Three Proposed Transmission Corridors	28
4.1.1	Data-Based Relative Risk Assessment Results	28
4.1.2	Habitat-Based Relative Risk Assessment Results	29
4.2	Amount of Potential Avian Habitat Affected in Each Potential Corridor	30
4.3	Risks to Other Unlisted Species	31
4.4	Collision and Electrocution Mitigation Plan	32
<b>5</b>	<b>References Cited</b>	<b>34</b>
<b>6</b>	<b>Additional References Reviewed</b>	<b>37</b>

Figures  
Tables

## List of Figures

---

*Figures are found in a section following the text.*

- Figure 1 1. Everglades and Biscayne National Park locations, with 30-mile boundary around the study area that surrounds the three potential transmission corridors
- Figure 2 1. Level 3 land use land cover in the 30-mile boundary of the study area.
- Figure 2 2. Level 2 land use land cover in the 30-mile boundary of the study area.
- Figure 2 3. NEAR (Analysis) tool outputs a distance from an input feature such as a foraging individual or nesting colony to a point or to the nearest point on a line.
- Figure 3 1. Relative risk of number of birds located at distances from the three potential transmission corridors, based on location and co-located abundance data provided in historical surveys for the study area.
- Figure 3 2. Number of brown pelicans associated with each Level 3 Land Use Land Cover category in the GIS database within the 30 mile boundary that surrounds the study area.
- Figure 3 3. Relative risk in terms of distance of brown pelican preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area.
- Figure 3 4. Number of double crested cormorants associated with each Level 3 Land Use Land Cover category in the GIS database within the 30 mile boundary that surrounds the study area.
- Figure 3 5. Relative risk in terms of distance of double crested cormorant preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area.
- Figure 3 6. Number of anhinga associated with each Level 3 Land Use Land Cover category in the GIS database within the 30 mile boundary that surrounds the study area.
- Figure 3 7. Relative risk in terms of distance of anhinga preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area.
- Figure 3 8. Number of black-crowned night herons associated with each Level 3 Land Use Land Cover category in the GIS database within the 30 mile boundary that surrounds the study area.
- Figure 3 9. Relative risk in terms of distance of black-crowned night heron preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area.
- Figure 3 10. Number of great blue herons associated with each Level 3 Land Use Land Cover category in the GIS database within the 30 mile boundary that surrounds the study area.



- Figure 3 11. Relative risk in terms of distance of great blue heron preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area.
- Figure 3 12. Number of great white herons associated with each Level 3 Land Use Land Cover category in the GIS database within the 30 mile boundary that surrounds the study area.
- Figure 3 13. Relative risk in terms of distance of great white heron preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area.
- Figure 3 14. Number of great egrets associated with each Level 3 Land Use Land Cover category in the GIS database within the 30 mile boundary that surrounds the study area.
- Figure 3 15. Relative risk in terms of distance of great egret preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area.
- Figure 3 16. Number of little blue herons associated with each Level 3 Land Use Land Cover category in the GIS database within the 30 mile boundary that surrounds the study area.
- Figure 3 17. Relative risk in terms of distance of little blue heron preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area.
- Figure 3 18. Number of snowy egrets associated with each Level 3 Land Use Land Cover category in the GIS database within the 30 mile boundary that surrounds the study area.
- Figure 3 19. Relative risk in terms of distance of snowy egret preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area.
- Figure 3 20. Number of tricolored herons associated with each Level 3 Land Use Land Cover category in the GIS database within the 30 mile boundary that surrounds the study area.
- Figure 3 21. Relative risk in terms of distance of tricolored heron preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area.
- Figure 3 22. Number of reddish egrets associated with each Level 3 Land Use Land Cover category in the GIS database within the 30 mile boundary that surrounds the study area.
- Figure 3 23. Relative risk in terms of distance of reddish egret preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area.
- Figure 3 24. Relative risk in terms of distance of least bittern preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area.

- Figure 3 25. Relative risk in terms of distance of American bittern preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area.
- Figure 3 26. Number of white ibis associated with each Level 3 Land Use Land Cover category in the GIS database within the 30 mile boundary that surrounds the study area.
- Figure 3 27. Relative risk in terms of distance of white ibis preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area.
- Figure 3 28. Number of glossy ibis associated with each Level 3 Land Use Land Cover category in the GIS database within the 30 mile boundary that surrounds the study area.
- Figure 3 29. Relative risk in terms of distance of glossy ibis preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area.
- Figure 3 30. Number of roseate spoonbills associated with each Level 3 Land Use Land Cover category in the GIS database within the 30 mile boundary that surrounds the study area.
- Figure 3 31. Relative risk in terms of distance of roseate spoonbill preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area within the 30 mile boundary that surrounds the study area.
- Figure 3 32. Number of wood storks associated with each Level 3 Land Use Land Cover category in the GIS database within the 30 mile boundary that surrounds the study area.
- Figure 3 33. Relative risk in terms of distance of wood stork preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area.
- Figure 3 34. Relative risk in terms of distance of Florida sandhill crane preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area.
- Figure 3 35. Relative risk in terms of distance of limpkin preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area.
- Figure 3 36. Relative risk in terms of distance of black rail preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area.
- Figure 3 37. Relative risk in terms of distance of yellow rail preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area.
- Figure 3 38. Number of snail kites associated with each Level 3 Land Use Land Cover category in the GIS database within the 30 mile boundary that surrounds the study area.
- Figure 3 39. Relative risk in terms of distance of snail kite preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area.

- Figure 3 40. Relative risk in terms of distance of short tailed hawk preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area.
- Figure 3 41. Relative risk in terms of distance of swallow tailed kite preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area.
- Figure 3 42. Relative risk in terms of distance of northern harrier preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area.
- Figure 3 43. Relative risk in terms of distance of osprey preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area.
- Figure 3 44. Relative risk in terms of distance of crested caracara preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area.
- Figure 3 45. Relative risk in terms of distance of American kestrel preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area.
- Figure 3 46. Relative risk in terms of distance of white crowned pigeon preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area.
- Figure 3 47. Relative risk in terms of distance of yellow billed cuckoo preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area.
- Figure 3 48. Relative risk in terms of distance of barn owl preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area.
- Figure 3 49. Relative risk in terms of distance of northern flicker preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area.
- Figure 3 50. Relative risk in terms of distance of loggerhead shrike preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area.
- Figure 3 51. Relative risk in terms of distance of black whiskered vireo preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area.
- Figure 3 52. Relative risk in terms of distance of marsh wren preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area.
- Figure 3 53. Relative risk in terms of distance of sedge wren preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area.

- Figure 3 54. Relative risk in terms of distance of wood thrush preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area.
- Figure 3 55. Relative risk in terms of distance of veery preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area.
- Figure 3 56. Relative risk in terms of distance of black-throated blue warbler preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area.
- Figure 3 57. Relative risk in terms of distance of prairie warbler preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area.
- Figure 3 58. Relative risk in terms of distance of worm eating warbler preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area.
- Figure 3 59. Relative risk in terms of distance of Swainson's warbler preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area.
- Figure 3 60. Relative risk in terms of distance of Louisiana waterthrush preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area.
- Figure 3 61. Relative risk in terms of distance of bobolink preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area.
- Figure 3 62. Relative risk in terms of distance of Eastern meadowlark preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area.
- Figure 3 63. Relative risk in terms of distance of painted bunting preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area.
- Figure 3 64. Relative risk in terms of distance of field sparrow preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area.
- Figure 3 65. Area of each type of habitat (Level 3 land use land cover classification) located in each potential transmission corridor.
- Figure 4 1. Brown pelican nest within the 30-mile study boundary of the transmission corridors.
- Figure 4 2. Anhinga nests within the 30-mile study boundary of the transmission corridors.
- Figure 4 3. Black-crowned heron nests within the 30-mile study boundary of the transmission corridors.

- Figure 4 4. Great blue heron nests and foraging locations within the 30-mile study boundary of the transmission corridors.
- Figure 4 5. Great white heron nests and foraging locations within the 30-mile study boundary of the transmission corridors.
- Figure 4 6. Great egret nests and foraging locations within the 30-mile study boundary of the transmission corridors.
- Figure 4 7. Little blue heron nests within the 30-mile study boundary of the transmission corridors
- Figure 4 8. Snowy egret nests within the 30-mile study boundary of the transmission corridors.
- Figure 4 9. Tricolored heron nests within the 30-mile study boundary of the transmission corridors.
- Figure 4 10. Reddish egret nest within the 30-mile study boundary of the transmission corridors.
- Figure 4 11. White ibis nests and foraging locations within the 30-mile study boundary of the transmission corridors.
- Figure 4 12. Glossy ibis nests and foraging locations within the 30-mile study boundary of the transmission corridors.
- Figure 4 13. Roseate spoonbill nests and foraging locations within the 30-mile study boundary of the transmission corridors.
- Figure 4 14. Wood stork nests, colonies, and foraging locations within the 30-mile study boundary of the transmission corridors.
- Figure 4 15. Snail kite nests within the 30-mile study boundary of the transmission corridors.
- Figure 4 16. The area of each type of potential avian habitat (Level 3 land cover land use classification) located within each potential transmission corridor
- Figure 4 17. USGS North American Breeding Bird Survey Routes located within the 30-mile boundary of the study area.

## List of Tables

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*Tables are found in a section following the text.*

Table 2-1. Species-specific information adapted from Logalbo and Zimmerman 2010

Table 2-2. Habitat preferences/associations for focal species of interest

Table 4-1. Summary of relative risk assessment results by species

## Executive Summary

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It is well established that birds are exposed to a wide variety of risks from human activities, and specifically from their contact with aspects of the built environment. Such exposures include but are not limited to direct mortality vis-à-vis collision with structures such as towers and buildings and from contact with toxins, and indirectly through imposed limitations on their ability to exploit certain areas for feeding, breeding, and resting. Because proximity to transmission lines and towers is a known risk factor for birds, our goal was to quantify relative risk among the three corridors under consideration in the environmental impact statement (EIS) and to do so by focusing especially on the spatial juxtaposition of south Florida avian resources relative to the location of each corridor. The 47 focal species selected for this risk assessment were considered endangered, threatened, or special concern, federally or in the State of Florida. These species serve as representative receptors for other guilds of birds with similar habitat requirements and behavioral patterns.

Whether an individual bird or a preferred habitat patch, our approach focused on conducting two types of relative risk assessments: a data-based and a habitat-based risk assessment. For the data-based risk assessment, we used GIS to measure the distance from an avian resource (such as a wood stork foraging or nesting location) to the nearest point on each of the three transmission corridors under consideration and weighted each location with the number of birds found at each location via historical surveys. This was done for wood storks, snail kites, and a number of waterbird and wading species for which historical survey data were available. In this way, a transmission corridor that is closest to a particular avian resource, such as a multispecies colony, an individual nest of a critical species, or a preferred foraging habitat, was construed as posing a greater risk of collision or electrocution than a corridor that is farthest from a resource. However, because the survey data set is biased for within-Park boundaries, the additional habitat-based relative risk assessment was conducted using the data for preferred habitats that were available in the GIS data sets.

For all other species for which multi-year survey data were not available, only a habitat-based relative risk assessment was conducted. For these species, the literature was used to determine which types of habitats are preferred by each species. The average distance of each preferred habitat to each potential transmission corridor was calculated and compared.

For all 16 species included in the data-based risk assessment, the Route A Corridor presented the least risk, the FPL West Preferred Corridor posed intermediate risk, and the FPL West Secondary Corridor posed the most risk to birds. This was true for black-crowned night herons, great blue herons, great egrets, little blue herons, snowy egrets, tricolored herons, white ibis, glossy ibis, roseate spoonbill, wood stork, and snail kites. The results based on habitat-based risk assessment were similar to those for the data-based risk assessment, such that for all focal species, the Route A Corridor posed the least risk to birds, while the FPL Secondary Corridor posed the most risk. Additional focal species for which actual distribution data were not available were examined only on a habitat basis. For 25 of the 31 focal species, the habitat-based assessment indicated that the Route A corridor posed the least risk and the FPL West Secondary Corridor posed the most risk. For the 6 remaining species, the opposite was true: the FPL West Secondary Corridor posed the least risk, the FPL West Preferred Corridor posed intermediate risk, while the Route A corridor posed the most risk. This dichotomy is due to the

preferences of the birds—birds that use wetlands and associated water-based habitats end up being closer to the FPL West Secondary Corridor, and therefore experience higher risk as a result. In contrast, birds that use upland habitats to a greater extent would be at higher risk due to the proximity of the Route A Corridor to those types of habitats. In all instances, the FPL West Preferred Corridor posed the intermediate level of risk to all species.



# 1 Introduction

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Everglades National Park encompasses approximately 6000 km<sup>2</sup> of freshwater sloughs, sawgrass prairies, mangrove forests, and estuaries extending from US Highway 41 south into Florida Bay. It was authorized as a national park by the U.S. Congress in 1934 and formally established in 1947. The park's ecological importance was recognized by the international community when it was designated as an International Biosphere Reserve under the Programme on Man and the Biosphere of the United National Educational, Scientific and Cultural Organization in 1976, a World Heritage Site by UNESCO in 1979, and a Wetland of International Importance in the Ramsar Convention in 1987 (Maltby and Dugan 1994). Biscayne National Park was designated a national park in 1980 and preserves the offshore barrier reefs and extensive mangrove forest. The park covers 172,971 acres and includes Elliott Key.

The warm, shallow, and vast Everglades "river" has attracted all types of birds to the region for thousands of years. In Everglades National Park, more than 350 species of birds have been sighted, including 16 different species of wading birds (<http://www.nps.gov/ever/naturescience/birds.htm>). Biscayne Bay, including Biscayne National Park, has been designated an important Bird Area for its significant populations of protected species, significant numbers of wading birds and natural habitat for avian feeding, migratory stopover and nesting (<http://www.nps.gov/bisc/naturescience/birding.htm>).

The objective of the Avian Risk Assessment (ARA) is to perform an assessment of the relative risks to avian resources in Everglades (ENP) and Biscayne (BNP) National Parks resulting from the acquisition of land owned by Florida Power and Light Company and by the National Park Service for construction of a transmission corridor as part of the Turkey Point Expansion project. A diverse assemblage of avian species has the potential to occur, breed, and migrate within or across habitat adjacent to the proposed transmission corridors. Because proximity to transmission lines and towers is a known risk factor for birds, our goal was to quantify relative risk among the three corridors under consideration in the environmental impact statement (EIS) and to do so by focusing especially on the proximity of south Florida avian resources relative to the location of each corridor.

## 1.1 Birds and Electric Utility Infrastructure

While power lines and related infrastructure are known to provide a mix of benefits and risks to birds and other wildlife, the general perception is that the risks outweigh the benefits (APLIC and USFWS 2005). For this reason, much effort has been expended by industry, government, and non-profit organizations to limit and better control the risks (APLIC and USFWS 2005; APLIC 2006, APLIC 2012). Regarding the benefits, power lines and towers (or any artificial aboveground structures) are known to provide hunting and resting perches (APLIC 2006) in locations where they may otherwise be in short supply. For example, in short- and tallgrass prairies and in large wetlands such as the Everglades, power lines and towers can provide this missing habitat element and, in so doing, have even allowed some species to extend their geographic ranges (APLIC 2006, APLIC 2012). Conversely, power lines pose both direct and

indirect risk to birds, most notably from electrocution and in-flight collision with towers and wires (APLIC 2006, 2012).

## 1.2 Collision Risk

Regarding direct risks, both electrocution and in-flight collision with towers and wires are among the most significant (APLIC and USFWS 2005). Regarding collision risks, according to Manville (2005), approximately 175 million birds are killed per year by collision with both power and transmission lines in the United States. Similarly, Erickson et al. (2005) estimated an annual transmission-line collision rate for the United States of approximately 130 million incidents. Collisions with power lines can result in injuries, such as broken wings, necks, and bills and head and chest contusions, as well as mortality (Malcolm 1982).

While birds from a wide range of taxa and feeding guilds are exposed to these direct risks, wading birds (such as herons, egrets, storks, and cranes) are of particular concern in this Avian Risk Assessment (ARA), because they make up such a large and important component of the birds found in the Everglades region of South Florida. Also, wading birds are behaviorally predisposed to collision due to their large size and slow flight, which makes it difficult for them to take evasive action when confronted with flight obstacles. Similarly, raptors (especially snail kites, hawks, falcons, vultures, and owls) are also a guild of birds known to experience direct mortality through collision and electrocution (Madders and Whitfield 2006). Specifically, both waders and raptors are biologically more vulnerable than many other birds and have greater risk of electrocution by and collision with electric utility structures and lines (APLIC 2006, APLIC 2012; Hunting 2002). On an annual basis, in the USA alone, thousands of eagles, hawks, and other migratory birds are estimated to be killed from interaction with power lines, transmission towers, and other infrastructure associated with electric generation and transmission (Olendorff et. al. 1981).

While raptors and waders are of particular concern, other taxa of birds are exposed to similar collision risks when in proximity to transmission lines and towers. For example, birds that fly in flocks (such as songbirds, plovers, gulls, ducks, geese, and cranes) near lines and towers are susceptible to collisions due to their reduced ability to see and avoid obstacles (APLIC 1994, 2006, 2012). Among the birds that fly in flocks, the large, heavy-bodied birds (such as gulls, ducks, geese, and cranes) are, like waders, at higher collision risk due to their limited maneuverability (APLIC 1994, 2006, 2012). Generally speaking, collisions are associated with transmission lines that carry 138 kV or more, whereas electrocutions are associated with distribution lines (<69 kV) (APLIC 1994, 2006, 2012). Finally, no population effects have been reported for bird collisions with transmission lines and towers, except for species with very low population sizes and low annual productivity, such as the whooping crane (*Grus americana*) (FPL 2010).

## 1.3 Electrocution Risk

Bird deaths from electrocution by power lines were first documented in the 1920s—essentially at the very beginning of the build-out of the United States' electricity grid (APLIC 2006, 2012).

Since that time, research has focused on preventing or minimizing avian electrocutions, and while many avian/power line electrocution issues have been resolved, some old challenges remain and new ones have arisen. For example, existing transmission infrastructure is constantly being upgraded, and new transmission infrastructure is actively being installed on as-yet-undeveloped lands to service new power production from wind, solar, biofuel, and other power-generating facilities.

Like collision mortalities, electrocution mortalities are significant events for utilities, because the majority of bird species are protected under one or more federal statutes, including the Migratory Bird Treaty Act (MBTA), the Bald and Golden Eagle Protection Act (BGEPA), and the Endangered Species Act (ESA). In addition, Presidential Executive Order 13186, signed on 10 January 2001, directs any federal agency whose actions have a measurable negative impact on migratory bird populations to develop and work under a Memorandum of Understanding (MOU) with the U.S. Fish and Wildlife Service (USFWS) to promote conservation of migratory birds (APLIC 2006, 2012).

In the southeast US, birds of prey (raptors, eagles, and owls) are especially vulnerable to electrocution because of their size, relative rarity as top-of-the-food-chain predators, and hunting behavior, the latter of which can entail searching for prey by soaring at heights above the ground that can correspond to the height of transmission and distribution towers and lines. Of the 31 species of North American raptors, 29 have been documented to be victims of electrocution (APLIC 2006, 2012).

Birds can become electrocuted by power lines when these two interacting factors co-occur:

1. Environmental factors such as topography, vegetation, weather, prey availability, and other behavioral and biological factors cause birds to actively use utility structures.
2. Separation between energized conductors, or between energized conductors and grounded hardware, is insufficient to preclude availability of two points of contact.

Electrocution occurs when a bird or other organism completes an electric circuit by simultaneously touching two energized parts or an energized part and a grounded part of electrical equipment. Most electrocutions occur on medium-voltage distribution lines (4 to 34.5 kilovolts [kV]), in which the spacing between conductors may be small enough to be bridged by birds. Poles with energized hardware, such as transformers, can be especially hazardous, even to small birds, because they contain numerous, closely spaced energized parts (APLIC 2005).

According to APLIC, “avian-safe” structures are those that provide sufficient clearances to accommodate a large bird between energized and/or grounded parts. Specifically, 60 inches of horizontal separation, which can accommodate the wrist-to-wrist distance of an eagle (approximately 54 inches), is used as the standard for raptor protection. Likewise, vertical separation of at least 48 inches can accommodate the height of an eagle from its feet to the top of its head (approximately 31 inches; Figure 2). In areas such as the Everglades (i.e., areas with concentrations of wading birds), both horizontal and vertical separation may need to be

increased beyond these distances. Because dry feathers act as insulation, contact must be made between fleshy parts, such as the wrists, feet, or other skin, for electrocution to occur. In spite of these best efforts to minimize avian electrocutions, some amount of mortality may still occur due to influences such as weather that cannot be controlled.

## 1.4 Avian Power Line Interaction Committee

The Avian Power Line Interaction Committee ([APLIC](#)) is a public/private partnership that includes utilities, resource agencies, and the public. It was convened in 1989 specifically to deal with whooping crane collisions with power lines in Colorado. Since that time, APLIC has expanded their mission to focus on both collision and electrocution risks for all birds, communicating via their regularly published guidance documents (APLIC 2006, APLIC 2012). APLIC members currently include the Edison Electric Institute, the Electric Power Research Institute, the National Rural Cooperative Electrical Association, the Rural Utilities Service, the U.S. Fish and Wildlife Service, and nearly 40 electric utility companies in the U.S. and Canada. These key documents are made available by APLIC:

1. ***Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006.*** The 2006 (fourth) edition, focuses on the domestic and international opportunities for avoidance or mitigation of risk of avian electrocution and highlights the management options available to utilities.
2. ***Reducing avian collisions with Power Lines: The state of the art in 2012.*** The 2012 edition also focuses on the domestic and international opportunities for avoidance or mitigation of risk of avian electrocution and highlights the management options available to utilities.
3. ***Mitigating Bird Collisions with Power Lines (1994).*** This 1994 APLIC report summarizes and documents domestic and international data available as of 1994 on the techniques and management options for mitigating bird mortality before, during, and after power-line construction.

In 2005, APLIC and USFWS developed and jointly announced the [Avian Protection Plan \(APP\) Guidelines](#), with the intention of enabling utilities to draft and implement their own APPs to manage their avian/power-line issues.

## 1.5 Approach to the Avian Risk Assessment

The ARA is based on available ecological information pertaining to the bird species and their vulnerability to three transmission corridors under consideration within a 30-mile boundary around the proposed corridors (shown in Figure 1-1). The three transmission corridors that are under consideration, and that are the focus of this ARA, are as follows:

1. The FPL West Preferred transmission-line corridor is located on lands currently owned by FPL within ENP

2. The FPL West Secondary corridor is located on NPS lands currently within ENP that may be exchanged to FPL
3. Route A begins at FPL's West Preferred Corridor near the intersection of the hypothetical SW 120th Street and hypothetical SW 204th Avenue in Miami-Dade County just south of Everglades National Park then turns north adjacent to the L-31N Canal before turning east to cross Krome Ave. From there, Route A is located between Krome Ave. and the Miami-Dade County Urban Development Boundary before it crosses the Tamiami Trail, paralleling the Dade Broward Levee before connecting to the Levee substation.

The northern portions of the FPL corridors (north of Tamiami Trail) are on state lands (Everglades and Francis S. Taylor Wildlife Management Area) before connecting to the Levee substation. Route A is a 330-ft-wide corridor that was initially identified as the preferred alternate corridor during the alternative corridor selection study. In the EIS, it is referred to as a "hypothetical corridor" that was based on siting done during the alternative corridor selection study. This alternate corridor was used for calculation of acreage and distances for comparative analyses both in the LRE and the EIS.

In a previous risk assessment, LoGalbo and Zimmerman (2010) included a list of more than 200 avian species that have the potential to occur in the vicinity of the proposed transmission corridors. Of most concern are those birds that are considered endangered, threatened, or of special concern either federally or in the state of Florida. Therefore, this risk assessment focuses particularly on those birds, but also attempts to address risks to other guilds of birds such as wading birds, waterbirds, raptors, migratory passerines, and wetlands birds. One of the goals of this risk assessment is to determine which of the three transmission corridors presents the least amount of risk to different species of birds.

We used the Relative Risk Model (RRM) to compare the route alternatives. The RRM has been used in a wide variety of applications. The method, as described by Landis and Wieggers (2004), has been applied in evaluations of declines in Pacific herring (Landis et al. 2004), environmental conditions in the Willamette and McKenzie rivers in Oregon (Luxon and Landis 2005), rain forest preserves in Brazil (Moraes et al. 2002), other regional assessments (Landis et al. 2005), and alternative strategies for oyster restoration in Chesapeake Bay (Menzie et al. 2013).

The RRM methodology integrates the following information:

1. Proximity of each transmission corridor to particular species and/or groups of birds
2. Linking bird species with particular habitat types and/or known locations of concentration (foraging, resting, breeding, etc.) in order to identify preferred habitats
3. Habitat estimation of preferred avian habitats potentially affected by each of the three corridors under consideration.

Whether qualitative or quantitative, the accuracy of any risk assessment depends on the uncertainty in the inputs used to estimate the probability of harm. Because the ARA is based on review and integration of past research on the presence, on the absence and proximity of birds to proposed transmission facilities, and on the professional judgments of others, one of the main assumptions is that inputs derived from the past research are accurate. Therein lies a potential source of uncertainty in this, and indeed any, risk assessment. In general, the body of data and information used to characterize risk in the environment always involves uncertainty, in which case, professional judgments are made to arrive at an informed assessment of avian risks.

## 2 Methods

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The goal of the relative risk assessment was to allow a quantitative comparison of the relative risks to important avian resources posed by each of the three transmission corridors under consideration in the EIS. The analysis relied on a variety of existing avian survey data from both the scientific literature and from data provided to us by ENP and BNP and included these data sets, and a previous risk assessment undertaken by ENP (LoGalbo and Zimmerman 2010).

### 2.1 Focal Species Selection

Avian species that are known or anticipated to occur in the area of the transmission corridors were identified in LoGalbo and Zimmerman (2010). Based on that information, 230 species of birds could potentially be present and therefore subject to risks from transmission lines. Of those 230 species, 40 are noted to have either state or federal protection status (Table 2-1).

LoGalbo and Zimmerman (2010) provided a list of reported Florida utility injuries or mortalities for avian species. This list was updated using information for species that were previously recorded as being injured or killed due to power-line interactions in Florida and the rest of the United States by USGS and USFWS (Dilip Shinde, personal communication to Alicia LoGalbo and Mike Zimmerman). This combined list was then used to determine whether any of the species that occur within the boundary of the transmission corridors have been injured or killed previously by power-line interactions through collisions and electrocutions.

The protected species that have been harmed previously by power lines include the following are identified with an “X” in Table 2-1. It is possible that other species may have had interactions with power lines that resulted in injuries or mortalities but were never located by surveyors, and/or were never recorded in the databases reviewed. Therefore, all other species that are federally or state listed (as shown in Table 2-1) were also included as focal species in the ARA. Finally, a few additional species are included, although they are not considered federally or state threatened, such as the glossy ibis and the brown pelican. These species are included because actual information on their locations was provided in some of the data sets that were reviewed, so they were opportunistically included as representative receptors. The list of focal species, including the avian family they belong to, is as follows:

#### Family Pelecanidae

- Brown pelican (*Pelecanus occidentalis*)

#### Family Phalacrocoracidae

- Double crested cormorant (*Phalacrocorax auritus*)

#### Family Anhingidae

- Anhinga (*Anhinga anhinga*)

#### Family Ardeidae

- Black-crowned night heron (*Nycticorax nycticorax*)
- Great blue heron (*Ardea herodias*)
- Great white heron (*Ardea herodias occidentalis*)

- Great egret (*Ardea alba*)
- American bittern (*Botaurus lentiginosus*)
- Least bittern (*Ixobrychus exilis*)
- Little blue heron (*Egretta caerulea*)
- Snowy egret (*Egretta thula*)
- Tricolored heron (*Egretta tricolor*)
- Reddish egret (*Egretta rufescens*)
- Family Threskiornithidae
  - White ibis (*Eudocimus albus*)
  - Roseate spoonbill (*Platalea ajaja*)
  - Glossy ibis (*Plegadis falcinellus*)
- Family Ciconiidae
  - Wood stork (*Mycteria americana*)
- Family Gruidae
  - Florida sandhill crane (*Grus canadensis*)
- Family Aramidae
  - Limpkin (*Aramus guarauna*)
- Family Rallidae
  - Black rail (*Laterallus jamaicensis*)
  - Yellow rail (*Coturnicops noveboracensis*)
- Family Accipitridae
  - Snail kite (*Rostrhamus sociabilis*)
  - Short-tailed hawk (*Buteo brachyurus*)
  - Swallow-tailed kite (*Elanoides forficatus*)
  - Northern harrier (*Circus cyaneus*)
  - Osprey (*Pandion haliaetus*)
- Family Falconidae
  - Crested caracara (*Caracara cheriway*)
  - American kestrel (*Falco sparverius*)
- Family Columbidae
  - White-crowned pigeon (*Patagioenas leucocephala*)
- Family Cuculidae
  - Yellow-billed cuckoo (*Coccyzus americanus*)
- Family Tytonidae
  - Barn owl (*Tyto alba*)
- Family Picidae
  - Northern flicker (*Colaptes auratus*)
- Family Laniidae
  - Loggerhead shrike (*Lanius ludovicianus*)
- Family Vireonidae
  - Black-whiskered vireo (*Vireo altiloquus*)
- Family Troglodytidae
  - Marsh wren (*Cistothorus palustris*)
  - Sedge wren (*Cistothorus platensis*)



## Family Turdidae

- Wood thrush (*Hylocichla mustelina*)
- Veery (*Catharus fuscescens*)

## Family Parulidae

- Black-throated blue warbler (*Setophaga caerulescens*)
- Prairie warbler (*Setophaga discolor*)
- Worm-eating warbler (*Helmitheros vermivorum*)
- Swainsons warbler (*Limnothlypis swainsonii*)
- Louisiana waterthrush (*Parkesia motacilla*)

## Family Icteridae

- Bobolink (*Dolichonyx oryzivorus*)
- Eastern meadowlark (*Sturnella magna*)

## Family Cardinalidae

- Painted bunting (*Passerina ciris*)

## Family Emberizidae

- Field sparrow (*Spizella pusilla*)

By including all listed species as receptors, in addition to a few others, these receptors represent various guilds of birds, including raptors, wading birds, passerines, wetland birds, waterbirds, grassland birds, residents, migrants, and other groups of birds that are potentially present in the area of the transmission corridors. They serve as surrogates of risk for other birds with similar life histories, habitat requirements, and behavioral patterns.

## 2.2 Data Sources

The avian data sets that were used in the ARA are discussed below. Ideally, data for the focal species would have included foraging locations, roosting locations, nesting locations, migration pathways, foraging flight paths, height of flight above the ground, and numbers of flights per day/year over the three transmission corridors in Everglades and Biscayne National Parks, and other areas in between that are located in southern Florida. However, data on migration pathways, foraging flight paths, height of flight, and number of flights per day/year were not available for this risk assessment. The data that were used to address each of the focal species are listed below.

Each data set listed below is composed primarily of direct observations of birds and/or colonies from ground-based surveys, fixed-wing aircraft, or satellite telemetry. Details of the methods used to collect these data, and any constraints or assumptions regarding them, are available in the citations provided. All data sets used in the risk assessment were imported, manipulated, and analyzed using ArcInfo GIS work stations. It was decided in consultation with NPS to use all of the available data points for each species listed in the sources above.

Wading bird nesting and foraging habitats outside of the ENP and BNP boundaries were not well documented in the data provided. This is likely because the habitats outside the park boundaries are heavily urbanized, and therefore are not used by wading birds to the same degree that the non-urbanized protected areas are used. Also, many studies are focused within the park boundaries, as opposed to the more urbanized areas. Regardless, given this lack of data, there

existed a need to determine what potential habitat cover types exist for areas outside the park and study boundaries, because these habitats represent areas where birds could potentially forage for food. To address this data gap, please refer to Section 2.4 below.

## **2.2.1 Wood Stork Data**

Wood storks were identified as one of the focal species for the ARA, because they are federally and state endangered, and because they have been reported as injured or killed in the past due to interactions with power lines. A variety of data sets that contained wood stork foraging or nesting data were available. These are described below.

### **2.2.1.1 USFWS South Florida Wood Stork Nesting Colony Data**

The USFWS North Ecological Services Office website included location data for wood stork nesting colonies in south Florida ([http://www.fws.gov/northflorida/WoodStorks/Documents/20100623\\_list\\_Wood%20Stork%20Colonies%20within%2018%20Miles%20of%20Coast%20Table.pdf](http://www.fws.gov/northflorida/WoodStorks/Documents/20100623_list_Wood%20Stork%20Colonies%20within%2018%20Miles%20of%20Coast%20Table.pdf)). These data were coded as “nesting colonies” in the GIS database.

### **2.2.1.2 Wood Stork Data from Borkhateria (2009) Dissertation**

Borkhateria (2009) provided foraging locations for wood storks in 2004 and 2005 as part of her dissertation, based on satellite telemetry data. The exact locations of the wood storks noted by Borkhateria (2009) were not provided, so the locations were digitized by a GIS technician into a GIS layer using Figures 4 and 5 provided in the document. It is possible that more wood storks were present in the areas where satellite-tagged birds were noted; however, the number of birds associated with each foraging location was not provided in Borkhateria (2009) reference. Therefore, it was assumed that only one wood stork was present at each data point. These data were coded as “satellite transmissions” in the GIS database.

### **2.2.1.3 Wood Stork Following Flight Data from Herring and Gawlik (2007)**

Herring and Gawlik (2007) provided data on both breeding colonies and foraging sites for wood storks in 2006 and 2007, which they obtained using following flights. The locations of three wood stork breeding colonies (Tamiami West, Paurotis Pond, and Rodgers River Bay) were coded as “nests” in the GIS database, and the location information and number of wading birds associated with each foraging location was coded as “foraging.”

### **2.2.1.4 Wood Stork Nesting Colony Data**

The nesting colony database included GIS coordinates of nesting locations (including number of birds nesting at each location) from 1985 through 2011. The data spans from 1936 through 2011; however, only data with actual GPS locations were used, and that range covered 1985 through 2011, and included 3140 usable data points. These data were coded as “nests” in the GIS database.

#### **2.2.1.5 Wood Stork Data from Frederick (2007, 2008, 2009, 2010, 2011)**

Data from Peter Frederick of the University of Florida were provided by Everglades National Park. The number of wood stork nests at various colonies were documented during surveys conducted in 2007, 2008, 2009, 2010, and 2011. These data were coded as “nests” in the GIS database.

#### **2.2.1.6 Wood Stork Systematic Reconnaissance Flight (SRF) Data**

Wood stork data that are available in the SRF database were used for this avian risk assessment. These data are collected via fixed-wing aircraft containing two observers that fly a prescribed route over Everglades National Park and a small selection of other areas (such as the southern tip of Big Cypress National Preserve) (Russell 2002). The route begins in the northeast corner of the Park and consists of a series of transects following lines of latitude, alternating in direction east-to-west and west-to east. Each transect is 2 km farther south than the previous one. During each transect, observations begin and end when the aircraft crosses predetermined points that correspond roughly to the boundaries of the Park. Both observers record the presence of wading birds. The SRF database includes information on flights that were performed from 1985 to 2011. These data were coded as “foraging” locations in the GIS database.

The SRF data have many strengths, including a consistent survey protocol with exactly equal effort applied to every location in the Park, and repetition at approximately the same dates every year, for many years. They are also subject to some sources of error and unknown quantities, including incomplete coverage, and varying visibility biases because observers cannot see every bird below them. However, the bird counts provided by the SRFs are considered to be conservative sources of data for this avian risk assessment, because it is likely that more birds were using the Park at any given time than were actually recorded.

#### **2.2.1.7 Wood Stork Data from NPS Avian Risk Assessment (LoGalbo and Zimmerman 2010)**

Numbers of wood stork nests were recorded from a variety of surveys and were summarized by LoGalbo et al. The sources of data included Cook and Kobza 2008 and 2009, Cook and Herring 2007, Cook and Call 2005 and 2006, Crozier and Cook 2004, Crozier and Gawlik 2003, and Gawlik 2002-1997. These data were included in the database we created and were coded as “nests” in the GIS database.

### **2.2.2 Little Blue Heron, Snowy Egret, Tricolored Heron, Roseate Spoonbill, and White Ibis Data**

#### **2.2.2.1 Systematic Reconnaissance Flight (SRF) Database**

Data for little blue herons, snowy egrets, tricolored herons, roseate spoonbills, and white ibis that are available in the SRF database were used for this avian risk assessment. For further description of these data, please refer to Section 2.2.1.6, above. These data were coded as “foraging” locations in the GIS database.

#### **2.2.2.2 Nesting Data from Frederick (2007, 2008, 2009, 2010, 2011)**

Data for little blue herons, snowy egrets, tricolored herons, roseate spoonbills, and white ibis were available from surveys conducted by Peter Frederick of the University of Florida. These survey data were provided by Everglades National Park. The number of nests for each species at various colonies was documented during surveys conducted in 2007, 2008, 2009, 2010, and 2011. These data were coded as “nests” in the GIS database.

#### **2.2.2.3 Biscayne National Park 2010 Colony Data**

In 2010, Biscayne National Park collected data on the number of little blue heron, tricolored heron, white ibis, and roseate spoonbill nests. These data included locations of the nesting colonies and the number of nests present in each colony. These data were coded as “nest” locations in the GIS database.

#### **2.2.2.4 Nesting Colony Data**

The nesting colony database included GIS coordinates of nesting locations (including number of birds nesting at each location) from 1985 through 2011 for little blue heron, tricolored heron, white ibis, snowy egret, and roseate spoonbill. The data spans from 1936 through 2011; however, only data with actual GPS locations were used, and that range covered 1985 through 2011, and included 3140 usable data points. These data were coded as “nests” in the GIS database.

#### **2.2.2.5 Nesting Data from NPS Avian Risk Assessment (LoGalbo et al. 1999)**

Numbers of white ibis, tricolored heron, snowy egret, roseate spoonbill, and little blue heron nests were recorded from a variety of surveys and were summarized by LoGalbo et al. (1999). The sources of data included Cook and Kobza 2008 and 2009, Cook and Herring 2007, Cook and Call 2005 and 2006, Crozier and Cook 2004, Crozier and Gawlik 2003, and Gawlik 2002-1997. These data were included in the database we created and were coded as “nests” in the GIS database.

### **2.2.3 Additional Wading Bird and Colonial Waterbird Data**

Although only wood stork, white ibis, tricolored heron, snowy egret, roseate spoonbill, and little blue heron were considered focal species for this ARA, due to their federal and/or state status and previously noted interactions with power lines, a variety of other wading bird species were included in the data sets described above. Therefore, these data were also opportunistically entered into the GIS database so that relative risk could be quantified for these birds as well.

#### **2.2.3.1 Systematic Reconnaissance Flight (SRF) Database**

Data for great blue heron, glossy ibis, roseate spoonbill, great egret that are available in the SRF database were used for this avian risk assessment. For further description of these data, please refer to Section 2.2.1.6. These data were coded as “foraging” locations in the GIS database.

#### **2.2.3.2 Nesting Data from Frederick (2007, 2008, 2009, 2010, 2011)**

Data for anhinga, black-crowned night heron, cattle egret, glossy ibis, great blue heron, and great egrets were available from surveys conducted by Peter Frederick of the University of Florida. These survey data were provided by Everglades National Park. The number of nests for each species at various colonies was documented during surveys conducted in 2007, 2008, 2009, 2010, and 2011. These data were coded as “nests” in the GIS database.

#### **2.2.3.3 Biscayne National Park 2010 Colony Data**

In 2010, Biscayne National Park collected data on number of anhinga, cormorant, great white heron, reddish egret, great blue heron, and great egret nests. These data included locations of the nesting colonies and the number of nests present in each colony. These data were coded as “nest” locations in the GIS database.

#### **2.2.3.4 Nesting Colony Data**

The nesting colony database included GIS coordinates of nesting locations (including number of birds nesting at each location) from 1985 through 2011 for anhinga, black-crowned night heron, brown pelicans, cattle egrets, cormorants, glossy ibis, great blue heron, great egrets, and great white heron. These data were provided to Louis Berger by Tylan Dean. The data spans from 1936 through 2011; however, only data with actual GPS locations were used, and that range covered 1985 through 2011, and included 3140 usable data points. These data were coded as “nests” in the GIS database.

#### **2.2.3.5 Nesting Data from NPS Avian Risk Assessment (LoGalbo et al. 1999)**

Number of nests for anhinga, black-crowned night heron, cattle egret, glossy ibis, great blue heron, and great egret were recorded from a variety of surveys and were summarized by LoGalbo et al. (1999). The sources of data included Cook and Kobza 2008 and 2009, Cook and Herring 2007, Cook and Call 2005 and 2006, Crozier and Cook 2004, Crozier and Gawlik 2003, and Gawlik 2002-1997. These data were included in the database we created and were coded as “nests” in the GIS database.

### **2.2.4 Snail Kite Data**

Snail kite nesting location data were provided by the Biological Resources Branch Chief of ENP. Data from seven different sources were combined. The sources included 2008, 2009, 2010, and 2011 survey summary data, snail kite nesting data from 1986 through 2007, two snail kite nest locations provided in a map by Dial Cordy and Associates, and nesting data in Water Conservation Area 2B, located in a report titled, “Numbers, Distribution, and Success of Nesting snail Kites in Water Conservation Area 2B, 1995 Final Report prepared for South Florida Water Management District.” The survey summary data and nesting data originate from long-term multi-year studies conducted by Dr. Wiley Kitchens at the University of Florida. These data were coded as “nests” in the GIS database.

## 2.3 Risk Assessment Assumptions

Because birds are known to collide with power lines and associated towers while flying, direct observation and quantification of individual birds or flocks in flight (including but not limited to data such as the numbers of birds in flight, the height of flight above the ground, and direction of flight), are often the best data to inform an analysis of collision risk (APLIC 2006).

However, data on individuals or flocks of birds in flight were not available for this analysis; to fill that data gap, we relied on inference and the following assumptions:

- In the absence of specific flight data, we assume that both ENP and BNP birds spend most of their flight time transiting the airspaces, especially among nest sites, roosting sites, and foraging habitats.
- A related assumption for BNP, in the absence of birds-in-flight data, is that those birds nesting in the coastal and island colonies of BNP that choose to forage or roost in ENP will necessarily have to fly west over greater Miami, crossing the general area containing the transmission corridors under consideration.
- Similarly, those birds nesting within or near to ENP that choose to fly east to feed, or that roost on the shoreline, will necessarily have to cross the general area containing the transmission corridors under consideration, as well as fly over greater Miami to reach maritime shores.
- Although the risk of birds colliding with power lines and towers is known to be generally low and variable (APLIC 2006), we assume nevertheless that collision risk increases with the number of birds crossing over, under, or through any air space that contains power lines and towers.
- Finally, because we lack site-specific data regarding the height of bird flight above the ground in the vicinity of the proposed ROWs, this important variable of collision risk exposure must remain an uncertainty. However, because power lines and associated towers are found typically within <500 ft above the ground, such infrastructure must be considered a collision risk factor to birds that spend a majority of time within this airspace or for any birds that enter this airspace while landing or taking off.

In a study of the interaction of wading birds, including wood storks, with a similar 500-kV transmission line, Deng and Frederick (2001) reported that 87% flew above wires at night and 82% during the day. They concluded that the percentage of birds at night might be higher than 87%, because radar showed more crossings at greater height. After taking off from nests or foraging sites, wood storks generally use soaring flight to attain a height above the ground of 2,000 ft (Kahl 1964) to as much as 5,000 feet (Mitchell 1999). Descending storks fly at a steep angle and at speeds of 25–33 mph (Kahl 1972). It is during takeoff and landing when storks, waders, and other birds are their greatest risk of collision with power lines, towers, and other structures.

In a two-year study in Australia of the height of flight and collision risk of 22 waterbirds at a 330-kV transmission line, Winning and Murray (1997) found that, from a grand total of 50,979 height-of-flight observations, the percentage of birds observed flying *beneath* the top of transmission towers and lines ranged from a high of 100% to a low of 33% for glossy ibis.

## 2.4 Maximizing the Distance to Known Risk Factors: Assessing Relative Risks

Because proximity to transmission lines is a known risk factor for birds (APLIC and USFWS 2005; APLIC 2006), our approach to quantifying relative risk among the three corridors was to focus especially on the spatial juxtaposition of avian resources relative to the location of each corridor. Whether an individual bird, a foraging flock of birds, a nesting colony, or a preferred habitat patch, we focused on the following two aspects of proximity. First, we measured the distance from an avian resource (such as a wood stork foraging or nesting location) to the nearest point on each of the three transmission corridors under consideration; and second, we tallied the number of foraging or nesting individuals per mile up to a distance of 30 miles away from each corridor. In this way, a transmission corridor that has the highest proximity to a particular avian resource, such as a multispecies colony, an individual nest of a critical species, or an important foraging habitat, was construed as posing a greater risk of collision or electrocution than a corridor that is further from a resource (APLIC and USFWS 2005; APLIC 2006).

### 2.4.1 Data-Based Relative Risk Assessment

The data-based relative risk assessment uses the GIS data specified in Section 2.2 above, which includes the number of birds associated with each location surveyed. In this approach to quantifying relative risk among the three proposed transmission lines, risk is a function of the distance from any bird or colony to a particular line segment for each species. The risk of colliding with transmission lines declines by the square of the distance. Therefore, a line at 5 miles has  $(1/5)^2 = 0.04$  of risk, versus a line at half that distance of  $(1/2.5)^2 = 0.16$  the risk—only one-quarter the risk of the closer line. Relative risk for each transmission line alternative can be expressed with the following formula:

$$P_a(S_i) = \sum_j^n D_{aj} \cdot S_{ij}$$

where  $P_a(S_i)$  is the risk from transmission alternative  $a$  to species  $S_i$  as a function of the distance  $D$  from colony (or bird location)  $j$  to line segment  $L$  for transmission-line alternative  $a$ .  $D$  is the distance in miles, and  $S$  is the number of individuals for species  $S$  found in colony  $J$  or foraging area  $J$ . The assumption is that birds fly out from colony  $j$  or foraging area  $j$  in all directions, and risk is purely a function of the proximity of the avian resource to the transmission-line ROW.

As an example of how relative risk was calculated using these methods, if there was a colony of 200 birds located 10 miles away from a transmission corridor, versus a colony of 20 birds located 10 miles away from a transmission corridor, the difference in relative risk would be 2000 bird-miles ( $200 \text{ birds} \times 10 \text{ miles}$ ) versus 200 bird-miles ( $20 \text{ birds} \times 10 \text{ miles}$ ). The higher risk would be attributed to the colony of 200 birds located 10 miles away from the transmission corridor. Similarly, in another hypothetical example, if a colony of 20 birds were 5 miles from the corridor ( $20 \text{ birds} \times 5 \text{ miles}$ ), versus the colony of 20 birds 10 miles from the corridor ( $20 \text{ birds} \times 10 \text{ miles}$ ), the risk would be higher for the colony closer to the corridor (100 bird-miles versus 200 bird-miles). In effect, the higher the number of bird-miles, the lower the risk.

This exercise was completed for each species for which available GIS and number-of-bird data were accessible. The numbers of bird-miles calculated for each transmission corridor were then averaged to provide comparisons for each corridor. Please note that two of the data sets for wood storks mentioned above [USFWS South Florida Wood Stork Nesting Colonies and Borkhateria (2009)] did not include the number of birds associated with each colony or foraging location. Therefore, each of those GPS locations was conservatively assumed to have at least one bird present. Please note that numbers of wood storks were reported in all other data sets.

For all three corridors under consideration, we quantified the relative risks associated with the entire corridor of each alternative, which included the route sections that were unique to each alternative *plus* the sections referred to as “Common to All” (Figure 1-1). The transmission corridors considered in this ARA were very similar in length, totaling the following approximate miles and acreages: FPL West Secondary, 50 miles and 1,998 acres; FPL West Preferred, 51 miles and 2,929 acres; Route A, 50 miles and 2012 acres. The FPL West Preferred Corridor has the greatest acreage associated with it, and the FPL West Secondary Corridor has the least.

There is ample precedent for the notion of striving to maximize the distance between critical avian resources and a variety of hazards in the environment. For example, the Wood Stork Recovery Plan (USFWS 2007) presents management guidelines that recommend buffer zones to reduce human disturbance to breeding, feeding, and roosting habitats. The guidelines were derived from research by Ogden (1990) and Rodgers and Smith (1995 and 1997), which recommended buffers between storks and various sources of human disturbance. Similarly, extensive research in the electric utility industry has been focused on the causes of and solutions to bird collision and electrocution mortality as a result of proximity to transmission lines and distribution systems (APLIC and USFWS 2005; APLIC 2006). This research has prompted many state and federal resource agencies, as well as electric utilities, to adopt specific guidelines for the structural design and siting of new transmission corridors, such that they minimize mortality from collision and electrocution. The key recommendation for minimizing the risk of collision mortality of flying birds, or electrocution from birds landing on wires or tower members, is to avoid siting new transmission lines such that they fall on or near important bird flight paths (APLIC 2006). Finally, throughout the wildlife management literature, there is the nearly ubiquitous prescription of establishing buffers around key wildlife resources, such that known risk factors are kept as far away as possible from such resources.



## **2.4.2 Habitat-Based Relative Risk Assessment**

Wading-bird nesting and foraging habitat outside of the ENP and BNP boundaries was not well documented in the data provided. This is likely because the habitats outside the park boundaries are heavily urbanized, and therefore are not used by wading birds to the same degree that the non-urbanized protected areas are used. Also, many studies are focused within the park boundaries, as opposed to the more urbanized areas. For focal species other than wading birds, survey data were not available for ENP or BNP. Regardless, given this lack of data, there was a need to determine what potential habitat cover types exist for areas outside the park and study boundaries, because these habitats represent areas where birds could potentially nest, breed, roost, or forage for food.

For this ARA, The SFWMD Land Cover Land Use data layer was used to determine the wetland miles crossed by each route. The 2011 data layer was created by review of 2008-2009 aerial photography and serves as an update to the 2004 data layer. The data is classified using the Florida Land Use, Land Cover Classification System (FDOT 1999). Three levels (Levels 1, 2, and 3) of land-use description are provided, based on the FDOT (FDOT) classification schema.

For focal species such as snail kites, wood storks, and wading birds for which actual GIS foraging and nesting locations were provided, an assessment of the most frequented habitat types within the 30-mile boundary were determined in GIS. The numbers of individual foraging birds, flocks of foraging birds, and nesting locations of birds associated with each individual GIS location were recorded. The Level 3 LCLU was then recorded for each individual GIS location. This provided a measure of Level 3 LCLU habitat preferences by the focal species, and is shown graphically in Figure 2-1. These results are presented as figures in the Results section for each species for which data were available.

For the other focal species that did not have data sets associated with them, a more general approach to habitat preferences was taken. The preferred habitat for each species was determined from the Florida Breeding Bird Atlas accounts (<http://legacy.myfwc.com/bba/species.asp>). If a species did not have an account provided in the Florida Breeding Bird Atlas, then the life history account from the Birds of North America series (<http://bna.birds.cornell.edu/bna/>) was accessed. The preferred habitats for each focal species, within the 30-mile boundary surrounding the three potential transmission corridors, are identified in Table 2-2. A map of all potential Level 2 LCLU habitat descriptions was created (Figure 2-2). (Note: Level 2 LCLU was used instead of Level 3, because the habitat descriptions in the sources used were not specific enough to identify to Level 3 categories.)

## **2.5 Measuring Distances from Key Resources for Each Transmission Corridor**

Within ArcInfo GIS, we used the NEAR (Analysis) tool to capture the distances between avian resource points and the nearest point along the three potential transmission corridors. The NEAR tool is part of ArcInfo's Proximity tool set, which is used to determine the proximity of spatial features within feature classes or between two feature classes. The Proximity tools

identify features that are closest to one another, calculate the distances around them, and calculate distances between them. The NEAR tool allowed us to extract the distance from any point in our avian feature class to the nearest line or point in the transmission-line feature class (Figure 2-3).

We used NEAR to extract distance measures for the avian resource features listed above, out to a distance of 30 miles from each of the three corridors under consideration. Thirty miles was judged to be a conservative maximum distance to include in the analysis, because few if any of the species at risk from the project are likely to fly farther than that from their nest in a single day (Smith 1995).

## 3 Results

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As described in the Methods section, two types of relative risk assessments were conducted. The data-based relative risk assessment used actual locations and numbers of birds associated with each location within the 30-mile boundary of the study area. The average number of birds  $\times$  the distance from each transmission corridor was calculated and is presented below. This resulted in units of bird-miles. In the results figures discussed below, the greater the number of bird-miles to a corridor, the lower the risk posed by the corridor, and vice versa. Because the survey data are biased for within-Park boundaries, an additional habitat-based relative risk assessment was conducted using the data for preferred habitats that were available in the GIS data sets. However, as mentioned above, these specific multi-year data were available only for snail kites, wood storks, and some waterbirds.

For all other species for which GIS data were not available, only a habitat-based relative risk assessment was conducted. For these species, the Florida Breeding Bird Atlas was used to determine which types of habitats are preferred by each species (Table 2-2). The average distance of each preferred habitat to each potential transmission corridor was calculated and compared. The results of the relative risk assessments, in addition to the land use for each focal species, are presented below.

### 3.1 Relative Risk Assessment Results

#### 3.1.1 Family Pelecanidae

This family was represented by the brown pelican, which is considered a Florida State Species of Special Concern. This species was noted previously to have been electrocuted due to contact with transmission lines. There was no difference in relative risk among the three potential transmission corridors to brown pelicans (Figure 3-1). This species is exclusively coastal and, in the study area, was noted to be associated with embayments opening directly to the Gulf of Mexico or the Atlantic Ocean (Figure 3-2). The nearest preferred habitat for the brown pelican was equidistant from the three potential transmission corridors (Figure 3-3).

#### 3.1.2 Family Phalacrocoracidae

This family is represented by the double-crested cormorant, which is not state or federally listed. However, this seabird species has been noted to collide with transmission lines in the past. There was no difference in relative risk to double-crested cormorants among the three potential transmission corridors (Figure 3-1). Based on the data provided for cormorants in the data sets described above in Section 2, the cormorant was noted to be associated most with mangrove swamps, embayments, mixed shrubs, and freshwater marshes (sawgrass) (Figure 3-4). The risk in terms of distance of preferred cormorant habitat from the three transmission corridors to the freshwater sawgrass marshes and mixed shrub habitats was greatest for the FPL West Secondary Corridor, intermediate for the FPL West Preferred Corridor, and least for Route A (Figure 3-5).

### 3.1.3 Family Anhingidae

This family was represented by the Anhinga, which is not state or federally listed. However, this aquatic bird has been noted to have been electrocuted due to contact with transmission lines in the past. Relative risk to anhingas was greatest for the FPL West Preferred Corridor (11.8 bird-miles), intermediate for the FPL West Secondary Corridor (11.9 bird-miles), and least for Route A (13.4 bird-miles) (Figure 3-1). Based on the data provided for anhingas in the data sets above, the anhinga was noted to be associated most with freshwater marshes (sawgrass and graminoid prairies), mixed shrubs, and mangrove swamps (Figure 3-6). The risk in terms of distance of preferred cormorant habitat from the three transmission corridors was greatest for the FPL West Secondary Corridor, intermediate for the FPL West Preferred Corridor, and least for Route A (Figure 3-7).

### 3.1.4 Family Ardeidae

This family was represented by 10 species, most of which had specific abundance and location data provided in the GIS data sets described above. Relative risk to black-crowned night herons, great blue herons, great egrets, snowy egrets, and tricolored herons was greatest for the FPL West Secondary Corridor, intermediate for the FPL West Preferred Corridor, and least for Route A (Figure 3-1). There were no differences in relative risk for the great white heron, little blue heron, or reddish egret based on the data provided for cormorants in the data sets above (Figure 3-1).

The preferred habitat for the black-crowned night heron was mixed shrubs, followed by freshwater sawgrass and graminoid marshes (Figure 3-8). Relative risk to black-crowned night herons, based on distance of preferred habitats from the transmission corridors, was greatest for the FPL West Secondary Corridor, intermediate for the FPL West Preferred Corridor, and least for Route A (Figure 3-9).

The preferred habitat for the great blue heron was freshwater sawgrass marsh, followed by mangrove swamps, freshwater marshes, mixed shrubs, embayments, tidal flats, saltwater marshes, cypress stands, and wet prairie (Figure 3-10). Relative risk to great blue herons, based on distance of preferred habitats from the transmission corridors, was greatest for the FPL West Secondary Corridor, intermediate for the FPL West Preferred Corridor, and least for Route A (Figure 3-11).

The preferred habitat for the great white heron was mangrove swamps, followed by freshwater marshes, embayments, tidal flats, saltwater marshes, mixed shrubs, freshwater marshes, natural waterways, wet prairies, and cypress stands (Figure 3-12). Relative risk to great white herons, based on distance of preferred habitats from the transmission corridors, was greatest for the FPL West Secondary Corridor (201.1 bird-miles), intermediate for the FPL West Preferred Corridor (201.6 bird-miles), and least for Route A (201.8 bird-miles) (Figure 3-13).

The preferred habitat for the great egret was freshwater marshes, followed by mangrove swamps, freshwater marshes, mixed shrubs, tidal flats, tidal flats, saltwater marshes, embayments, cypress stands, enclosed salt water holding ponds, and wet prairies (Figure 3-14). Relative risk to great egrets, based on distance of preferred habitats from the transmission

corridors, was greatest for the FPL West Secondary Corridor, intermediate for the FPL West Preferred Corridor, and least for Route A (Figure 3-15).

The preferred habitat for the little blue heron was mixed shrubs, followed by freshwater marshes, ornamentals, mangrove swamps, and reservoirs (Figure 3-16). Relative risk to little blue herons, based on distance of preferred habitats from the transmission corridors, was greatest for the FPL West Secondary Corridor (325.3 bird-miles), intermediate for the FPL West Preferred Corridor (325.4 bird-miles), and least for Route A (326.6 bird miles) (Figure 3-17).

The preferred habitat for the snowy egret was mixed shrubs, followed by enclosed salt water ponds within marshes, freshwater marshes, saltwater marshes, golf courses, embayments, tidal flats, upland hardwood forests, and mangrove swamps (Figure 3-18). Relative risk to snowy egrets, based on distance of preferred habitats from the transmission corridors, was generally greatest for the FPL West Secondary Corridor, intermediate for the FPL West Preferred Corridor, and least for Route A (Figure 3-19).

The preferred habitat for the tricolored heron was mixed shrubs, followed by mangrove swamps, freshwater marshes, cypress stands, ornamentals, and embayments (Figure 3-20). Relative risk to tricolored herons, based on distance of preferred habitats to the transmission corridors, was generally greatest for the FPL West Secondary Corridor, intermediate for the FPL West Preferred Corridor, and least for Route A (Figure 3-21).

The preferred habitat for the reddish egret was mangrove swamp (Figure 3-22). Relative risk to reddish egrets, based on distance of the preferred habitat to the transmission corridors, was greatest for the Route A, intermediate for the FPL West Preferred Corridor, and least for the FPL West Secondary Corridor (Figure 3-23).

The American and least bittern are solitary marsh birds that are both designated as U.S. Fish and Wildlife Service nongame migratory species of concern. Neither species has had documented interactions with transmission lines. The preferred habitats for least bittern were vegetated wetlands and forested wetlands (Table 2-2). The preferred habitats for the American bittern were the same as for the least bittern, with the addition of bays and estuaries and streams and waterways (Table 2-2). Analysis of preferred habitats for both species of bitterns suggested that, based on distance from transmission lines, risk was greatest for the FPL West Secondary Corridor, intermediate for the FPL West Preferred Corridor, and least for Route A (Figures 3-24 and 3-25).

### **3.1.5 Family Threskiornithidae**

This family was represented by the white ibis and roseate spoonbill, both of which are considered Florida State species of special concern, and the glossy ibis which is not state or federally listed. All three species have been reported injured or killed due to power line interactions. There was no difference in relative risk among the three potential transmission corridors to roseate spoonbills (Figure 3-1), but for both ibis species, Route A posed the least risk, followed by the FPL West Preferred Corridor, and the most risk was associated with to the FPL West Secondary Corridor (Figure 3-1).

The preferred habitat for the white ibis was freshwater marshes, followed by mangrove swamps, mixed shrubs, tidal flats, saltwater marshes, cypress stands, and wet prairies (Figure 3-26). Relative risk to white ibis, based on distance of the preferred habitat from the transmission corridors, was generally greatest for the FPL West Secondary Corridor, intermediate for the FPL West Preferred Corridor, and least for Route A (Figure 3-27).

The preferred habitat for the glossy ibis was similar to that for white ibis, including freshwater marshes, followed by mangrove swamps, mixed shrubs, wet prairies, tidal flats, saltwater marshes, embayments, and cypress stands (Figure 3-28). Relative risk to white ibis, based on distance of the preferred habitat from the transmission corridors, was generally greatest for the FPL West Secondary Corridor, intermediate for the FPL West Preferred Corridor, and least for Route A (Figure 3-29).

The preferred habitat for the roseate spoonbills was mangrove swamps, followed by freshwater marshes, tidal flats, saltwater marshes, embayments, and wet prairies (Figure 3-30). Relative risk to roseate spoonbills, based on distance of the preferred habitat from the transmission corridors, was generally greatest for the West Secondary Corridor (663.2 bird-miles), intermediate for the FPL West Preferred Corridor (663.3 bird-miles), and least for Route A (663.4 bird-miles) (Figure 3-31).

### **3.1.6 Family Ciconiidae**

This family was represented by the wood stork, which is classified as a federally and Florida State endangered species that has been injured or killed previously due to interactions with power lines. Relative risk to wood storks was greatest for the FPL West Secondary Corridor, intermediate for the FPL West Preferred Corridor, and least for Route A (Figure 3-1).

The preferred habitat for the wood stork was freshwater marshes, followed by mangrove swamps, mixed shrubs, embayments, saltwater marshes, tidal flats, cypress stands, wet prairies, natural waterways, and mixed wetland hardwoods (Figure 3-32). Relative risk to wood storks, based on distance of the preferred habitat from the transmission corridors, was generally greatest for the FPL West Secondary Corridor, intermediate for the FPL West Preferred Corridor, and least for Route A (Figure 3-33).

### **3.1.7 Family Gruidae**

This family was represented by the Florida sandhill crane, which is classified as threatened in the State of Florida and also has been injured or killed previously due to interactions with power lines. Preferred habitats of the Florida sandhill crane include freshwater herbaceous wetlands. Relative risk to cranes, based on distance of the preferred focal habitats from the transmission corridors, was generally greatest for the FPL West Secondary Corridor, intermediate for the FPL West Preferred Corridor, and least for Route A (Figure 3-31).

### 3.1.8 Family Aramididae

This family was represented by the limpkin, which is considered a special-concern species, both federally and in the State of Florida. The limpkin is a wetland species that prefers bays and estuaries, non-vegetated wetlands, streams and waterways, vegetated non-forested wetlands, and wetland hardwood forests (Table 2-2). Relative risk to the limpkins, based on distance of the preferred habitat from the transmission corridors, was generally greatest for the FPL West Secondary Corridor, intermediate for the FPL West Preferred Corridor, and least for Route A (Figure 3-35).

### 3.1.9 Family Rallidae

This family was represented by the black and yellow rail, both of which are secretive wetland birds. They are both designated as U.S. Fish and Wildlife Service nongame migratory species of concern. While other rail species have been reported injured or killed by interactions with power lines, the yellow and black rails have not. The preferred habitats of both rails include vegetated non-forested wetlands, streams and waterways, and bays and estuaries (Table 2-2). Relative risk to the rails, based on distance of the preferred habitat from the transmission corridors, was generally greatest for the FPL West Secondary Corridor, intermediate for the FPL West Preferred Corridor, and least for Route A (Figures 3-36 and 3-37).

### 3.1.10 Family Accipitridae

This family was represented by the snail kite, which is considered a federally and Florida State endangered species, while the northern harrier, short-tailed hawk, and swallow-tailed kite are designated as U.S. Fish and Wildlife Service nongame migratory species of concern. The osprey is also included in this family, and is considered a species of special concern in Monroe County, Florida. The snail kite and the short-tailed hawk have not been reported killed or injured due to interactions with power lines, while the swallow-tailed kite, osprey, and northern harrier have been.

Relative risk to snail kites was greatest for the FPL West Secondary Corridor, intermediate for the FPL West Preferred Corridor, and least for Route A (Figure 3-1). The snail kite habitat preferences include freshwater marshes, lakes, emergent aquatic wetlands, mixed shrubs, and cypress stands (Figure 3-38). Relative risk to snail kites, based on distance of the preferred habitat from the transmission corridors, was generally greatest for the FPL West Secondary Corridor, intermediate for the FPL West Preferred Corridor, and least for Route A (Figure 3-39).

The preferred habitat for the short-tailed hawk included herbaceous dry prairies, upland hardwood forests, upland mixed forests, upland shrub and brushlands, and wetland forests (Table 2-2). Relative risk to white ibis, based on distance of the preferred habitat from the transmission corridors, was generally greatest for the FPL West Secondary Corridor, intermediate for the FPL West Preferred Corridor, and least for Route A (Figure 3-40).

The preferred habitat for the swallow-tailed kite included bays and estuaries, non-vegetated wetlands, streams and waterways, upland forests, non-forested wetlands, and wetland forests (Table 2-2). Relative risk to swallow-tailed kite, based on distance of the preferred habitat from

the transmission corridors, was greatest for the FPL West Secondary Corridor, intermediate for the FPL West Preferred Corridor, and least for Route A (Figure 3-41).

The preferred habitat for the northern harrier included croplands and pasturelands, mixed rangelands, upland shrubs and brushland, herbaceous dry prairies, and vegetated non-forested wetlands (Table 2-2). Relative risk to northern harrier based on distance of the preferred habitat to the transmission corridors was generally greatest for Route A, intermediate for the FPL West Preferred Corridor, and least for the FPL West Secondary Corridor (Figure 3-42).

The preferred habitat for the osprey includes ocean, reservoirs, lakes, streams and waterways, and bays and estuaries (Table 2-2). Relative risk to osprey, based on distance of the preferred habitat from the transmission corridors, was the same for all routes (Figure 3-43).

### **3.1.11 Family Falconidae**

This family was represented by the crested caracara, which is federally threatened, and also considered threatened in the state of Florida, and the American kestrel, which is considered threatened in the State of Florida. Both species have been reported killed or injured due to interactions with power lines. The caracara prefers dry upland habitats, including croplands and pasturelands, mixed rangelands, upland shrubs and brushlands, and herbaceous dry prairies (Table 2-2). Relative risk to caracara, based on distance of the preferred habitats from the transmission corridors, was generally greatest for the Route A, intermediate for the FPL West Preferred Corridor, and least for the FPL West Secondary Corridor (Figure 3-44).

The kestrel also prefers dry upland habitats, including croplands and pasturelands, upland shrubs and brushlands, upland mixed forests, upland hardwood forests, and upland coniferous forests (Table 2-2). Relative risk to kestrels, based on distance of the preferred habitat from the transmission corridors, was generally greatest for the FPL West Secondary Corridor, intermediate for the FPL West Preferred Corridor, and least for Route A (Figure 3-45).

### **3.1.12 Family Columbidae**

This family was represented by the white-crowned pigeon, which is designated as U.S. Fish and Wildlife Service nongame migratory species of concern, and threatened in the State of Florida. This species has not been reported killed or injured due to power-line interactions, but other Columbidae species have been. The preferred habitats of the white-crowned pigeon include upland hardwood forests and wetland forests (Table 2-2). Relative risk to white-crowned pigeons, based on distance of the preferred habitats from the transmission corridors, was generally greatest for FPL West Secondary Corridor, intermediate for the FPL West Preferred Corridor, and least for Route A (Figure 3-46).

### **3.1.13 Family Cuculidae**

This family was represented by the yellow-billed, cuckoo which is designated as a U.S. Fish and Wildlife Service nongame migratory species of concern. The cuckoo has not been reported killed or injured by power lines. The preferred habitats of the yellow-billed cuckoo include



streams and waterways, uplands hardwood forests, non-forested wetlands, forested wetlands, and bays and estuaries (Table 2-2). Relative risk to yellow-billed cuckoos, based on distance of the preferred habitats from the transmission corridors, was generally greatest for Route A, intermediate for the FPL West Preferred Corridor, and least for the FPL West Secondary Corridor (Figure 3-47).

#### **3.1.14 Family Tytonidae**

This family was represented by the barn owl, which is designated as a U.S. Fish and Wildlife Service nongame migratory species of concern. It has been reported killed or injured by power lines. The preferred habitats of the barn owl include croplands and pasturelands, dry prairies, mixed rangeland, and upland shrublands (Table 2-2). Relative risk based on distance of the preferred upland habitats from the transmission corridors was generally greatest for Route A, intermediate for the FPL West Preferred Corridor, and least for the FPL West Secondary Corridor (Figure 3-48).

#### **3.1.15 Family Picidae**

This family was represented by the northern flicker, which is designated as a U.S. Fish and Wildlife Service nongame migratory species of concern. It has been reported killed or injured by power lines. Upland forests and tree plantations are the preferred habitats of the northern flicker (Table 2-2). Relative risk, based on distance of preferred habitats from the transmission corridors, was greatest for the FPL West Secondary Corridor, intermediate for the FPL West Preferred Corridor, and least risk for the Route A (Figure 3-49).

#### **3.1.16 Family Laniidae**

This family was represented by the loggerhead shrike, which is designated as a U.S. Fish and Wildlife Service nongame migratory species of concern. It has not been reported killed or injured by power lines. The preferred habitats of the loggerhead shrike include croplands and pasturelands, mixed rangelands, dry prairies, and upland shrublands (Table 2-2). Relative risk, based on distance of those preferred habitats from the transmission corridors, was generally greatest for Route A, intermediate for the FPL West Preferred Corridor, and least for the FPL West Secondary Corridor (Figure 3-50).

#### **3.1.17 Family Vireonidae**

This family was represented by the black-whiskered vireo, which is designated as a U.S. Fish and Wildlife Service nongame migratory species of concern. This species has not been reported killed or injured by interactions with power lines. The preferred habitats of the vireo are wetland hardwood forests (Table 2-2). Relative risk, based on distance of the preferred habitats from the transmission corridors, was highest for FPL West Secondary Corridor, intermediate for the FPL West Preferred Corridor, and least for Route A (Figure 3-51).

### 3.1.18 Family Troglodytidae

This family was represented by the marsh wren, which is a special-concern species in Florida, and the sedge wren, a species designated by the U.S. Fish and Wildlife Service as a nongame migratory species of concern. Neither species has been reported killed or injured by power lines. The preferred habitats of the marsh wrens are vegetated non-forested wetlands (Table 2-2). The relative risk, based on distance of that preferred habitat from the transmission corridors, was greatest for FPL West Secondary Corridor Route A, intermediate for the FPL West Preferred Corridor, and least for the Route A (Figure 3-52). The preferred habitats of the sedge wren include non-vegetated wetlands and vegetated nonforested wetlands. Relative risk, based on distance vegetated non-forested wetlands from the transmission corridors, was greatest for FPL West Secondary Corridor, intermediate for the FPL West Preferred Corridor, and least for Route A (Figure 3-53).

### 3.1.19 Family Turdidae

This family was represented by the wood thrush and veery, both of which are designated as U.S. Fish and Wildlife Service nongame migratory species of concern. Neither has been reported killed or injured by power-line interactions. The preferred habitats of both species include upland and wetland forests (coniferous, hardwoods, and mixed; Table 2-2). Relative risk, based on distance of vegetated non-forested wetlands from the transmission corridors, was greatest for the FPL West Secondary Corridor, intermediate for the FPL West Preferred Corridor, and least for Route A (Figures 3-54 and 3-55).

### 3.1.20 Family Parulidae

This family was represented by the black-throated blue warbler, prairie warbler, worm-eating warbler, Swainson's warbler, and Louisiana waterthrush. All species are designated as U.S. Fish and Wildlife Service nongame migratory species of concern. None has been reported killed or injured by power lines. The preferred habitats of the parulids are very similar, including wetlands forests (Table 2-2), except for the worm-eating warbler prefers upland forests. Relative risk for all parulids, based on distance of these preferred habitats from the transmission corridors, was greatest for the FPL West Secondary Corridor, intermediate for the FPL West Preferred Corridor, and least for Route A (Figures 3-56, 3-57, 3-58, 3-59, and 3-60.).

### 3.1.21 Family Icteridae

This family was represented by the bobolink and eastern meadowlark, which are designated as U.S. Fish and Wildlife Service nongame migratory species of concern. The eastern meadowlark has been reported killed or injured by power lines. The preferred habitats of the bobolink and eastern meadowlark include croplands and pasturelands, herbaceous dry prairies, and upland shrubland and brushlands (Table 2-2). The relative risk to bobolinks and eastern meadowlarks, based on distance of prairies and upland crop and pasturelands from the transmission corridors, was greatest for Route A, intermediate for the FPL West Preferred Corridor, and least for the

FPL West Secondary Corridor (Figure 3-61 and 3-62). However in contrast, relative risk based on upland coniferous forests, shrublands and brushlands, and non-forested wetlands, was greatest for the FPL West Secondary Corridor, intermediate for the West Preferred Corridor, and least for Route A (Figures 3-61 and 3-62).

### **3.1.22 Family Cardinalidae**

This family was represented by the painted bunting, which is designated as U.S. Fish and Wildlife Service nongame migratory species of concern. It has not been reported killed or injured by power lines. The preferred habitats of the painted bunting are upland shrubs and brushlands (Table 2-2). The relative risk based on distance of these habitats to the transmission corridors was greatest for the FPL West Secondary Corridor, intermediate for the FPL West Preferred Corridor, and least for Route A (Figure 3-63).

### **3.1.23 Family Emberizidae**

This family was represented by the field sparrow, which is considered a federal species of special concern. It has not been reported killed or injured by power lines. The preferred habitats of the field sparrow are upland shrubs and brushlands (Table 2-2). The relative risk, based on distance of these habitats from the transmission corridors, was greatest for the FPL West Secondary Corridor, intermediate for the FPL West Preferred Corridor, and least for Route A (Figure 3-64).

## **3.2 Amount of Potential Avian Habitat Associated with Each Potential Corridor**

The number of acres of potential avian habitat included within the three corridors includes the following:

- FPL West Preferred Corridor: 2647 acres
- FPL West Secondary Corridor: 1990 acres
- Route A: 1984 acres.

The acreages of the Level 3 LULC categories that are located under each corridor are shown in Figure 3-65.

## 4 Discussion

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The focal species for this ARA were selected because they are classified as endangered, threatened, or special concern either federally or in the State of Florida. Additional waterbird species were included, because multi-year survey data were opportunistically available in the data sets that were already being examined. The selected focal receptors represent different guilds of birds, including raptors, wading birds, passerines, wetland birds, waterbirds, grassland birds, residents, migrants, and other groups of birds that are potentially present in the area of the transmission corridors. They serve as surrogates of risk due to the potential transmission corridors for other birds with similar life histories, habitat requirements, and behavioral patterns.

Of the 230 species that have been noted to use or breed in the vicinity of the transmission corridors, 78 have been reported to have had interactions with power lines that resulted in death or injury through either electrocution or collision (Table 2-1).

### 4.1 Relative Risks of the Three Proposed Transmission Corridors

In this ARA, the relative risk of three potential transmission lines to 47 species from 23 different avian families was compared. The transmission lines occur in the vicinity of ENP and BNP. The study area was defined by a 30-mile boundary surrounding the three transmission lines (Figure 1-1). Some focal species had multi-year survey data available, which included locations and number of birds either nesting or foraging (snail kite, wood stork, multiple waterbird species). For these species, relative risk was determined based on the available GIS data, comparing the average distance and number of birds associated with each location to the three potential corridors. A habitat-based risk assessment was also conducted based on the GIS data, such that average distances from preferred foraging habitats, as identified by the GIS data, to each potential transmission corridor, was calculated.

#### 4.1.1 Data-Based Relative Risk Assessment Results

Results of the data-based relative risk assessment are shown in Table 4-1. For all 16 species included in this portion of the ARA, the Route A Corridor presented the least risk to birds, and the FPL West Secondary Corridor posed the most risk. Individual figures that show the data geospatially that were used to assess relative risk are as follows: brown pelican (Figures 4-1), anhinga (Figure 4-2), black-crowned night heron (Figure 4-3), great blue heron (Figure 4-4), great white heron (Figure 4-5), great egret (Figure 4-6), little blue heron (Figure 4-7), snowy egret (Figure 4-8), tricolored herons (Figure 4-9), reddish egret (Figure 4-10), white ibis (Figure 4-11), glossy ibis (Figure 4-12), roseate spoonbill (Figure 4-13), wood stork (Figure 4-14), and snail kite (Figure 4-15). However, for brown pelican (Figure 4-1), double crested cormorant, and reddish egret (Figure 4-10), there were no differences in relative risk between the three lines, because only one data point was available for each. Therefore, the data-based relative risk assessments were not reliable for these three species.

The data-based relative risk assessment results were based on past survey data that included both locations and number of birds present at each location. This data set was limited, however, to ENP and BNP areas—very few studies included data outside the park boundaries, although potential habitat does exist in those places. To address this lack of data outside park boundaries, the historical survey data set was linked in GIS to Level 3 LULC data (Figure 2-1). Each location was counted, to determine in which preferred habitats each species was found most often; these data are presented in Figures 3-2, 3-4, 3-6, 3-8, 3-10, 3-12, 3-14, 3-16, 3-18, 3-20, 3-22, 3-26, 3-28, 3-30, 3-32, and 3-38. The results based on preferred habitats were similar to those discussed above, such that for all focal species, the Route A Corridor posed the least risk to birds, while the FPL West Secondary Corridor posed the most risk. The exception was the reddish egret, for which the limited data suggested that the FPL West Secondary Corridor posed the least risk, and the Route A Corridor posed the most risk.

This analysis is robust, because it considers all potential habitats within the 30-mile radius of the transmission corridors (Figure 2-1). By encompassing this large area, and averaging results of distance to each corridor, the bias due to lack of samples from areas outside of park boundaries is reduced. This ARA examined relative risk for 47 avian species; two of those species, the wood stork and the snail kite, are considered both state and federally endangered. Both the data-based and habitat-based risk assessments suggest that the Route A corridor presents the least risk to those two endangered species. As can be seen on Figure 4-14 for the wood stork, and Figure 4-15 for the snail kite, there have been nests of both species that are located directly in the FPL West Preferred and the FPL West Secondary Corridors, as well as between the two corridors. However, no nests have been noted to be located within the Route A Corridor, or east of the FPL West Secondary and FPL West Preferred Corridors.

Because these two species nest within the 5-mile radius of the transmission corridors, their anticipated flight patterns put them in closer proximity to transmission ROWs, and therefore they are at greater risk of being harmed by lines and towers than are birds foraging, nesting or flying further away (Deng and Frederick 2001). Therefore, the snail kites and wood storks within 5-miles are construed as being exposed to higher collision and electrocution risk from the FPL Corridors than from the Route A Corridor.

#### **4.1.2 Habitat-Based Relative Risk Assessment Results**

The remaining 31 focal species did not have specific data sets available for analysis, so instead, a habitat-based approach to relative risk was used. This analysis is robust, because it considers all potential habitats within the 30-mile radius of the transmission corridors (Figure 2-2). Species accounts that described preferred habitats for the different species were summarized in Table 2-2, and then the average distance of preferred habitats to each of the transmission corridors was calculated in GIS.

Results of the habitat-based risk assessment are presented in Table 4-1. For 25 of the 31 focal species, the habitat-based assessment indicated that the Route A corridor posed the least risk, and the FPL West Secondary Corridor posed the most risk. For the remaining 6 birds (bobolink, eastern meadowlark, loggerhead shrike, barn owl, crested caracara, and northern harrier), the opposite was true: the FPL West Secondary Corridor posed the least risk, the FPL West Preferred Corridor posed intermediate risk, while Route A posed the most risk.

Species that use wetlands and associated water-based habitats end up being closer to the FPL West Secondary Corridor, and therefore experience higher risk as a result. In contrast, birds that use upland habitats to a greater extent would be at higher risk due to the proximity of the Route A Corridor to those types of habitats. In all instances, the FPL West Preferred Corridor posed the intermediate in risk to all species.

## 4.2 Amount of Potential Avian Habitat Affected in Each Potential Corridor

Another method for addressing risk to habitat used by avian species includes an assessment of the amount of potential habitat within each potential transmission corridor. It is hypothesized that the land within each transmission corridor either would become unusable following construction of the transmission corridor, or would present extremely high risk for birds that use the habitat, due to its extremely close proximity to the power lines. Using GIS, the acreage of each type of habitat found under each potential transmission corridor was calculated, and is presented in Figure 3-65. However, as can be seen in Figure 3-65, some land development types may not be ideal for the focal species of concern. These types of land development include commercial and services areas, electrical power transmission lines, educational facilities, fixed single-family units, medium-density areas under construction, multiple dwelling units, roads and highways, and rock quarries. Therefore, these habitats were removed from analysis, and only potential avian habitats are presented in Figure 4-16.

The number of acres of potential avian habitat under the three corridors was greatest for the FPL West Preferred Corridor (2647 acres), intermediate for the FPL West Secondary Corridor (1990 acres) and least for Route A Corridor (1984). However, some habitats are more important to the focal species considered in the risk assessment than others and therefore warrant additional discussion. For example, Australian pine (*Casuarina equisetifolia*) and Brazilian pepper (*Schinus terebinthifolius*) stands are non-native to Florida, and considered aggressive invasive plants that displace native highly productive plant communities (<http://plants.ifas.ufl.edu/node/18>). Although these habitats may sometimes be used by birds, they are generally of lower quality than native habitat. Therefore, the habitats shown in Figure 4-16 that are likely more preferred by the focal species include the following:

- Channelized waterways
- Freshwater marshes
- Herbaceous dry prairies
- Mixed shrubs
- Mixed wetland hardwoods
- Open land
- Upland shrubs and brushlands
- Wet prairies.

Of these habitats, the most acreage would be affected by the FPL West Preferred Corridor, and the least by the Route A Corridor. The exceptions, however, are that wet prairies and mixed shrublands would be more affected by the Route A corridor, and least by the FPL West Secondary Corridor.

### 4.3 Risks to Other Unlisted Species

There is ample habitat for both migratory and resident songbirds in both Everglades and Biscayne National Parks, as well as in the vicinity of the transmission corridors under consideration. And as with waders and raptors, both resident and migratory passerines and other birds can be expected to be crossing transmission corridors in south Florida when moving between nesting, resting and foraging sites and to be exposed to collision and electrocution risk in the process. Regarding migratory birds, Florida is located within a major migratory pathway, the Atlantic Flyway (U.S. Fish and Wildlife Service 1999) that seasonally hosts multiple bird groups such as waterfowl, raptors, waders and songbirds. Birds whose migratory flight path cross transmission lines can be expected to have higher injury and mortality rates than will birds outside of migratory flyways. Indeed, there are confirmed accounts of songbird and other non-wading bird colliding with power lines (Deng 1998, Faanes 1987, Malcolm 1982).

It is likely that additional resident breeding species of birds that occur in the area have also been injured or killed by power lines, but have not been reported. To address these additional bird species that might be present in the study area, the USGS North American Breeding Bird Survey (BBS) route data were examined

(<https://www.pwrc.usgs.gov/bbs/RouteMap/Map.cfm#>). There are five USGS BBS routes in the vicinity of the study area that includes the 30-mile boundary surrounding the proposed power-line routes (Figure 4-17). BBS data that were available on the Redlands, Homestead, Pinelands, Card Sound, and Pinecrest routes for multiple years provide information on the relative abundance of species that may also aggregate in the study area.

In this qualitative analysis of BBS data, we focus on those species that have the paired attributes of ranking high in BBS abundance (scores greater than 10) and are known to form large flocks, and thereby to be behaviorally prone to collision with vertical and horizontal structures such as towers and power lines. In the Homestead BBS route, the species that meet the criteria of higher risk of collision are white ibis, mourning dove, northern mockingbird, boat-tailed and common grackle, American crow, laughing Gull, red-winged blackbird, and cattle egret. In the Pinelands route, the birds that scored high in abundance and are known flocking species include the common grackle, American crow, and mourning dove. In the Redlands route, we identified black vultures, purple martin, white ibis, cattle egret, boat-tailed and common grackle, mourning dove, and red-winged blackbirds as being at risk. In Card Sound, the red-winged blackbird, common grackle, mourning dove, and laughing gull may be at risk. Finally, in Pinecrest, we identified both species of grackle, red-winged blackbird, mourning dove, and black vulture as possibly being at heightened risk due to their abundance and proximity to power lines and towers.

## 4.4 Collision and Electrocution Mitigation Plan

Appendix E of the EIS (Construction and Operation of Electric Power Transmission Facilities) addresses both collision and electrocution risk mitigation very thoroughly. For example, regarding special-status species (including non-avian taxa), Appendix E states the following:

1. For any species documented within the proposed right-of-way as a result of post-certification surveys, FPL will work with USFWS (for any federally listed species) or FDACS or FFWCC (for any state-listed species) to identify appropriate steps to avoid, minimize, mitigate, or otherwise appropriately address impacts to species within the respective agencies' jurisdiction.
2. FPL will comply with any federal permit conditions regarding wood stork colonies.
3. FPL will work with USFWS/FFWCC to mitigate any potential impacts to Florida panther habitat once a corridor is certified and a specific right-of-way is designed.
4. Appropriate erosion control measures will be used to prevent impacts to aquatic species habitat. The transmission lines will span water bodies where manatees could occur.
5. Maintenance activities will be in conformance with FPL's Threatened and Endangered Species Evaluation and Management Plan, which was submitted as Appendix 10.7.1 of the FPL SCA for Turkey Point Units 6 & 7.
6. FPL will construct, operate, and maintain the transmission line in compliance with its Avian Protection Plan (FPL 2007).

Regardless of what corridor is constructed, birds and other species will benefit from FPL ensuring that the absolute best methods and practices are implemented to protect against collision and electrocution. According to APLIC (2006), collision risk mortality from utility lines and towers is best minimized by optimal siting coupled with tower and line design optimization. Regarding siting, two key components are cited by APLIC (2006): first, locating lines and towers *farthest* from known flight paths being used by birds while feeding, breeding, resting, and migrating; and second, locating lines and towers (where possible), such that they are shielded by over-topping vegetation. For example, locating lines and towers in proximity to rows of tall trees enables birds to detect and avoid collision by helping to direct their flight path up and over lines and towers.

On the design side, it is desirable to both minimize the total number of lines and strive to group lines together in as few horizontal layers as possible. Minimizing the total number of lines and grouping them together on the same horizontal plane greatly reduces the risk of collision (Podolsky et al. 1998).

While we recognize that many factors go into the siting of transmission-line corridors, we have considered the three corridor alternatives from the standpoint of avian resources. Given this frame of reference, we conclude that the Route A corridor would expose fewer birds to collision



risk than either the FPL West Secondary or FPL West Preferred corridors. This finding is supported for a wide range of species and based upon a consideration of both colony and foraging locations, as well as the habitat types that are important to these species.

The approach to reducing electrocution risk is detailed in the various guidance documents provided by APLIC and USFWS and thoroughly addressed in Appendix E of the EIS. Generally speaking, reducing electrocution risk entails first minimizing the number of birds perching and nesting on lines and towers, and second, designing the energized components of electrical infrastructure as described in EIS Appendix E, such that the chance of electrocution is minimized. Therefore, regardless of which corridor under consideration is carried forward, all parties are encouraged to implement the best practices articulated by APLIC and USFWS for minimizing the risk of electrocution.

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## **Figures**

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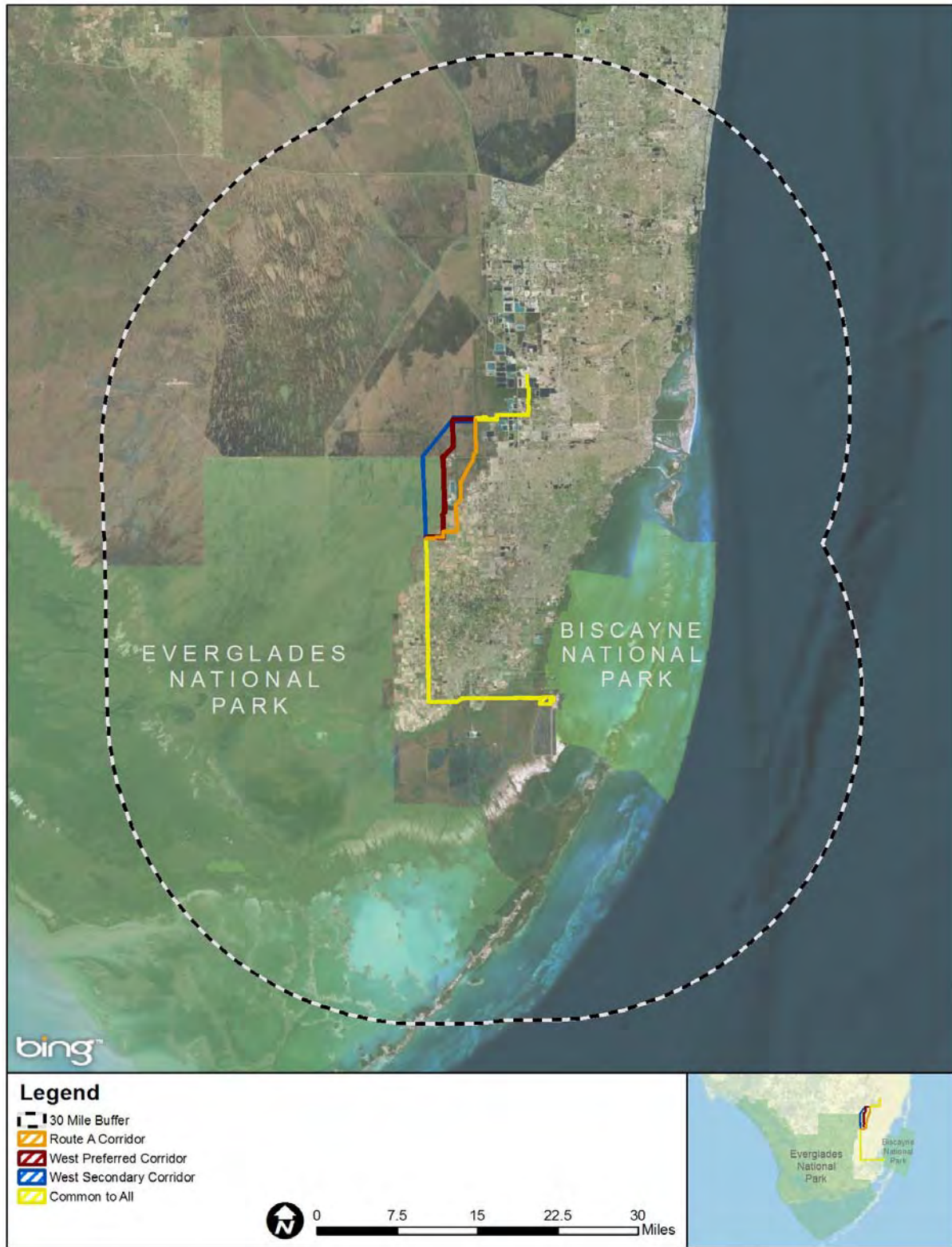


Figure 1-1. Everglades and Biscayne National Park locations, with 30-mile boundary around the study area that surrounds the three potential transmission corridors

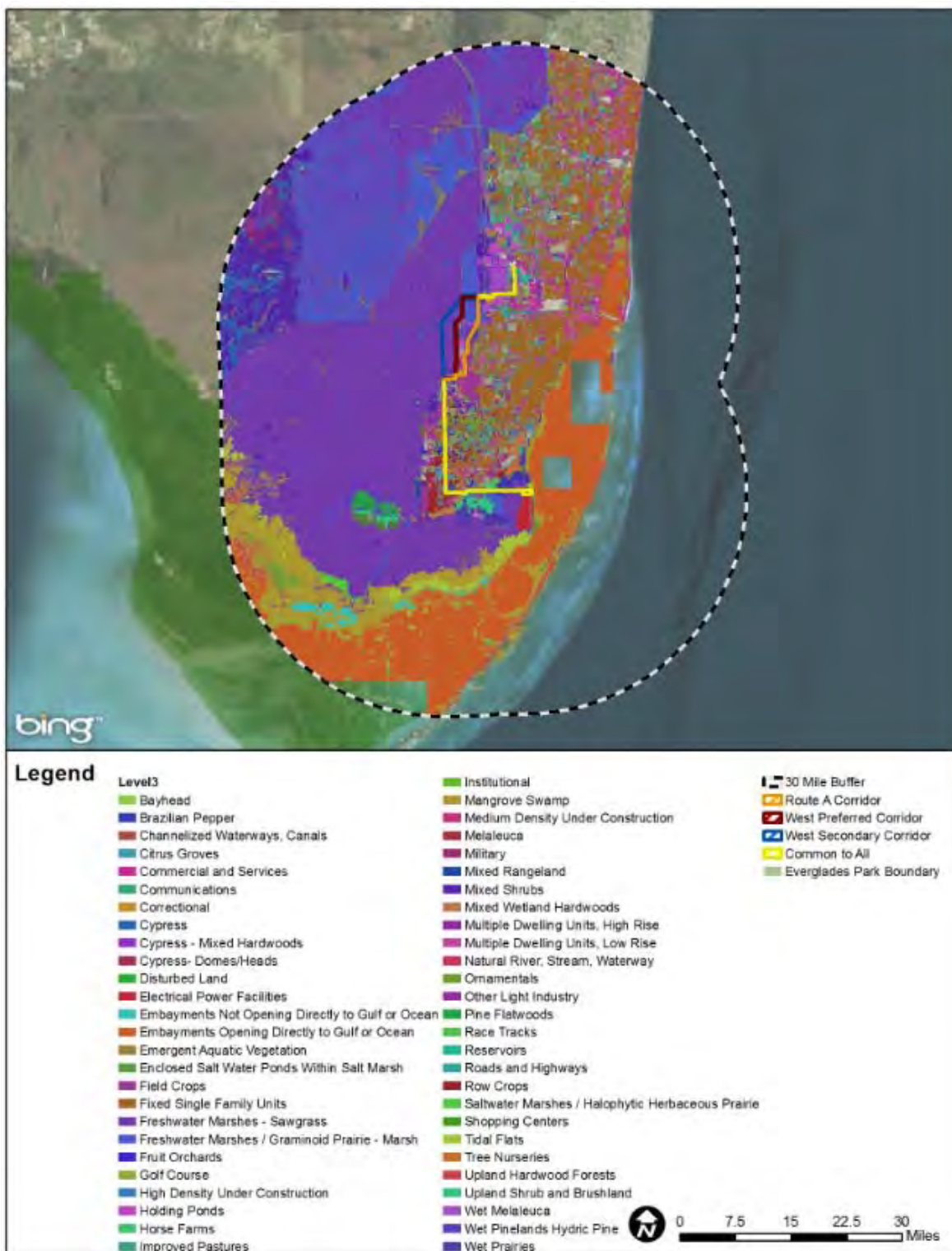


Figure 2-1. Level 3 land use land cover in the 30-mile boundary of the study area.



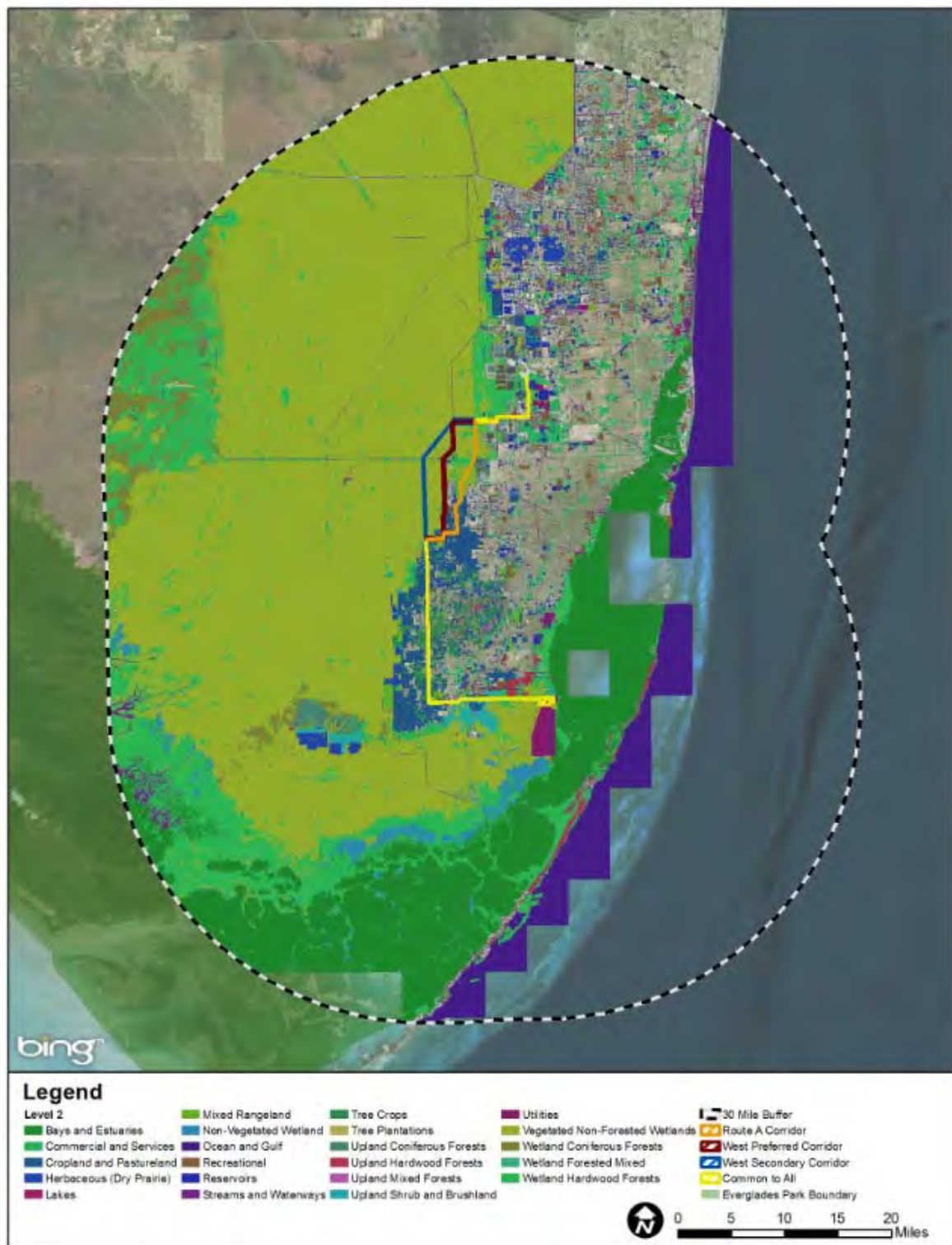


Figure 2-2. Level 2 land use land cover in the 30-mile boundary of the study area.

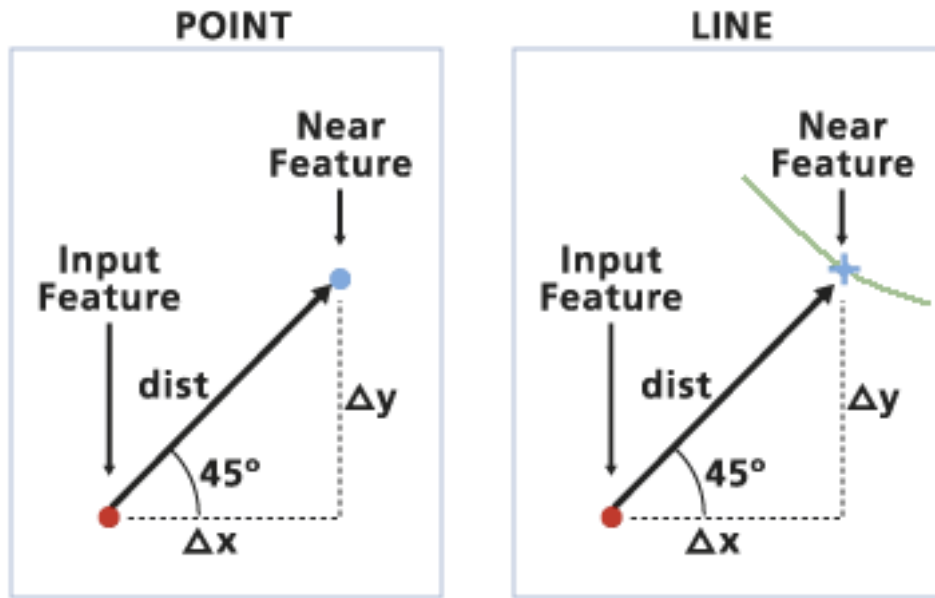


Figure 2-3. NEAR (Analysis) tool outputs a distance from an input feature such as a foraging individual or nesting colony to a point or to the nearest point on a line.

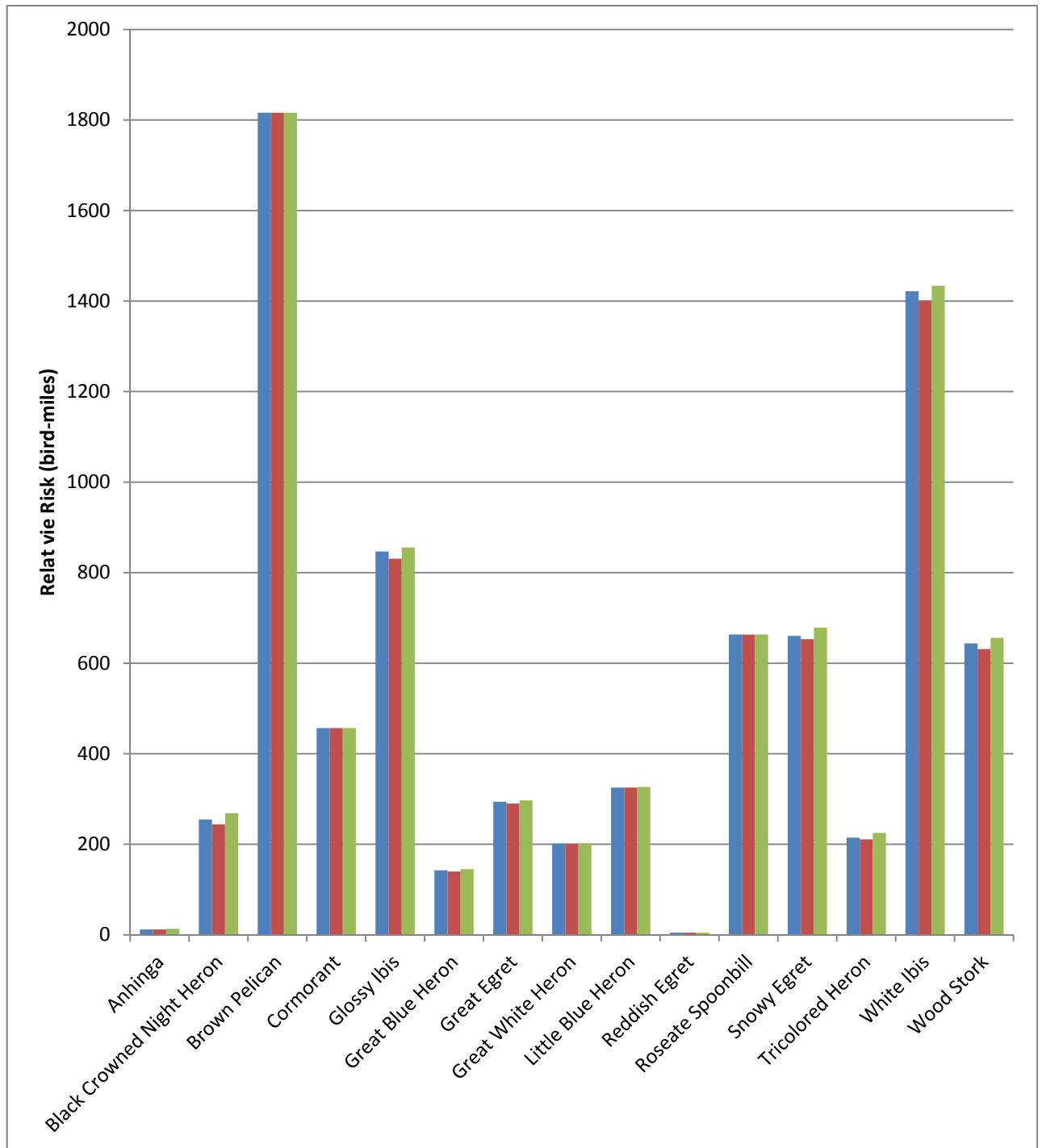


Figure 3-1. Relative risk of number of birds located at distances from the three potential transmission corridors, based on location and co-located abundance data provided in historical surveys for the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

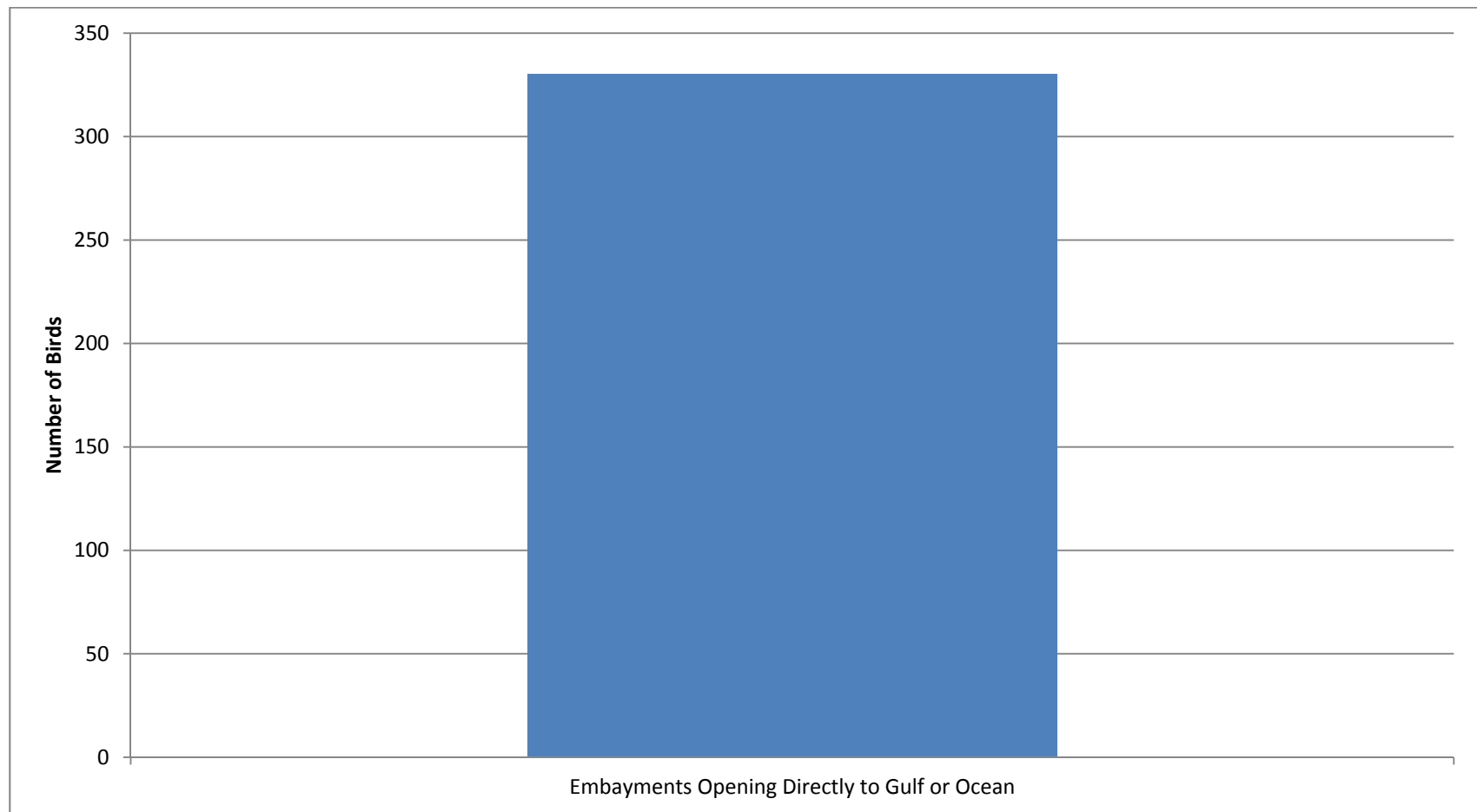


Figure 3-2. Number of brown pelicans associated with each Level 3 Land Use Land Cover category in the GIS database within the 30 mile boundary that surrounds the study area.

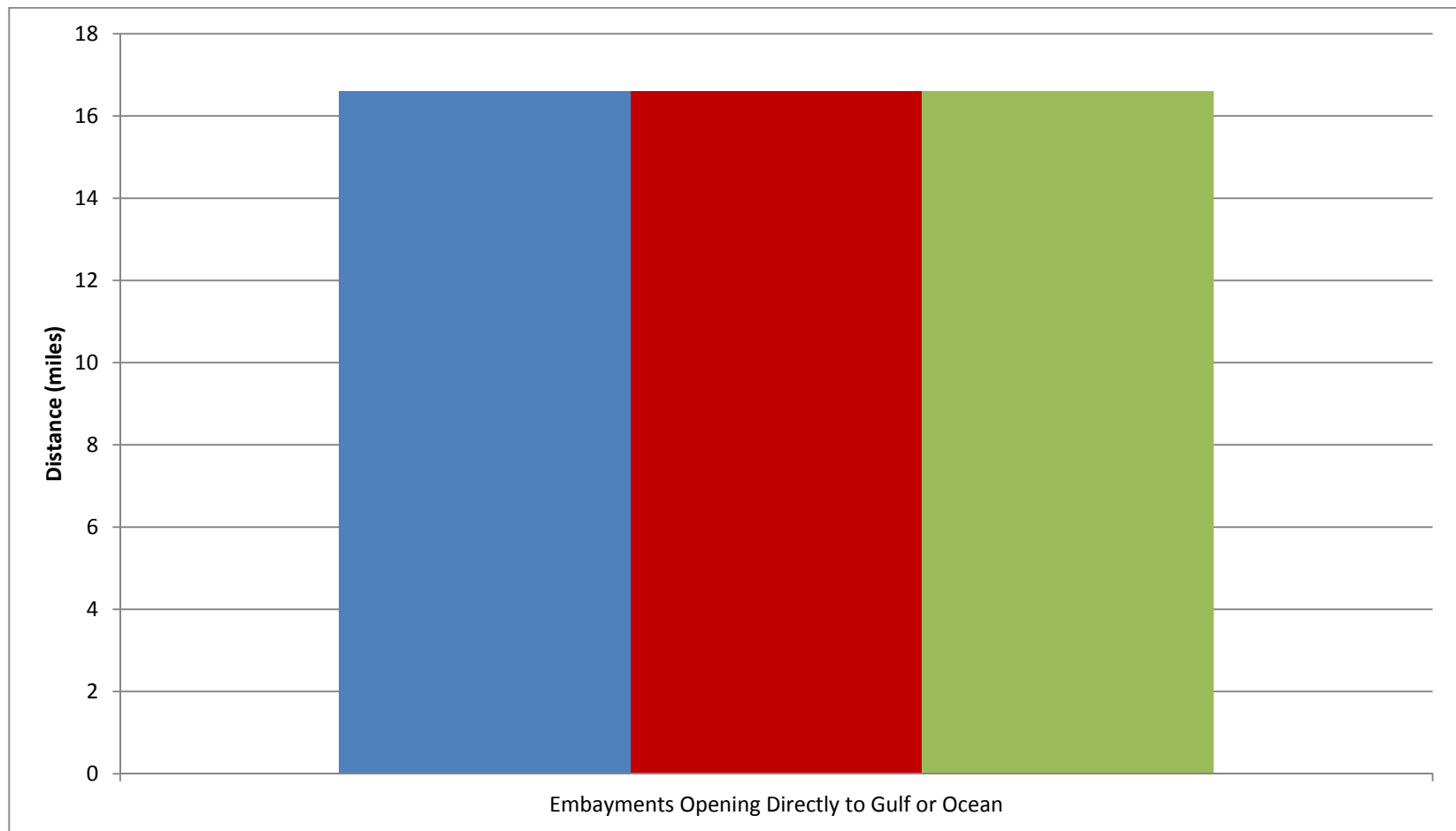


Figure 3-3. Relative risk in terms of distance of brown pelican preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

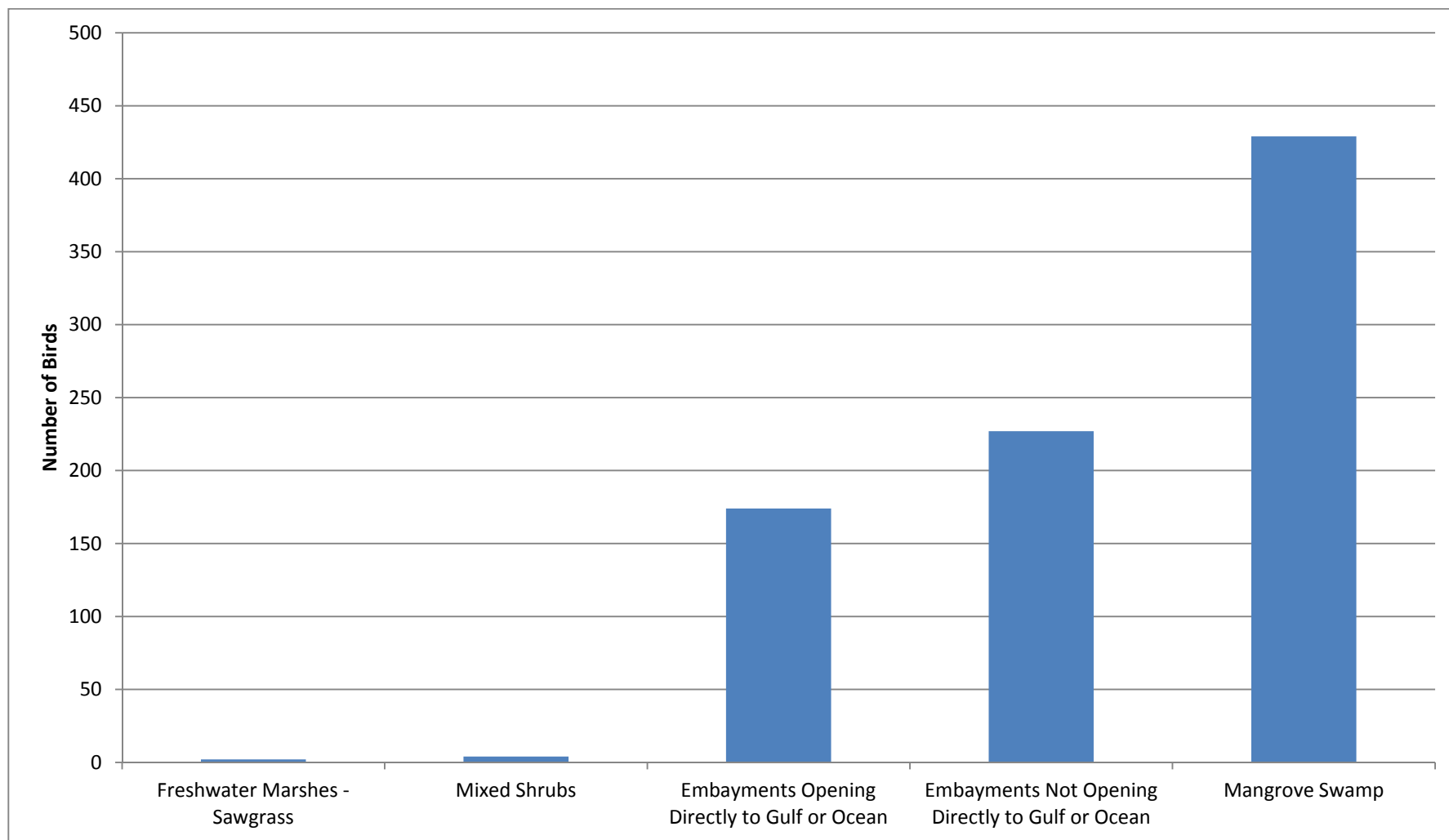


Figure 3-4. Number of double crested cormorants associated with each Level 3 Land Use Land Cover category in the GIS database within the 30 mile boundary that surrounds the study area.



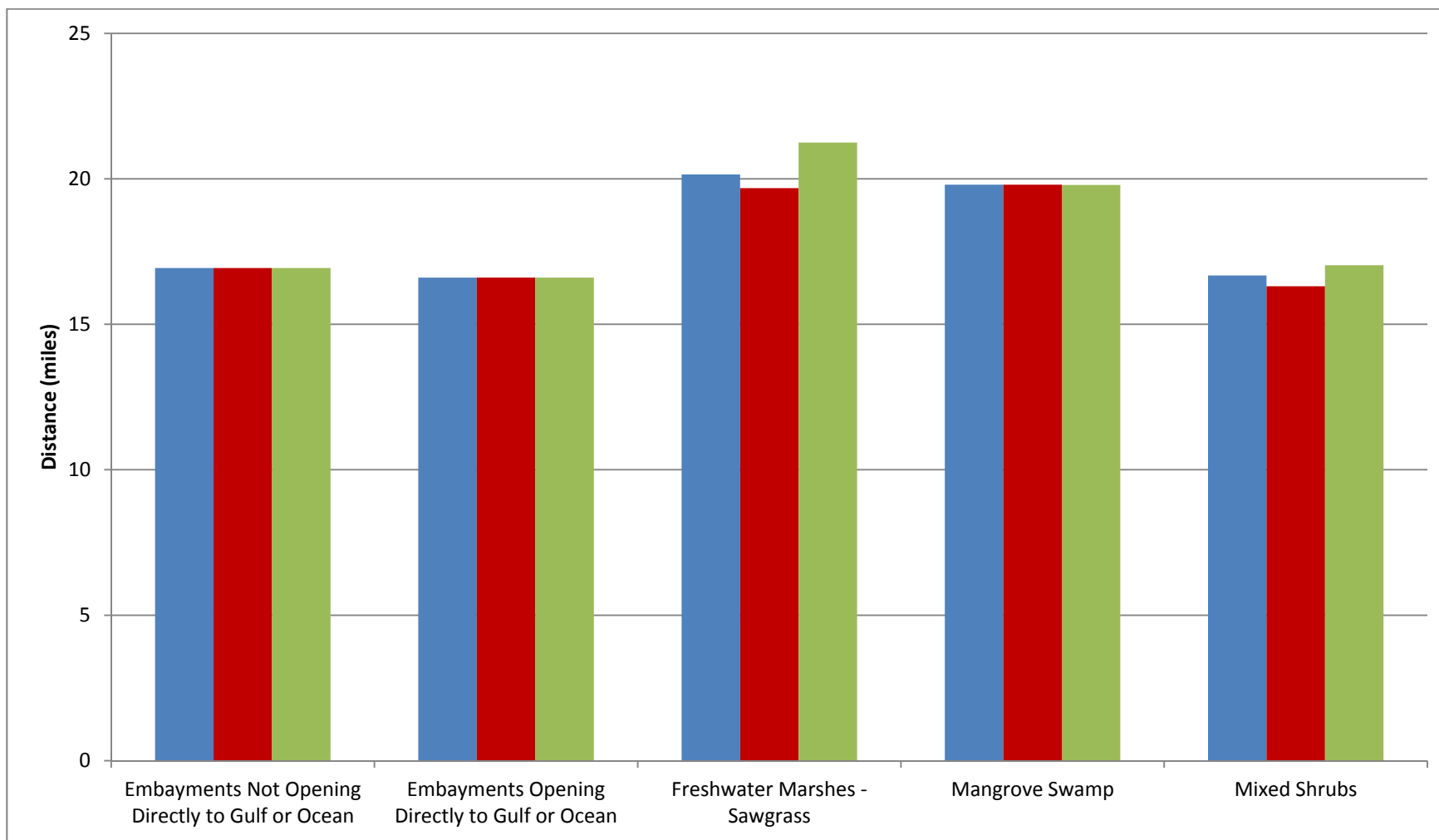


Figure 3-5. Relative risk in terms of distance of double crested cormorant preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

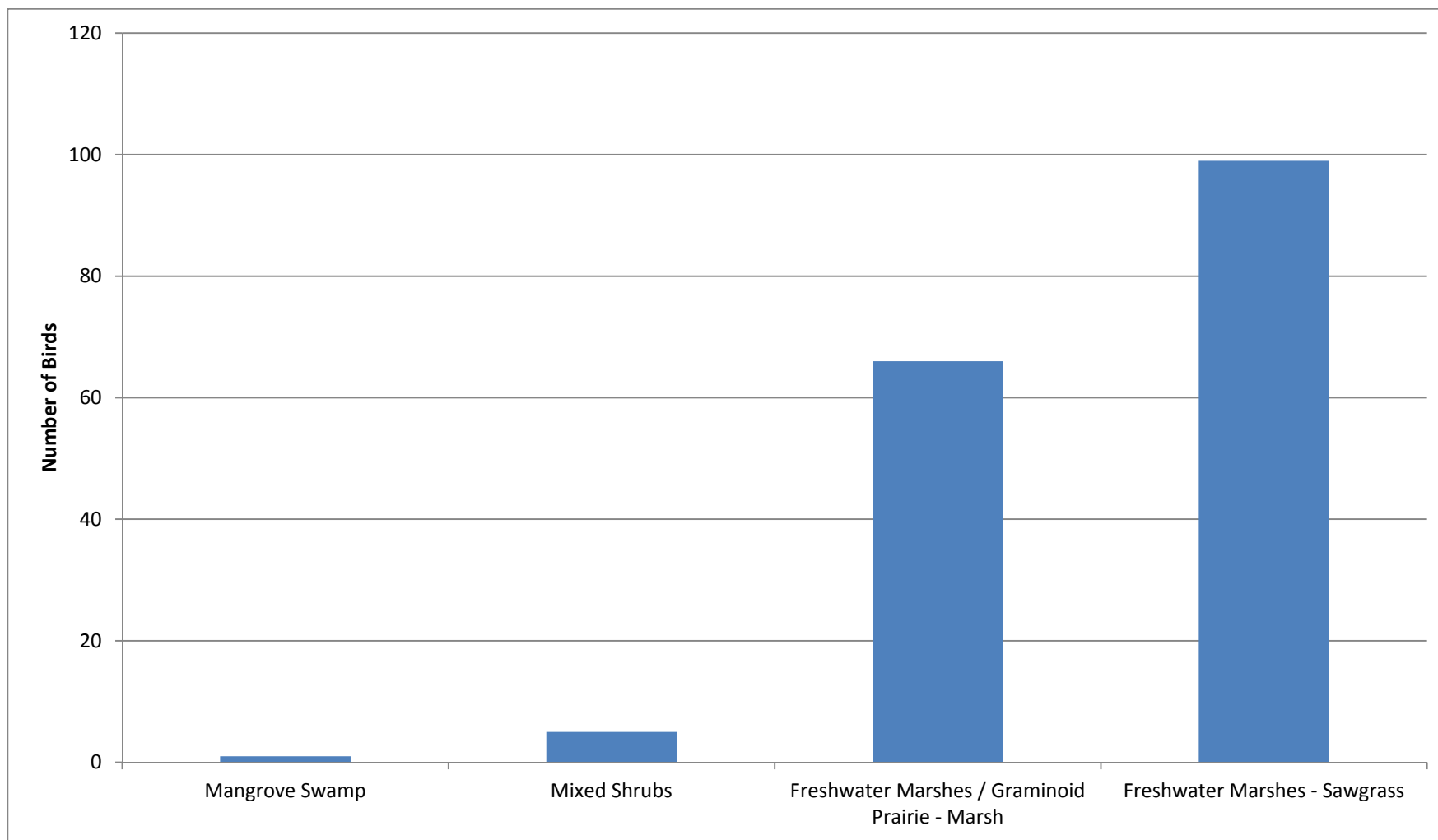
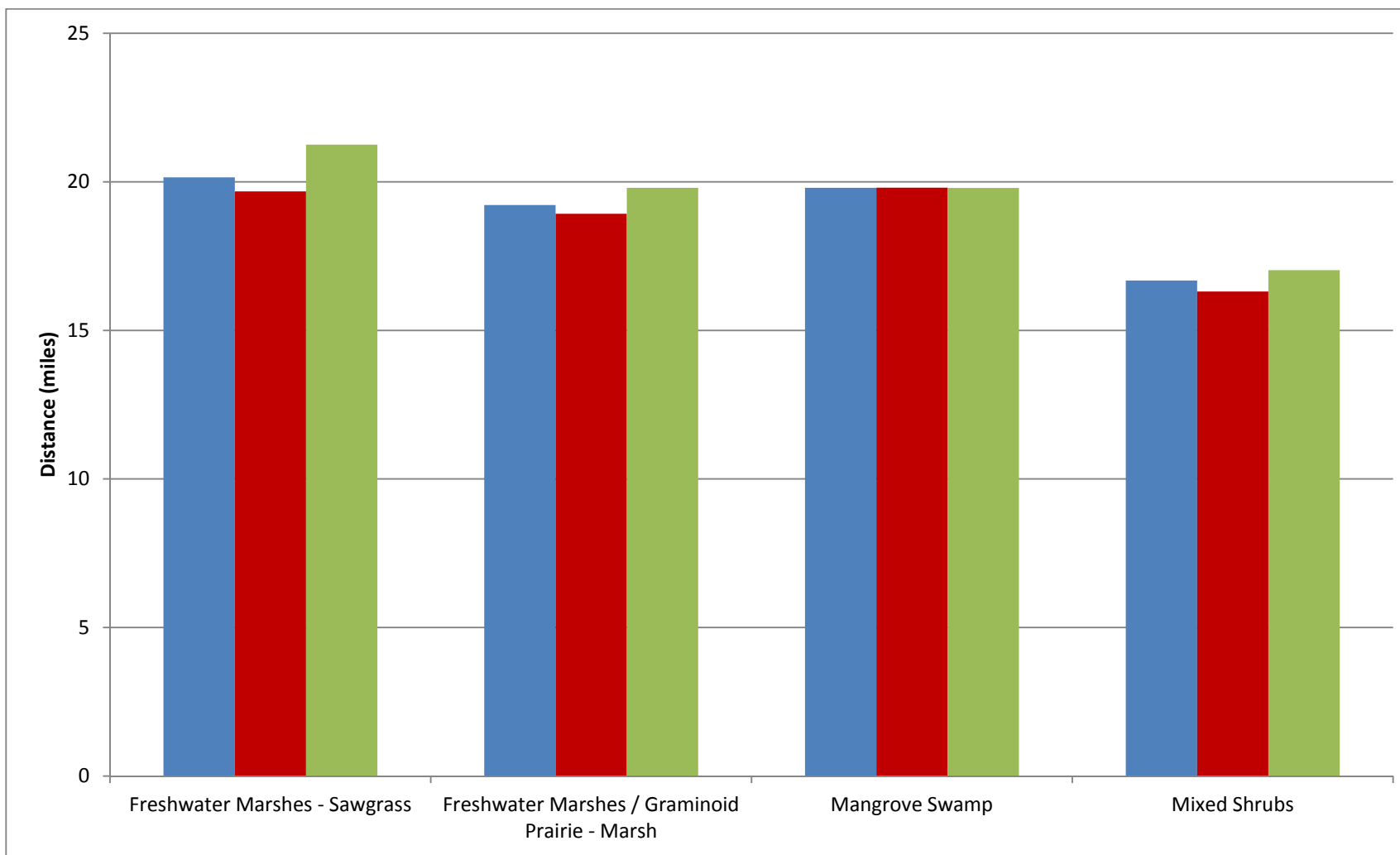


Figure 3-6. Number of anhinga associated with each Level 3 Land Use Land Cover category in the GIS database within the 30 mile boundary that surrounds the study area.



| Figure 3-7. Relative risk in terms of distance of aninga preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

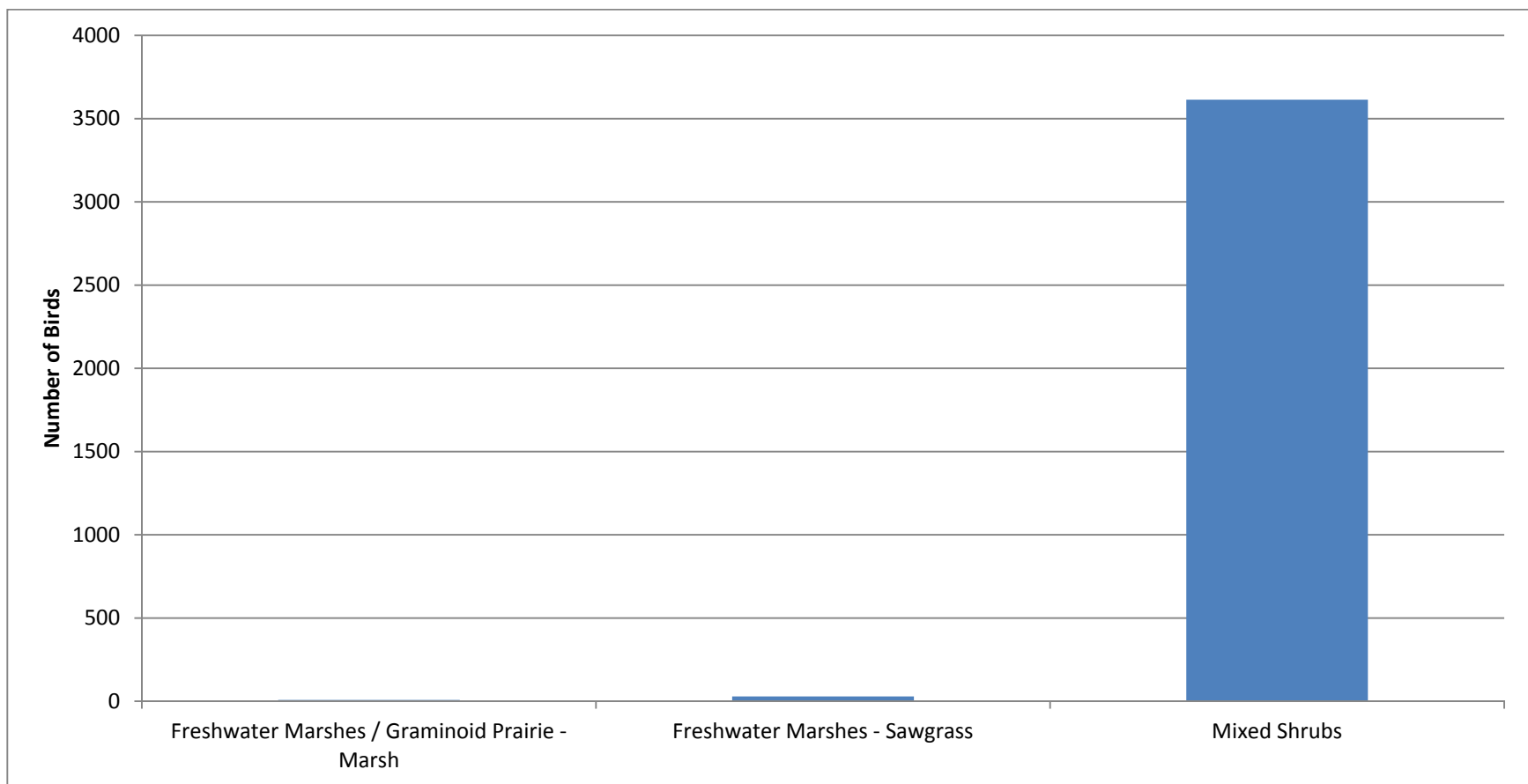


Figure 3-8. Number of black-crowned night herons associated with each Level 3 Land Use Land Cover category in the GIS database within the 30 mile boundary that surrounds the study area.

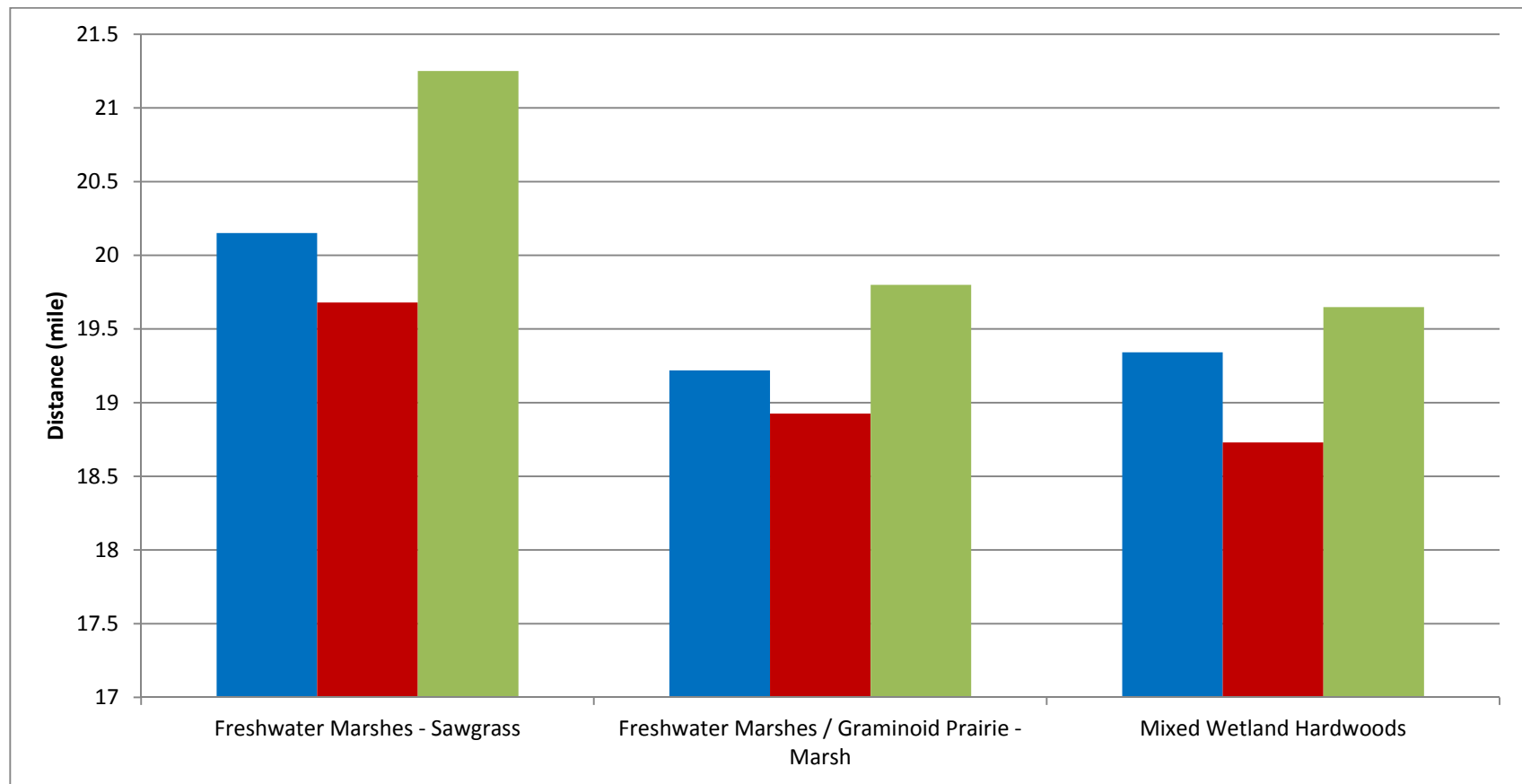


Figure 3-9. Relative risk in terms of distance of black-crowned night heron preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

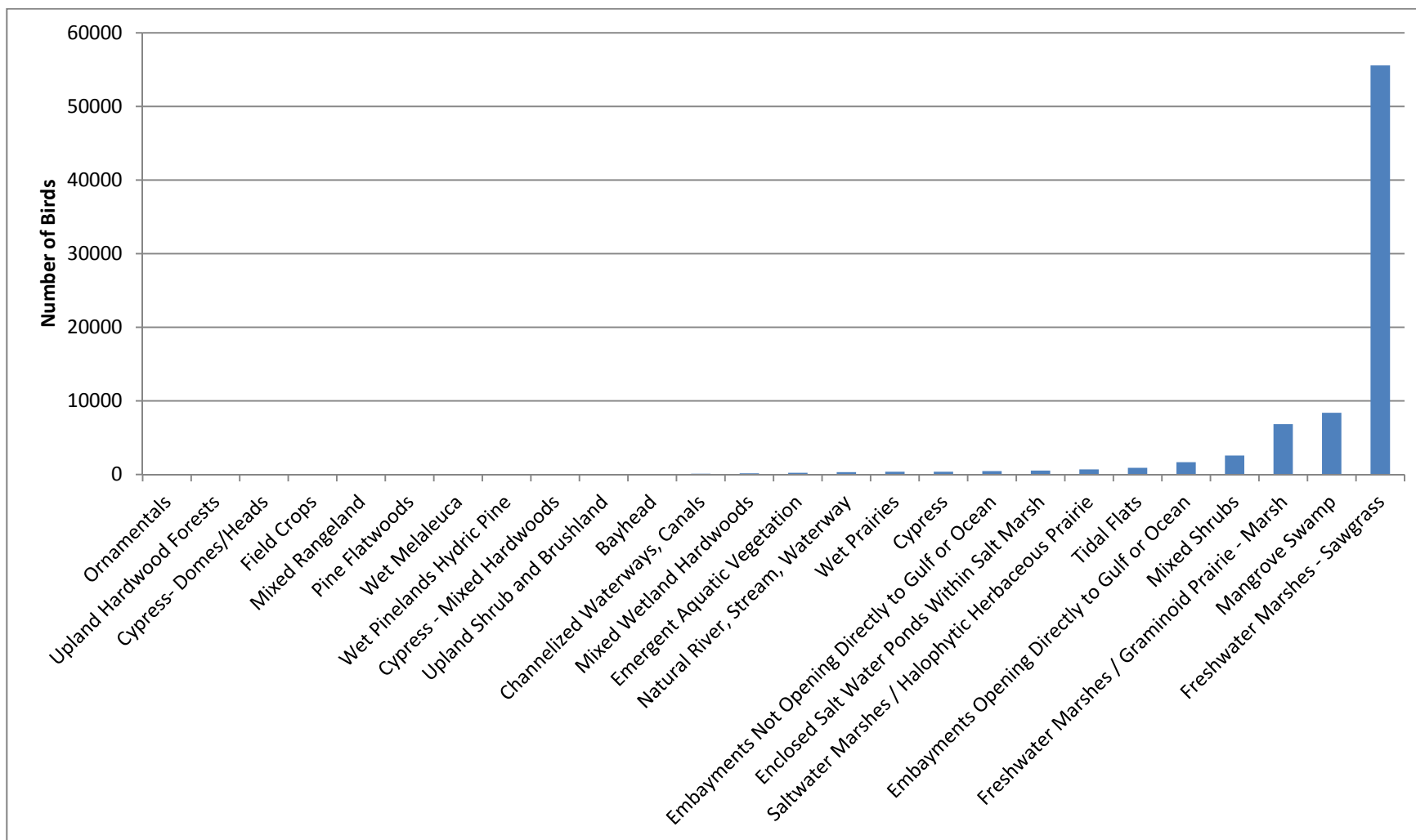


Figure 3-10. Number of great blue herons associated with each Level 3 Land Use Land Cover category in the GIS database within the 30 mile boundary that surrounds the study area.

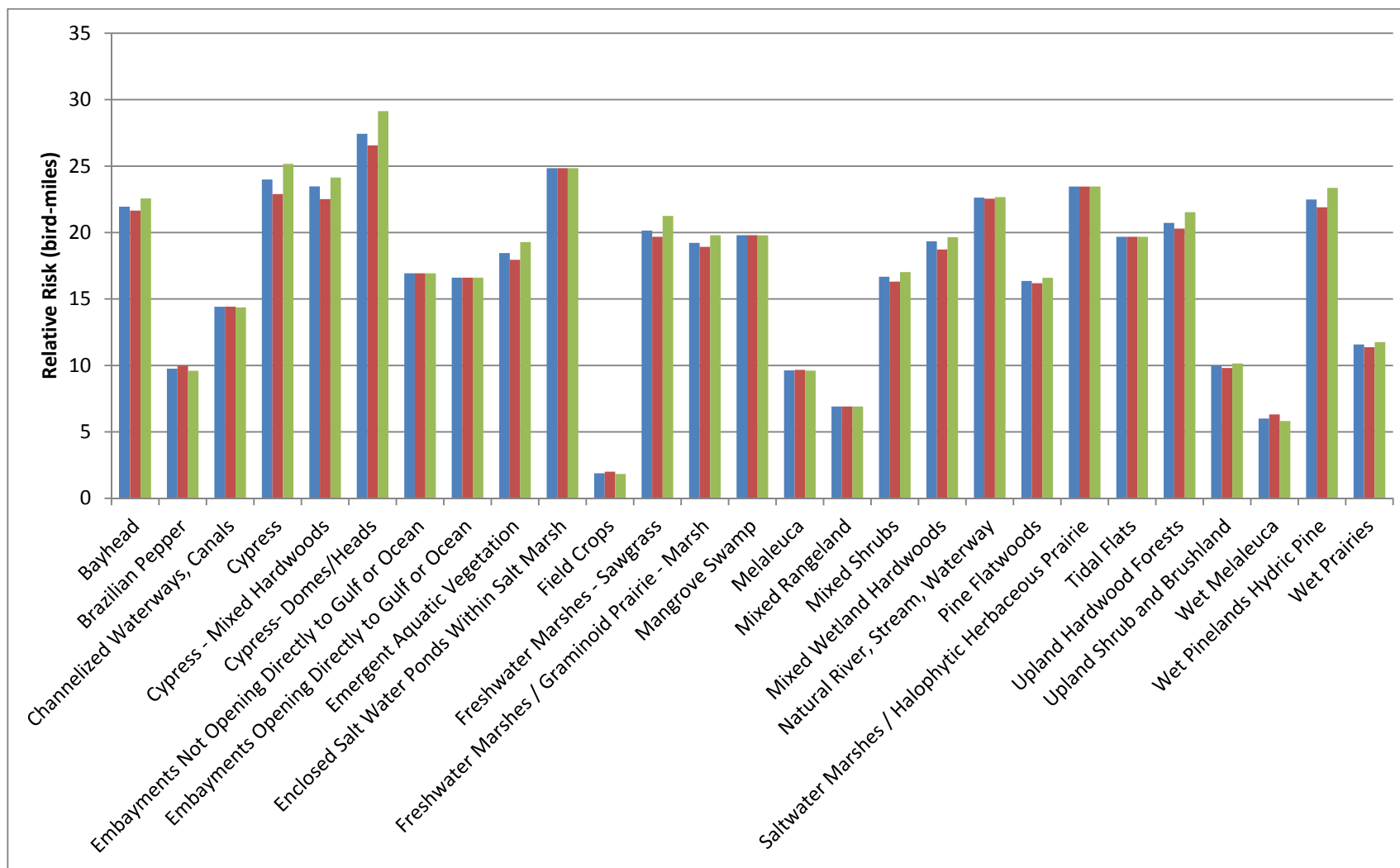


Figure 3-11. Relative risk in terms of distance of great blue heron preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

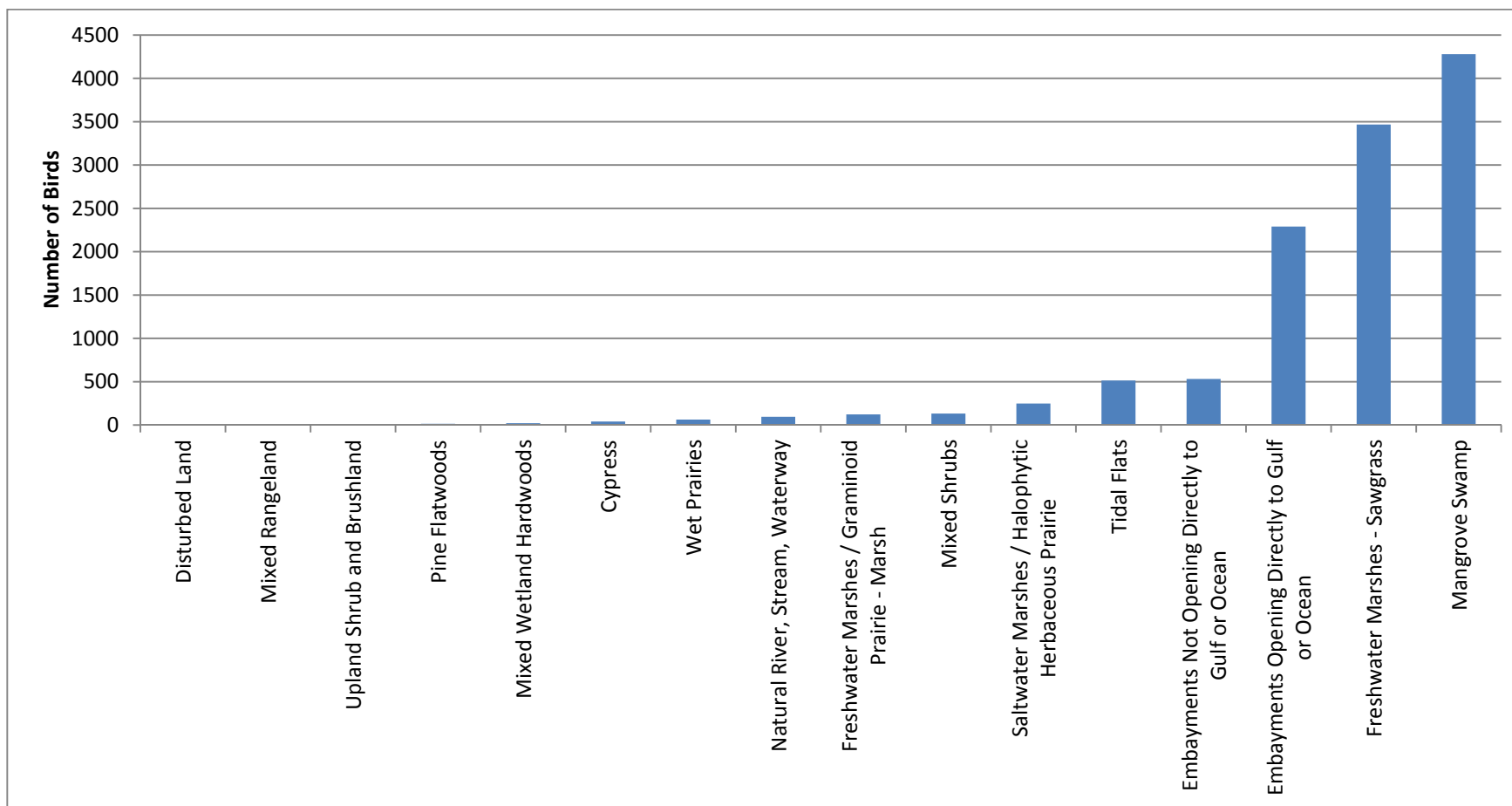


Figure 3-12. Number of great white herons associated with each Level 3 Land Use Land Cover category in the GIS database within the 30 mile boundary that surrounds the study area.



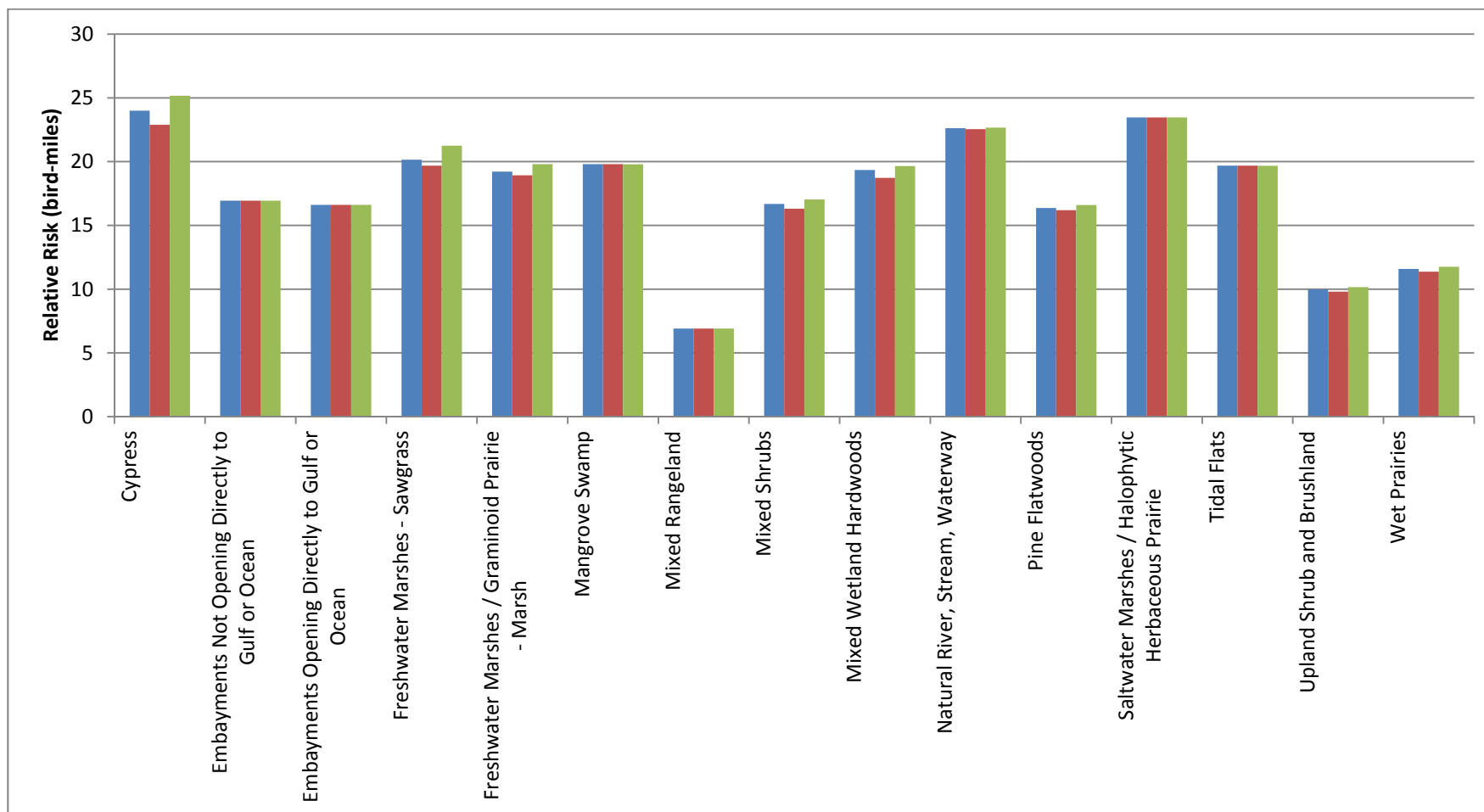


Figure 3-13. Relative risk in terms of distance of great white heron preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

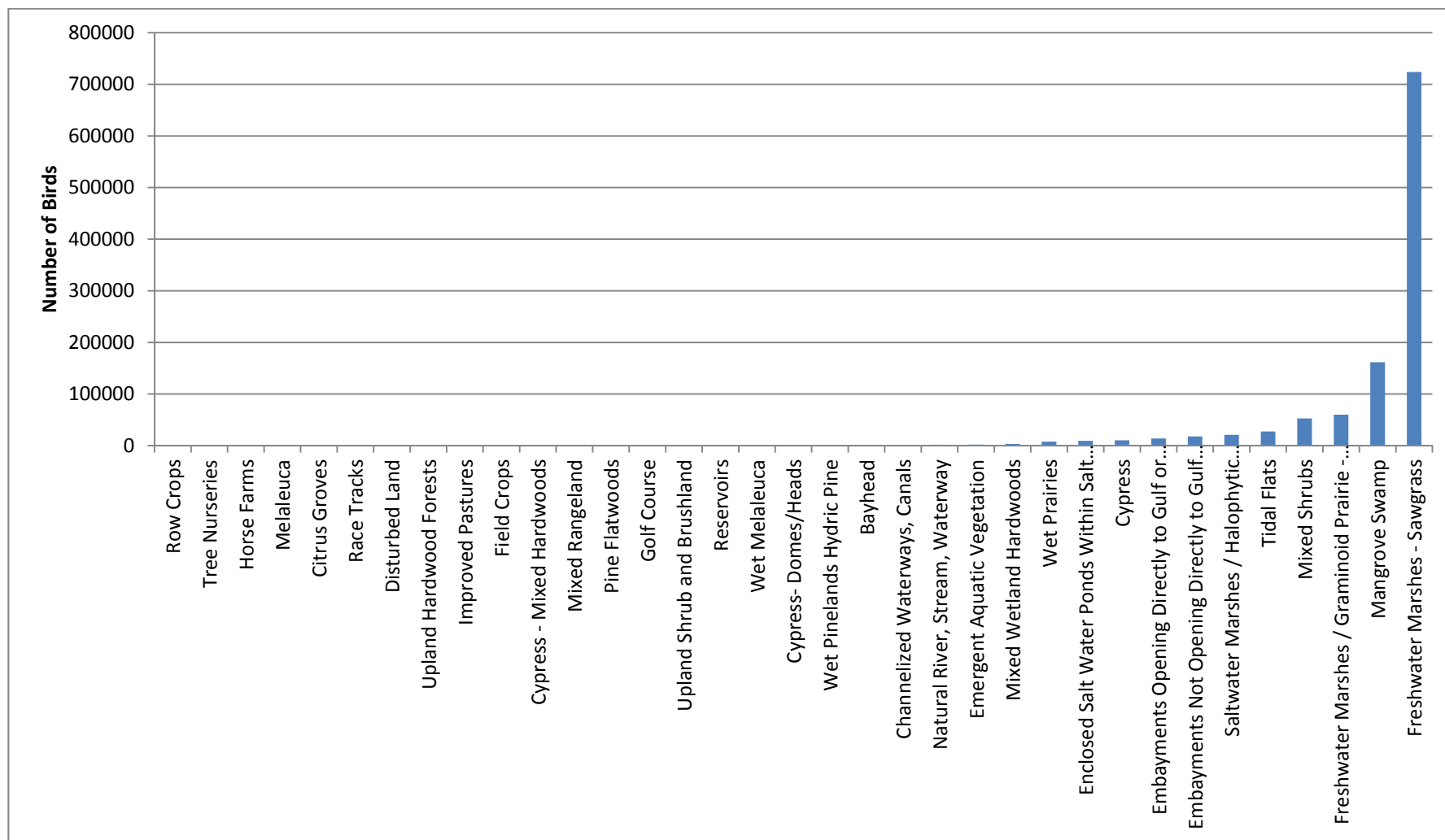


Figure 3-14. Number of great egrets associated with each Level 3 Land Use Land Cover category in the GIS database within the 30 mile boundary that surrounds the study area.

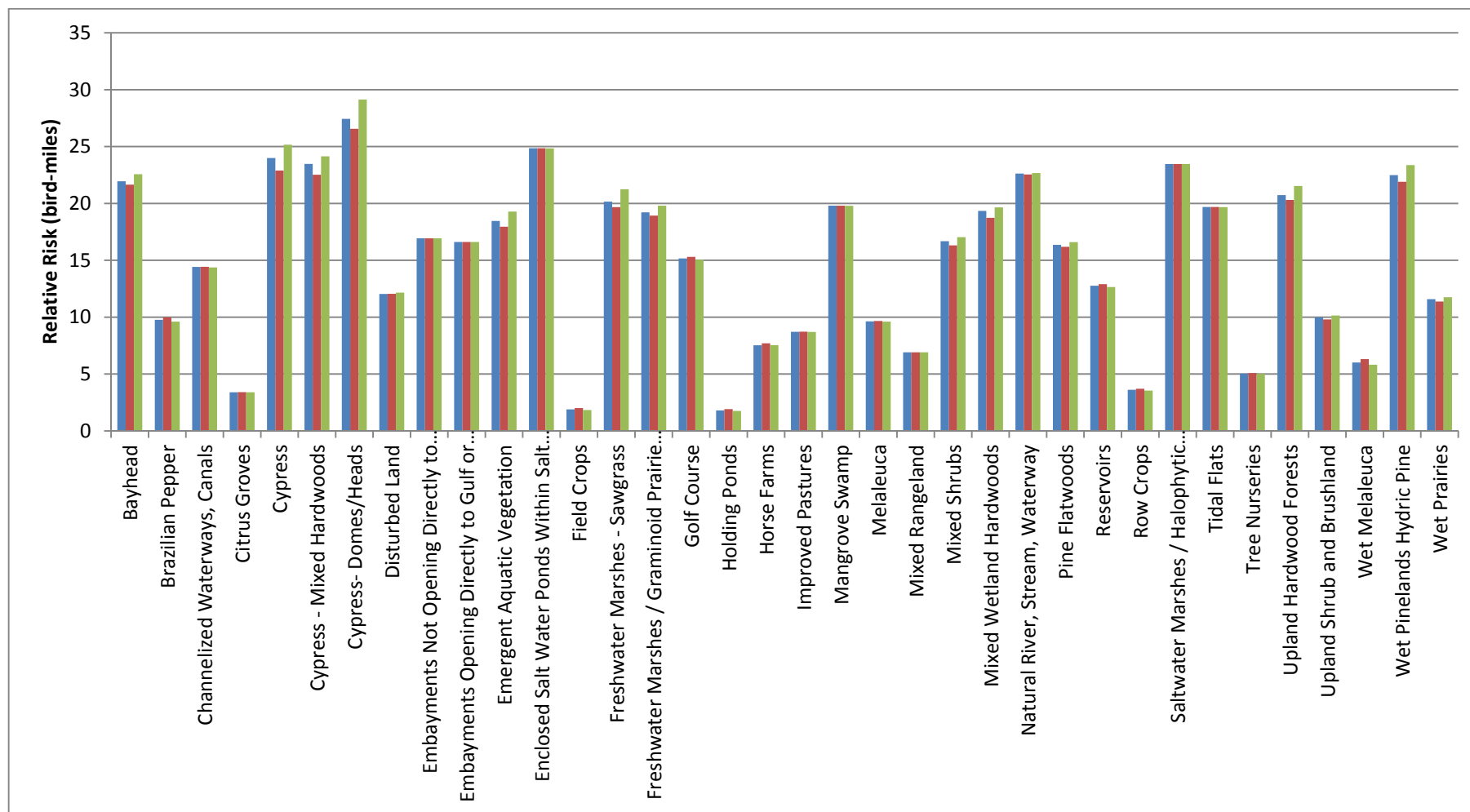


Figure 3-15. Relative risk in terms of distance of great egret preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

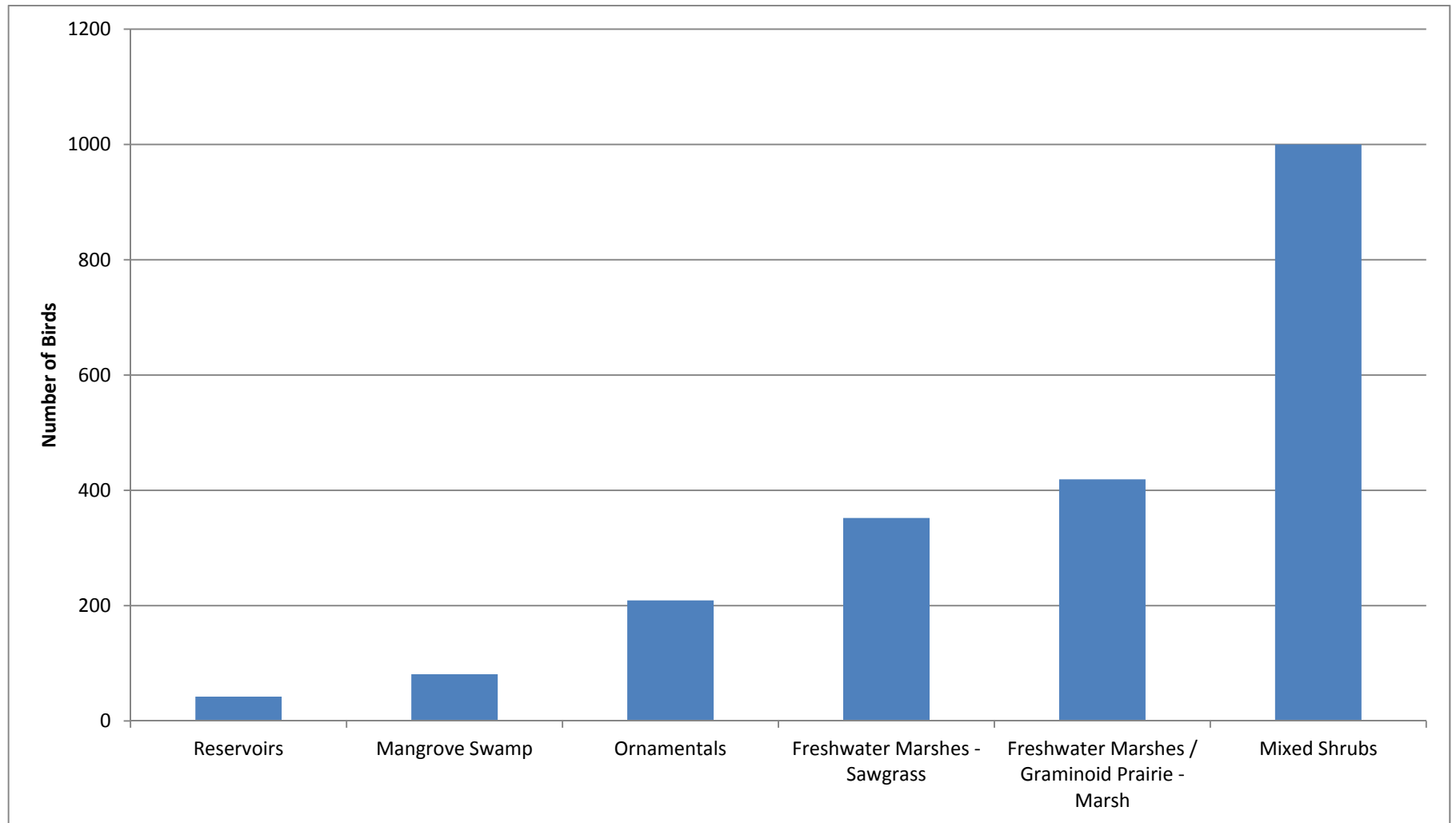


Figure 3-16. Number of little blue herons associated with each Level 3 Land Use Land Cover category in the GIS database within the 30 mile boundary that surrounds the study area.

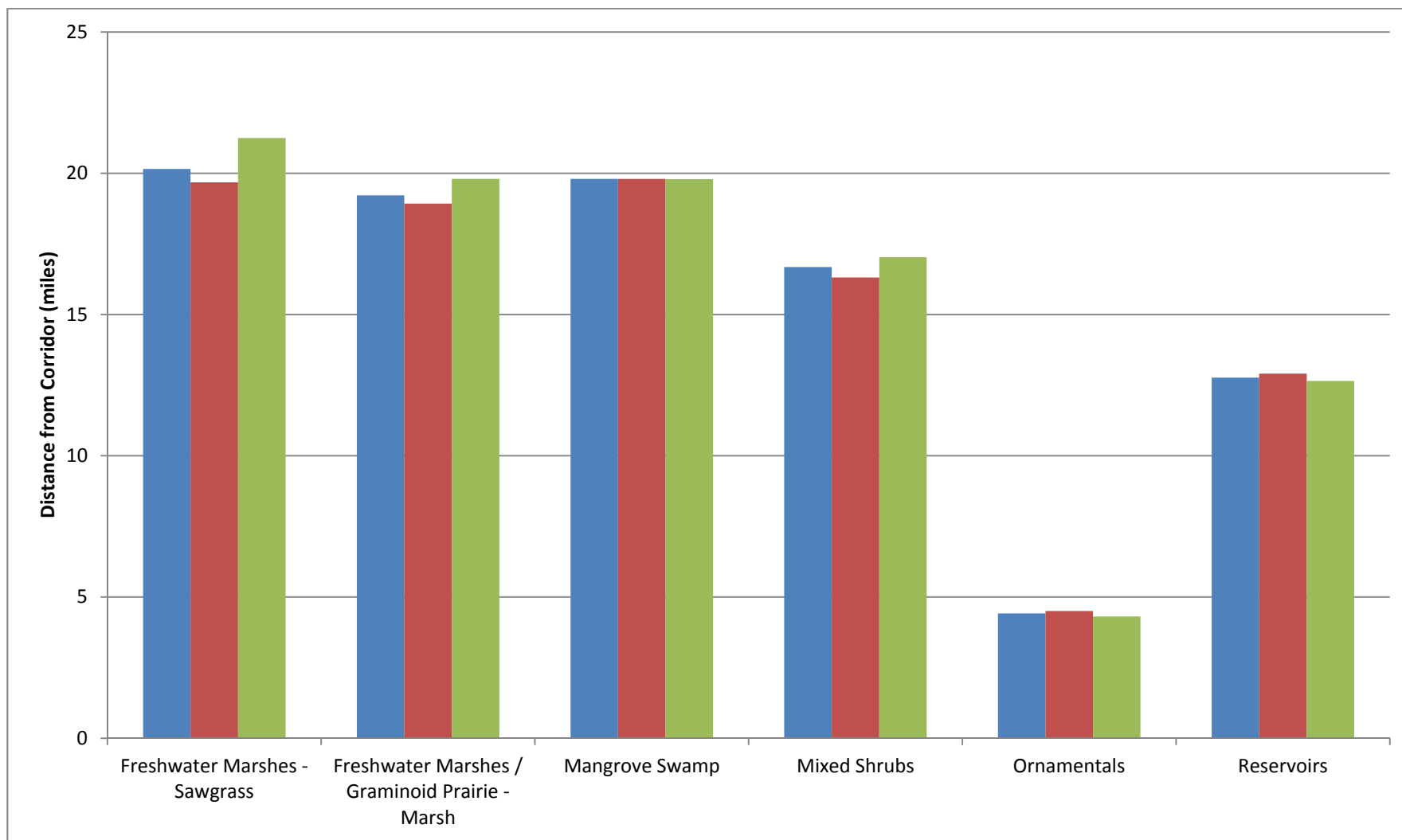


Figure 3-17. Relative risk in terms of distance of little blue heron preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

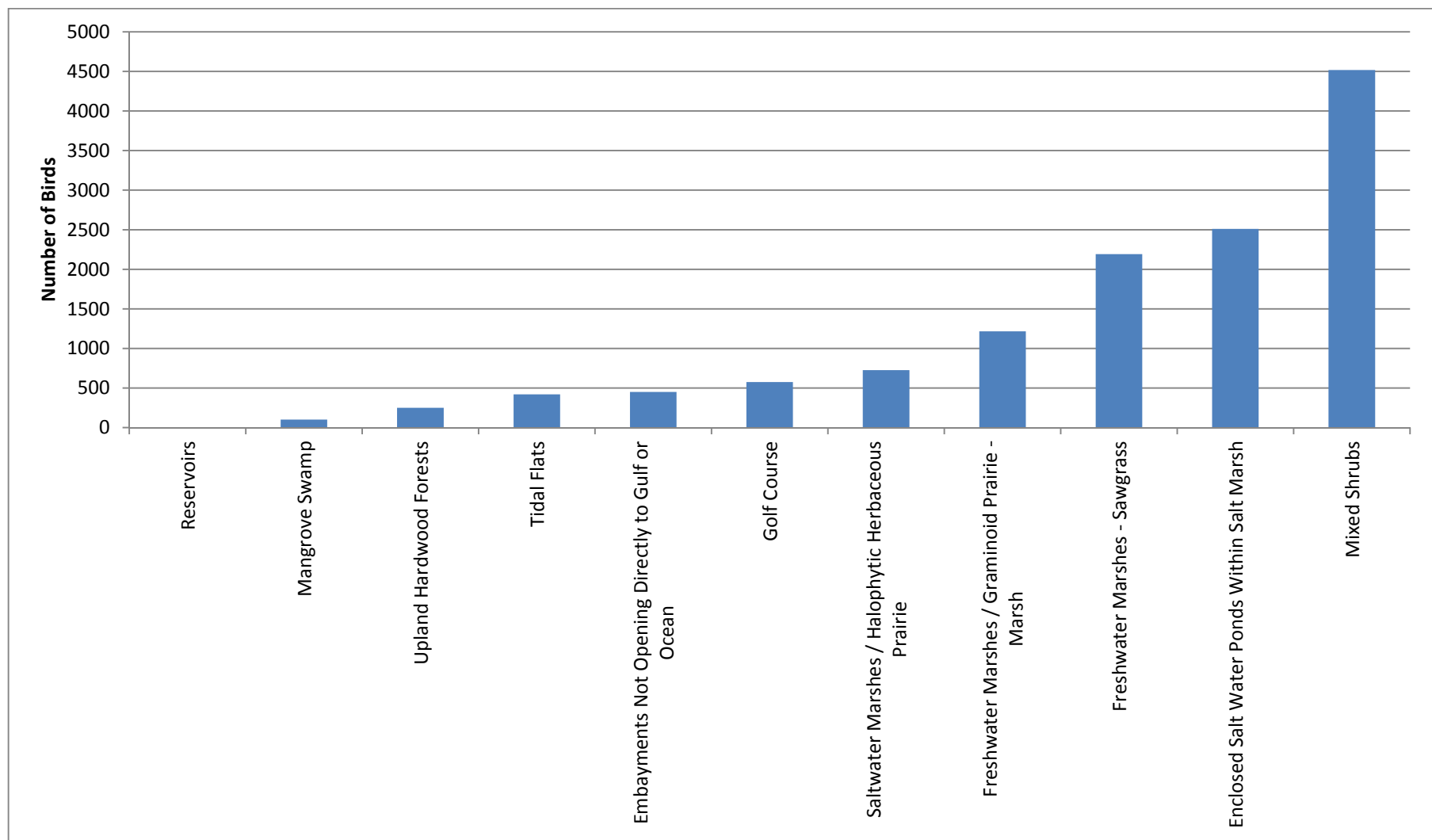


Figure 3-18. Number of snowy egrets associated with each Level 3 Land Use Land Cover category in the GIS database within the 30 mile boundary that surrounds the study area.

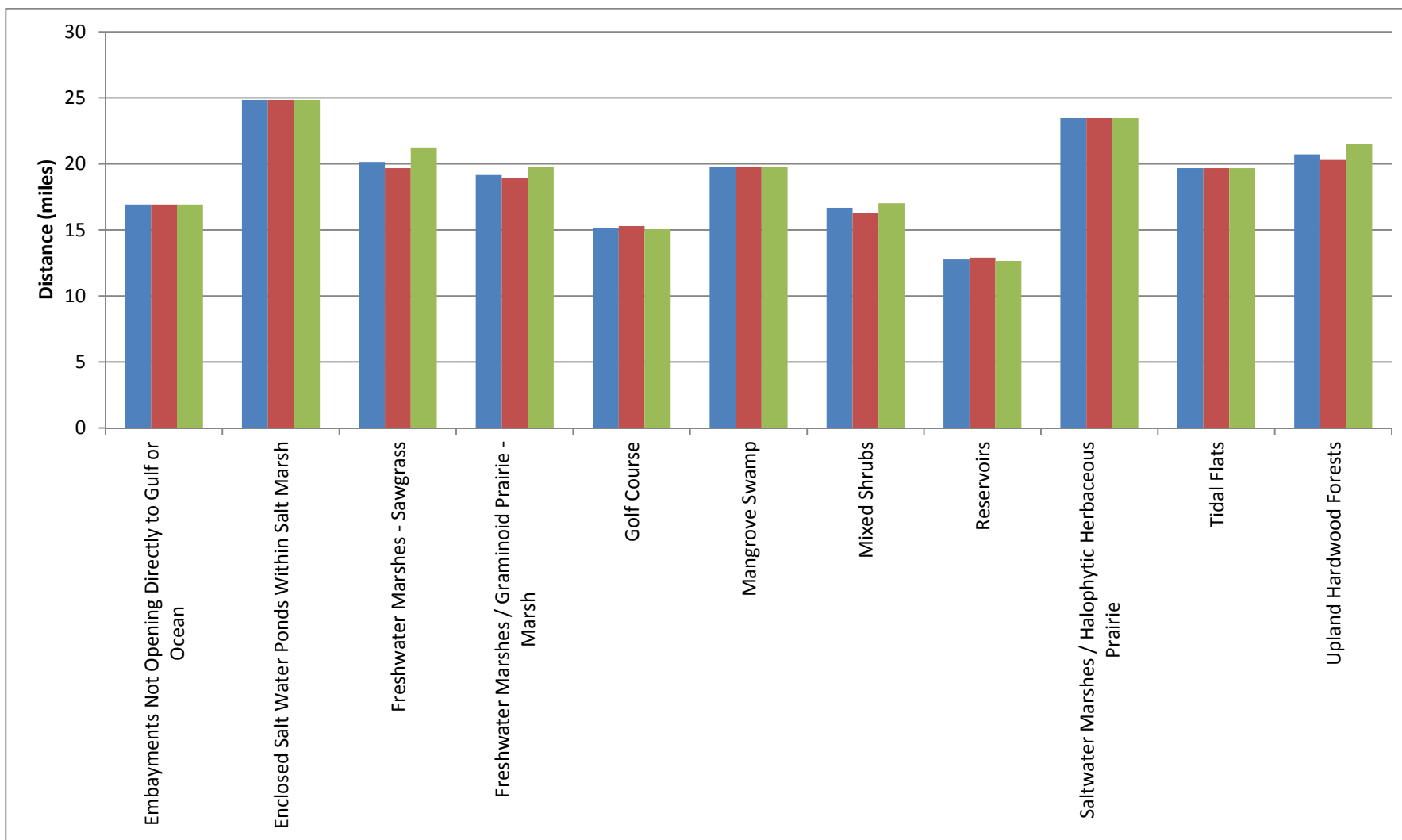


Figure 3-19. Relative risk in terms of distance of snowy egret preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

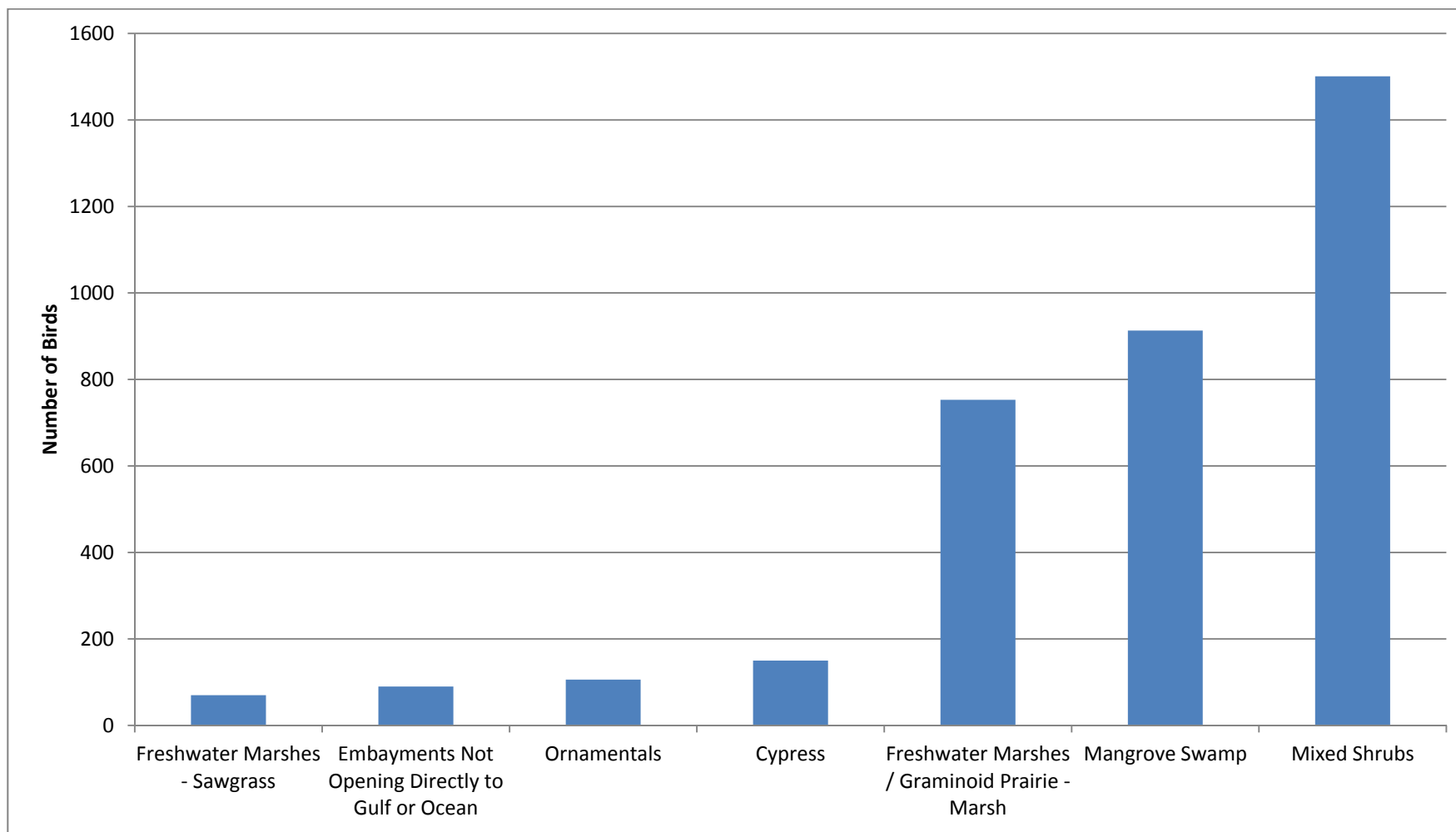


Figure 3-20. Number of tricolored herons associated with each Level 3 Land Use Land Cover category in the GIS database within the 30 mile boundary that surrounds the study area.



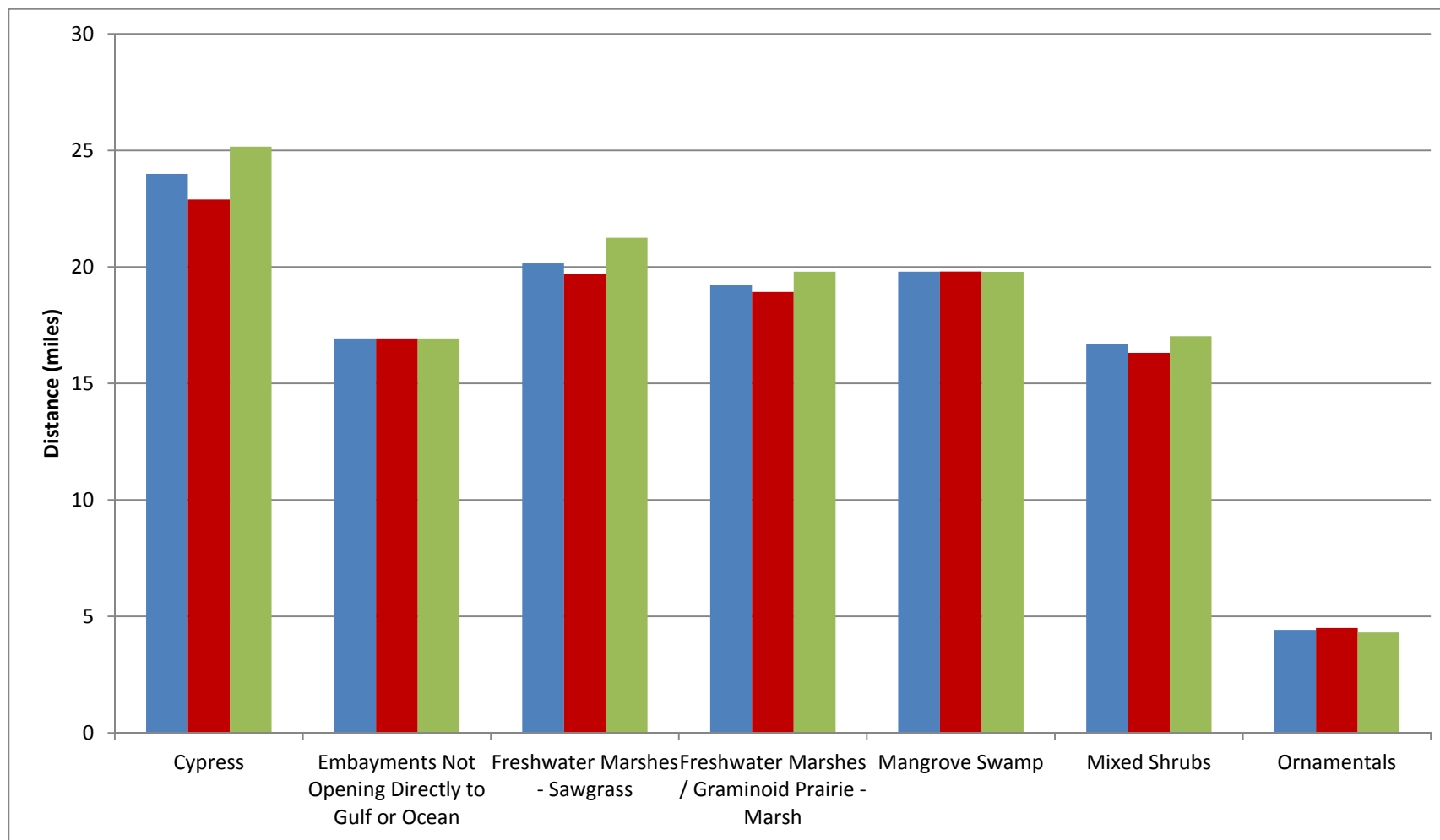


Figure 3-21. Relative risk in terms of distance of tricolored heron preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

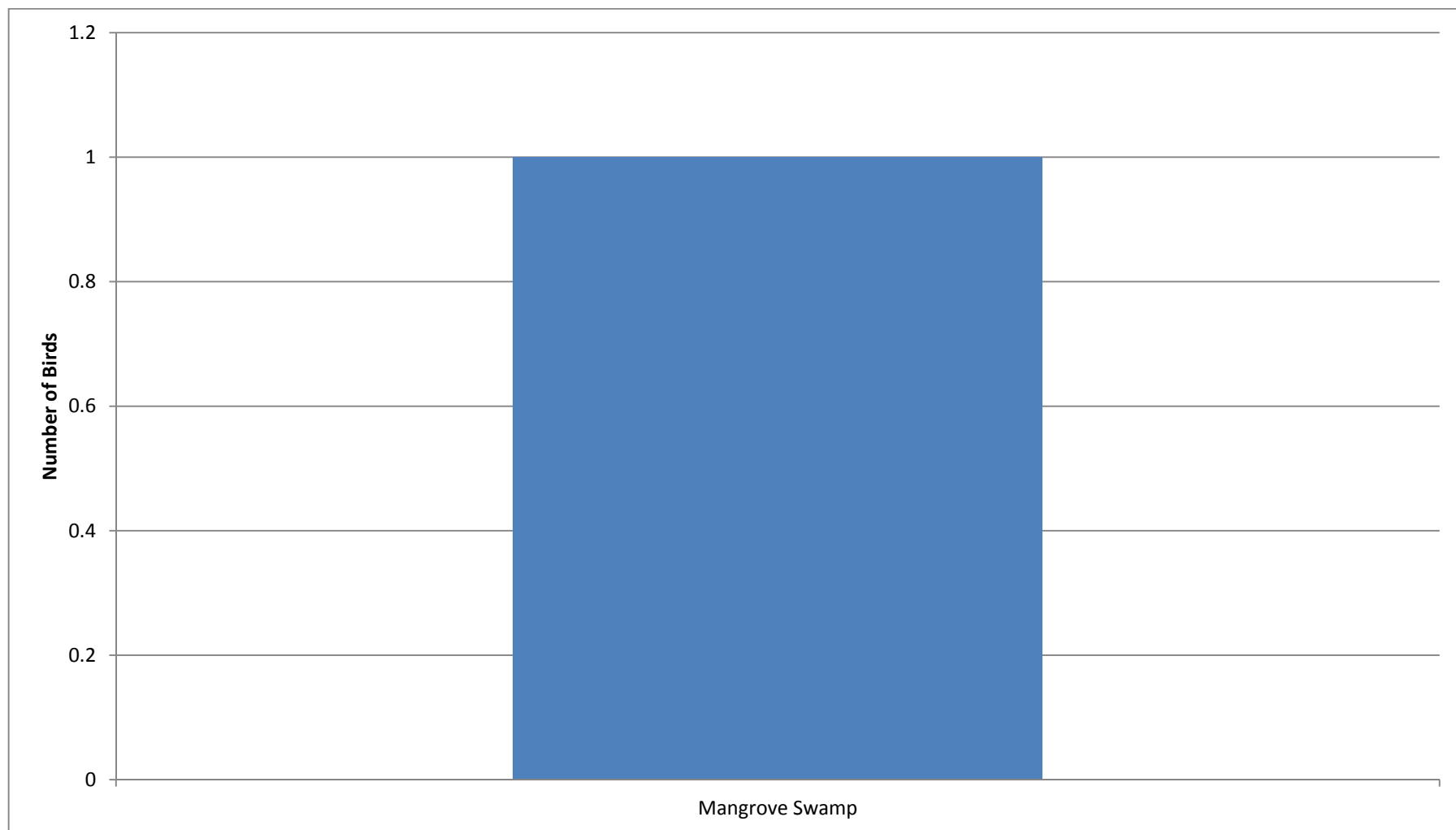


Figure 3-22. Number of reddish egrets associated with each Level 3 Land Use Land Cover category in the GIS database within the 30 mile boundary that surrounds the study area.

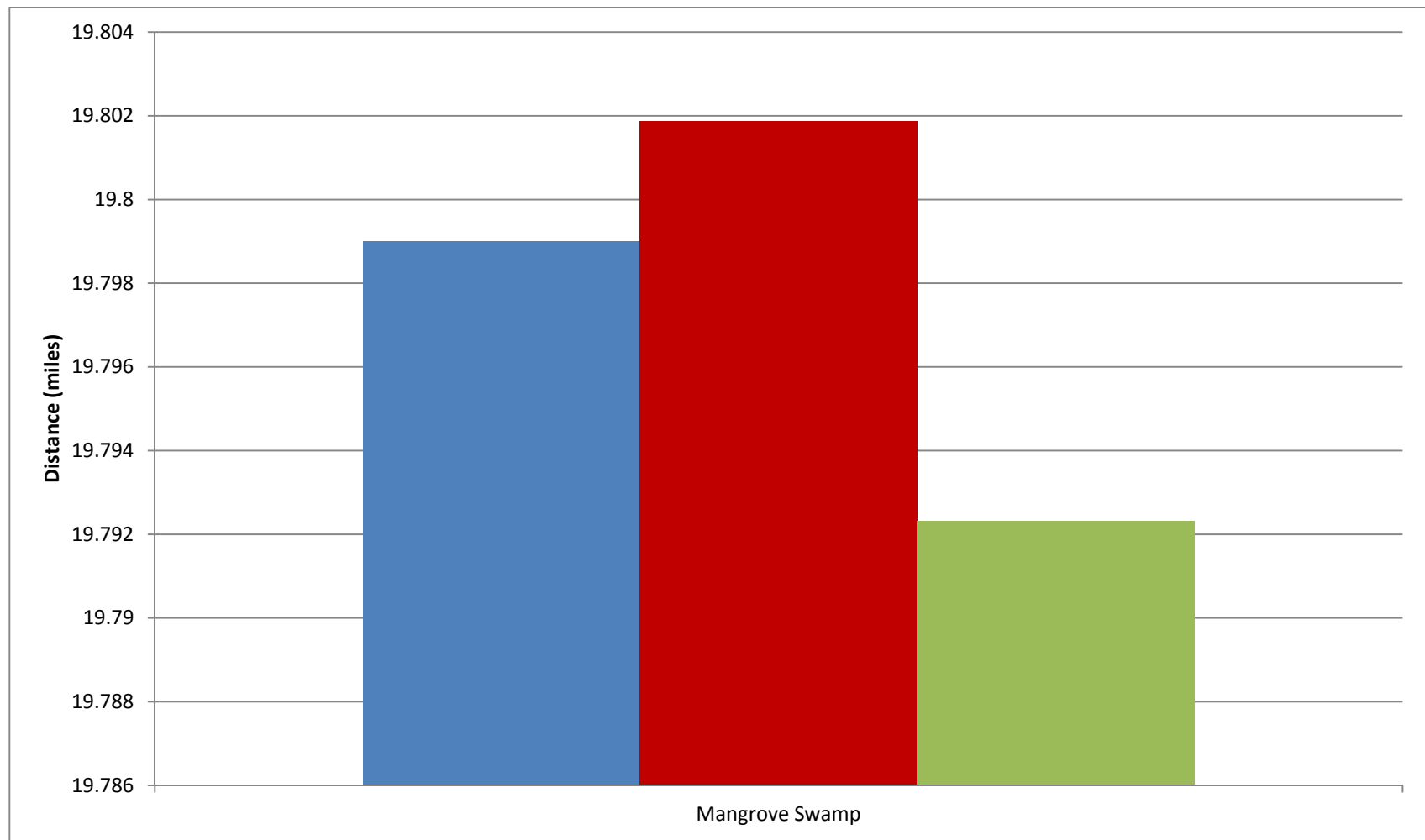


Figure 3-23. Relative risk in terms of distance of reddish egret preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

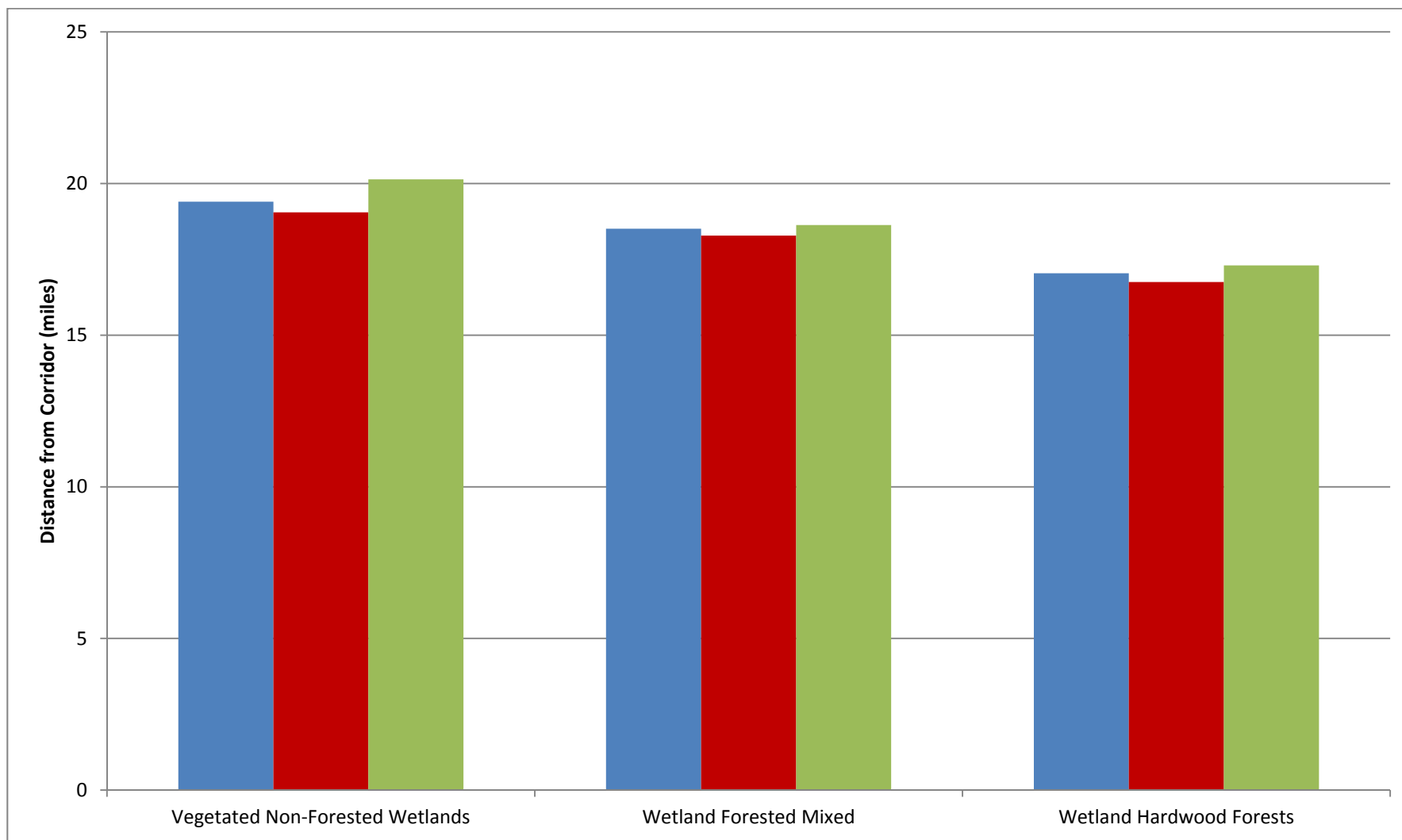


Figure 3-24. Relative risk in terms of distance of least bittern preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

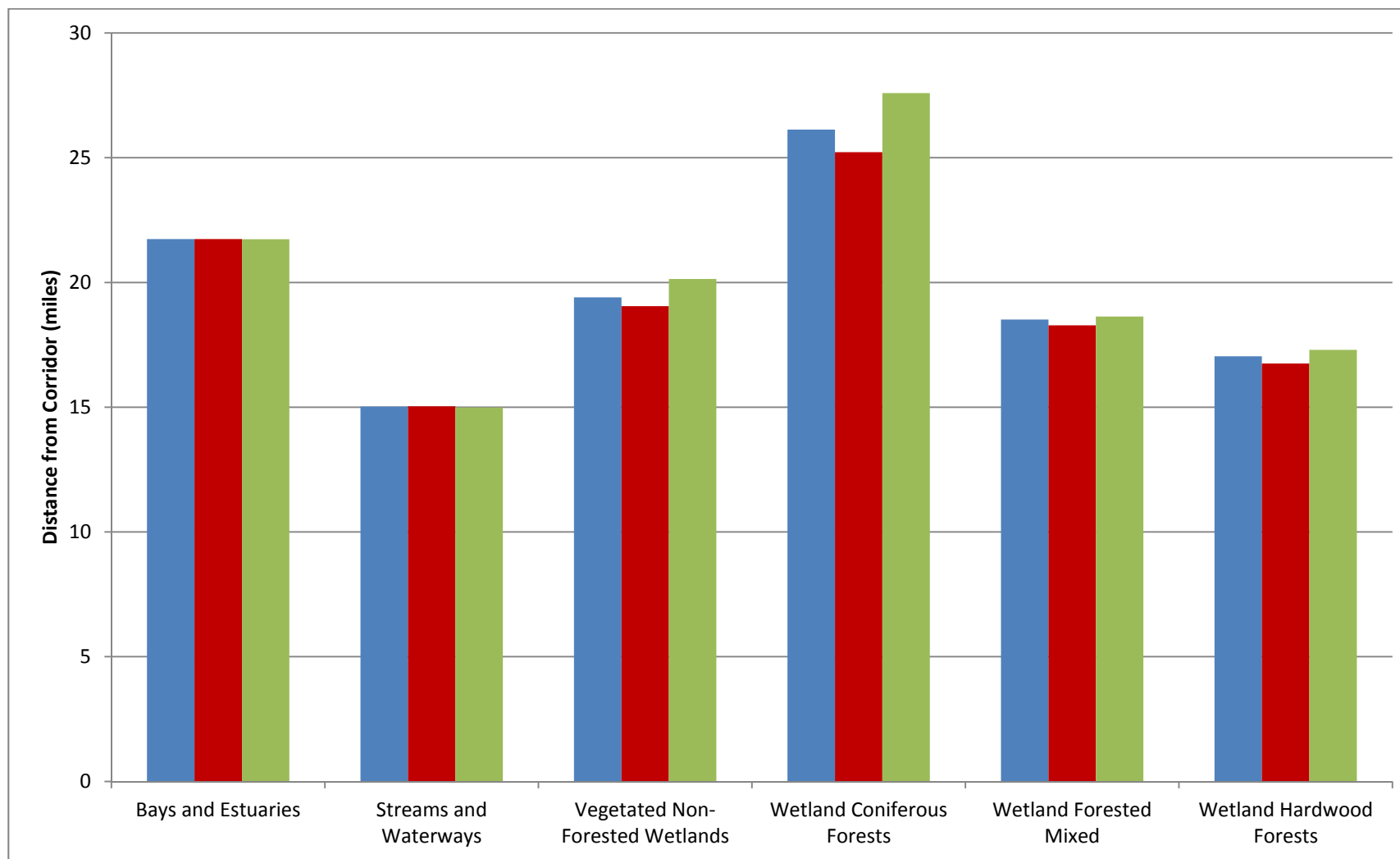


Figure 3-25. Relative risk in terms of distance of American bittern preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

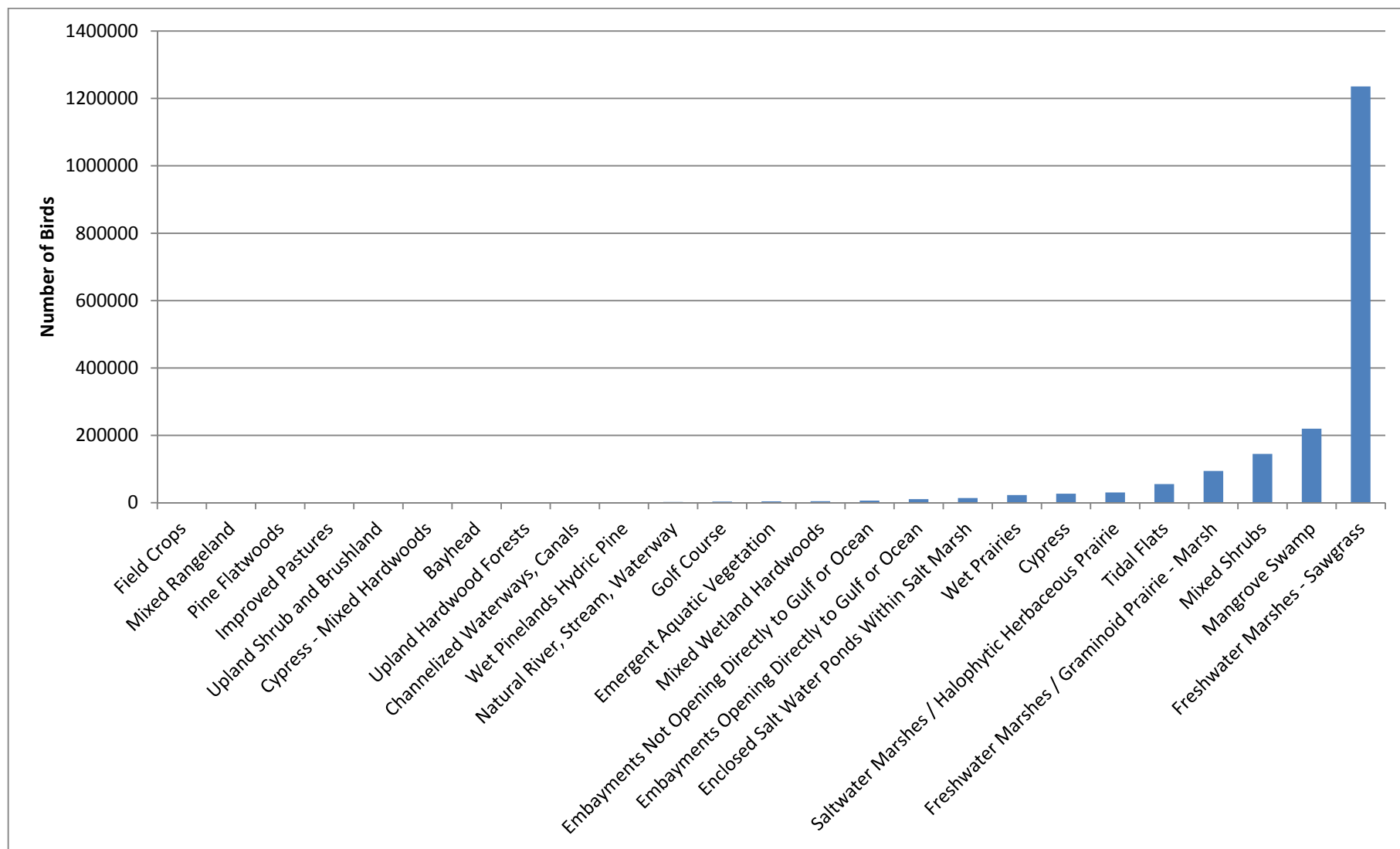


Figure 3-26. Number of white ibis associated with each Level 3 Land Use Land Cover category in the GIS database within the 30 mile boundary that surrounds the study area.

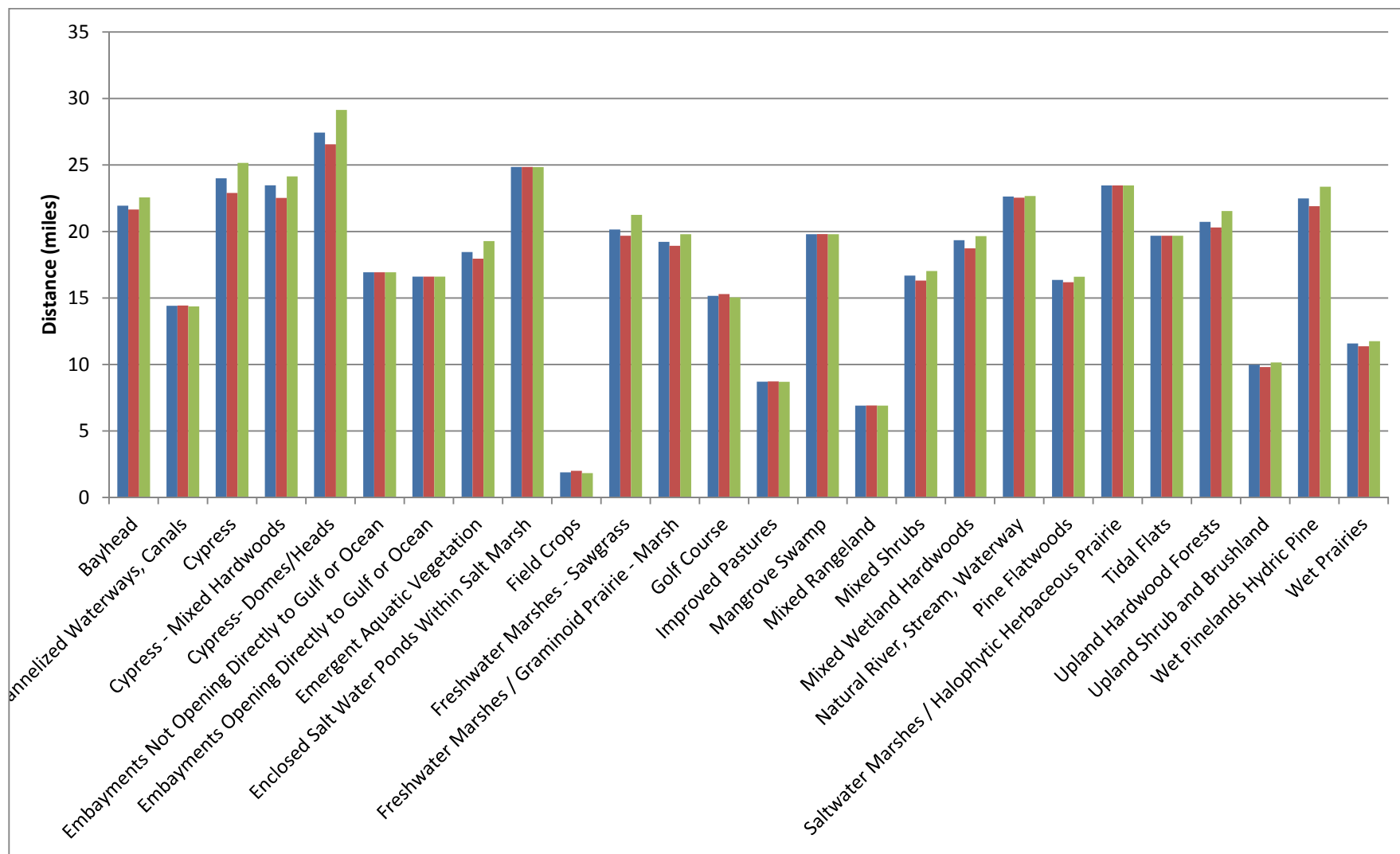


Figure 3-27. Relative risk in terms of distance of white ibis preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

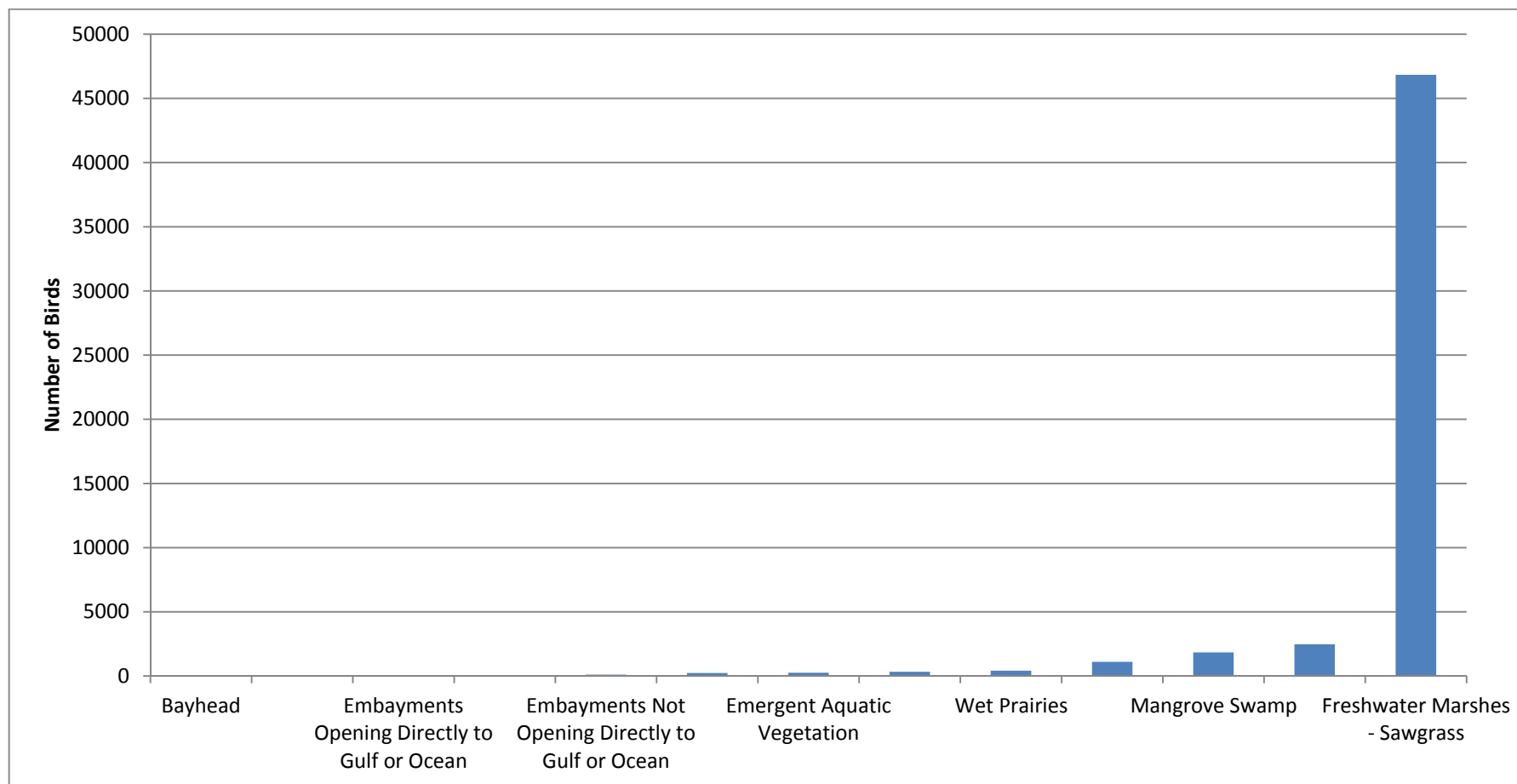


Figure 3-28. Number of glossy ibis associated with each Level 3 Land Use Land Cover category in the GIS database within the 30 mile boundary that surrounds the study area.



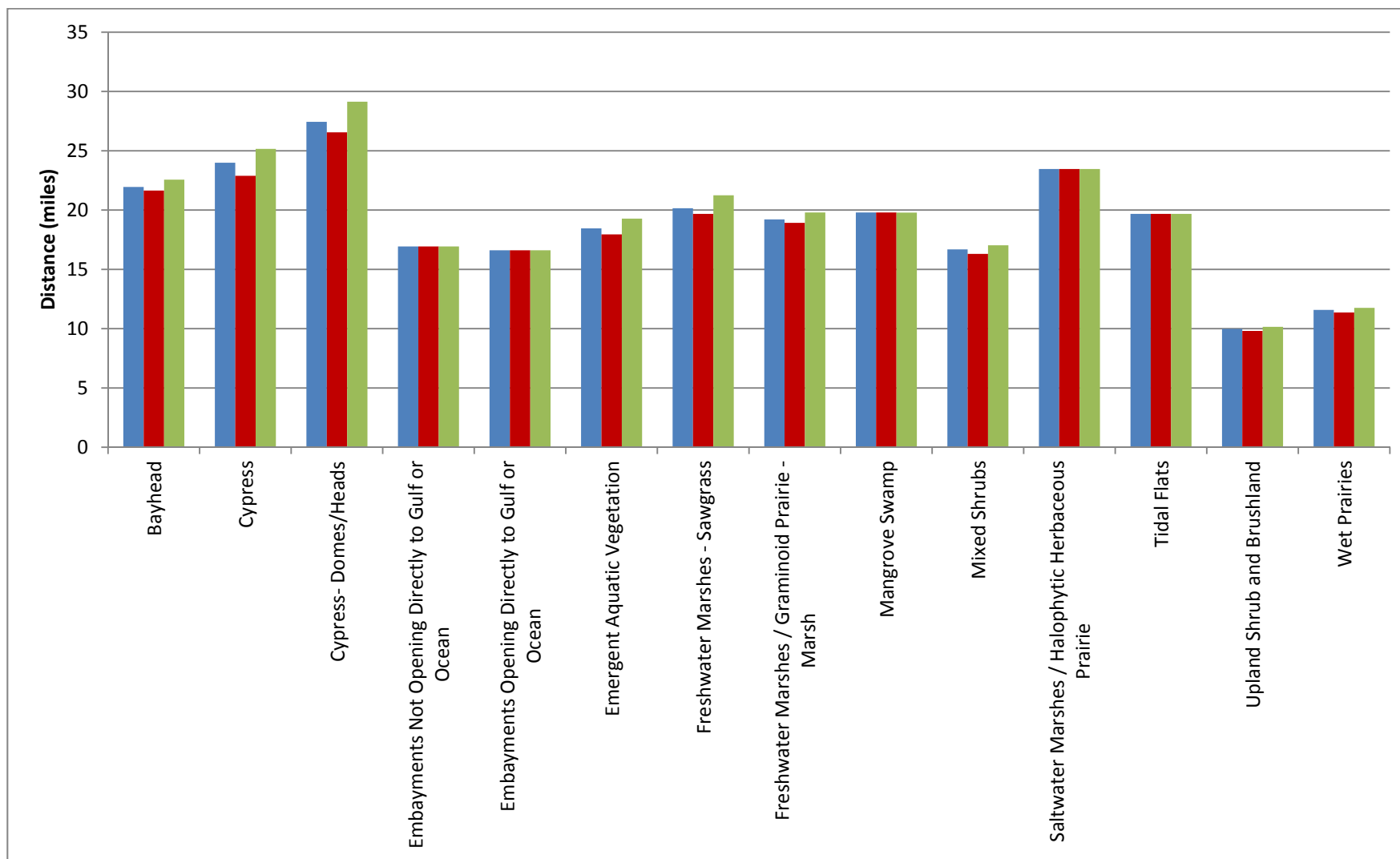


Figure 3-29. Relative risk in terms of distance of glossy ibis preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

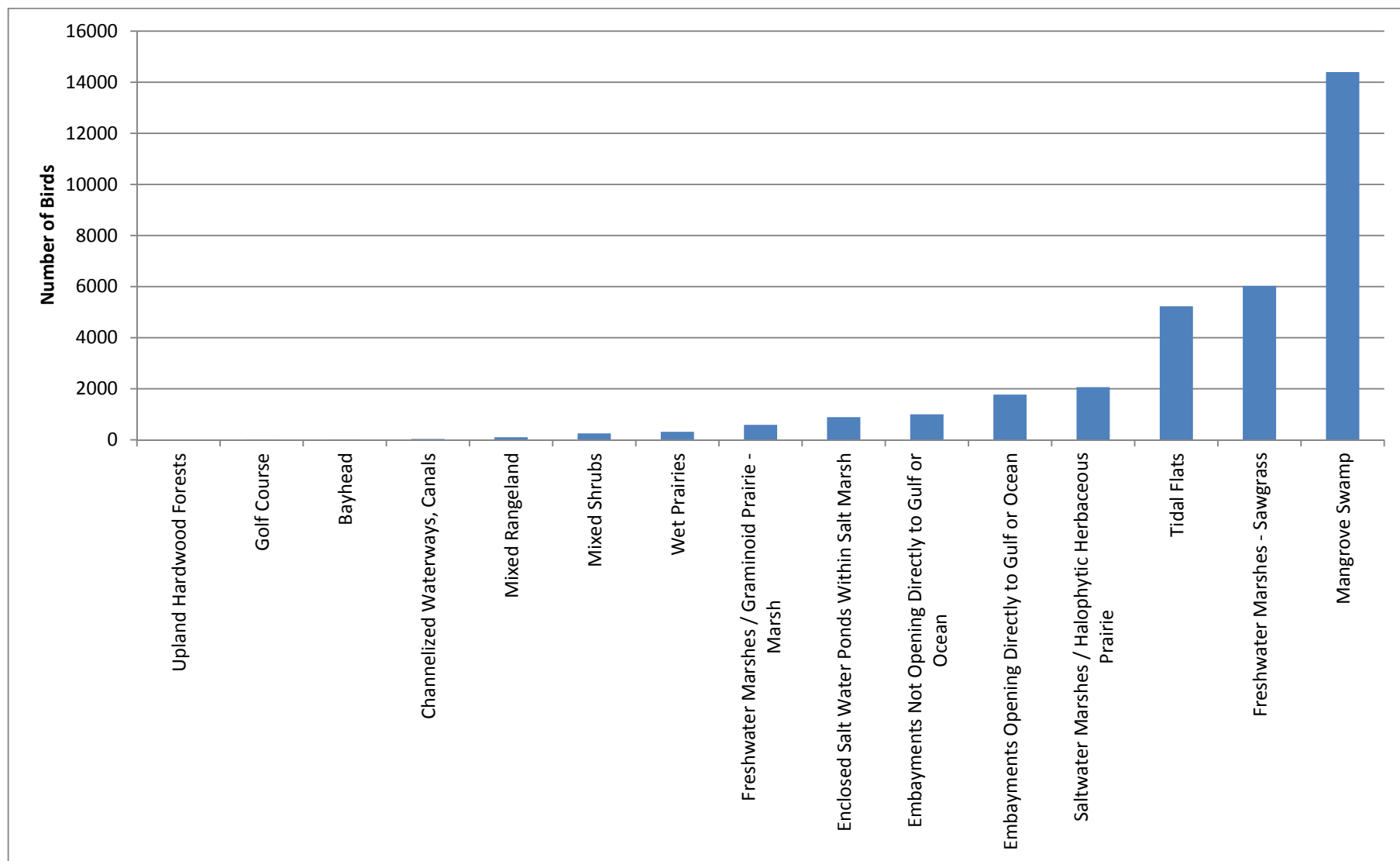


Figure 3-30. Number of roseate spoonbills associated with each Level 3 Land Use Land Cover category in the GIS database within the 30 mile boundary that surrounds the study area.

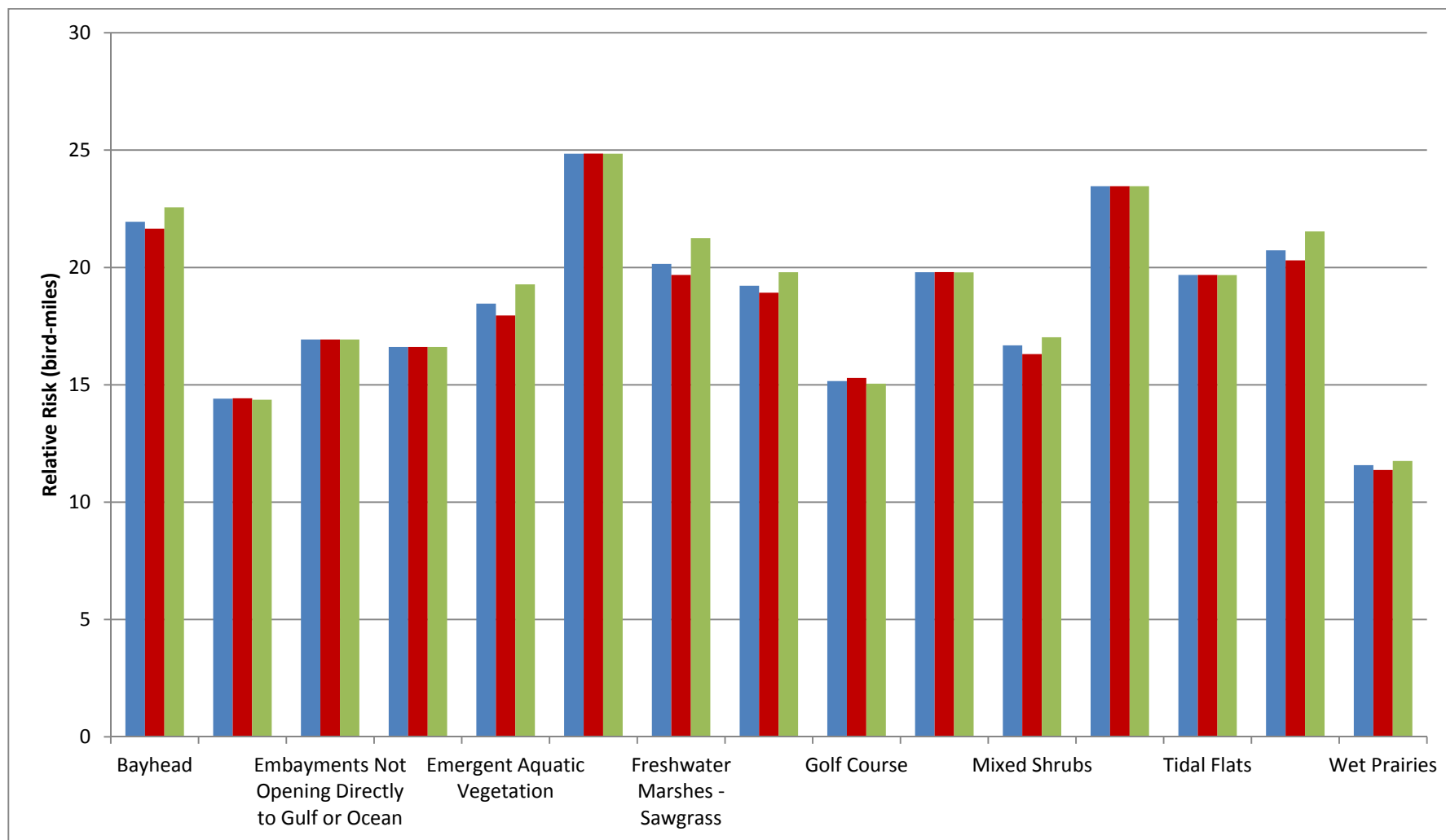


Figure 3-31. Relative risk in terms of distance of roseate spoonbill preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

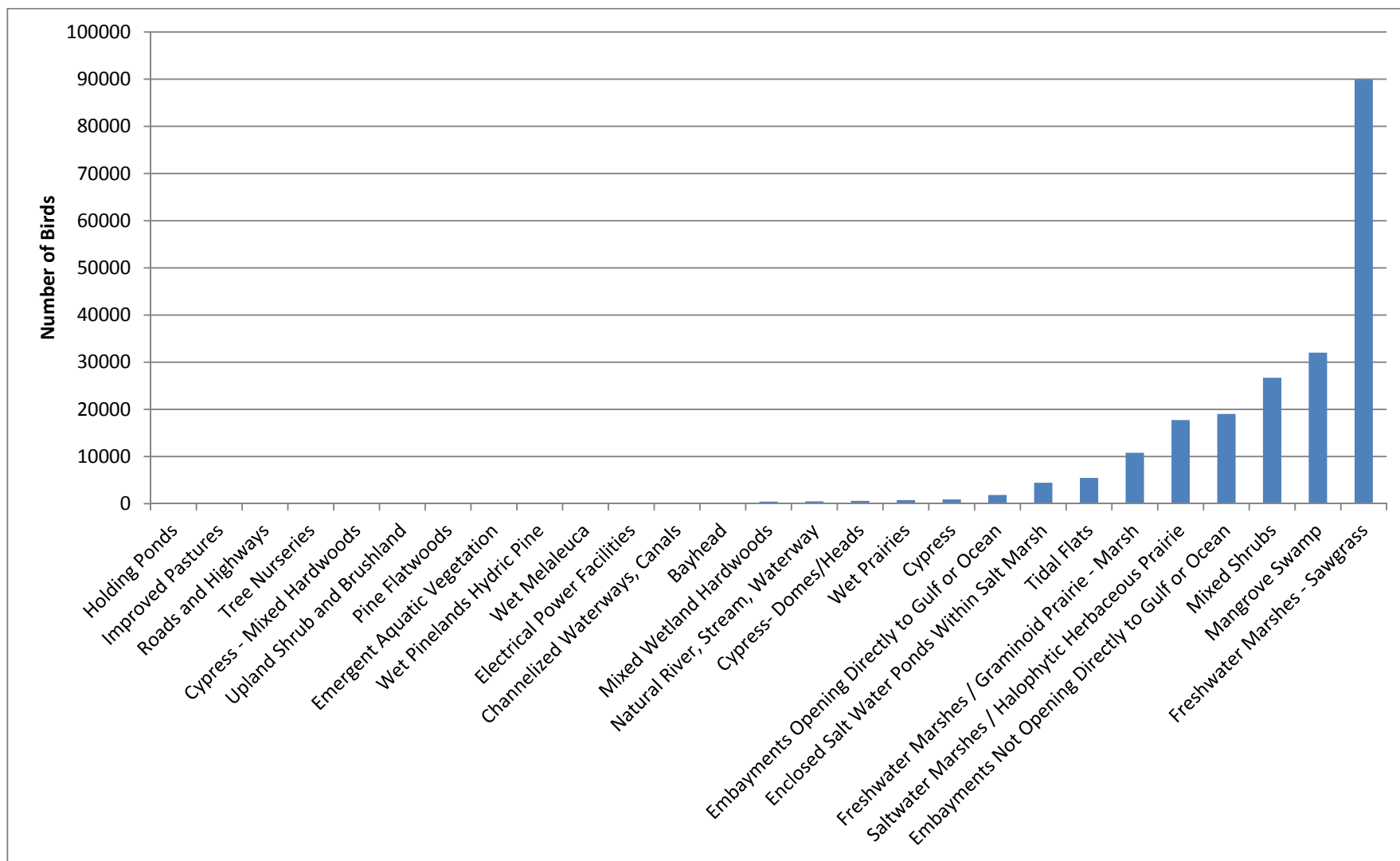


Figure 3-32. Number of wood storks associated with each Level 3 Land Use Land Cover category in the GIS database within the 30 mile boundary that surrounds the study area.

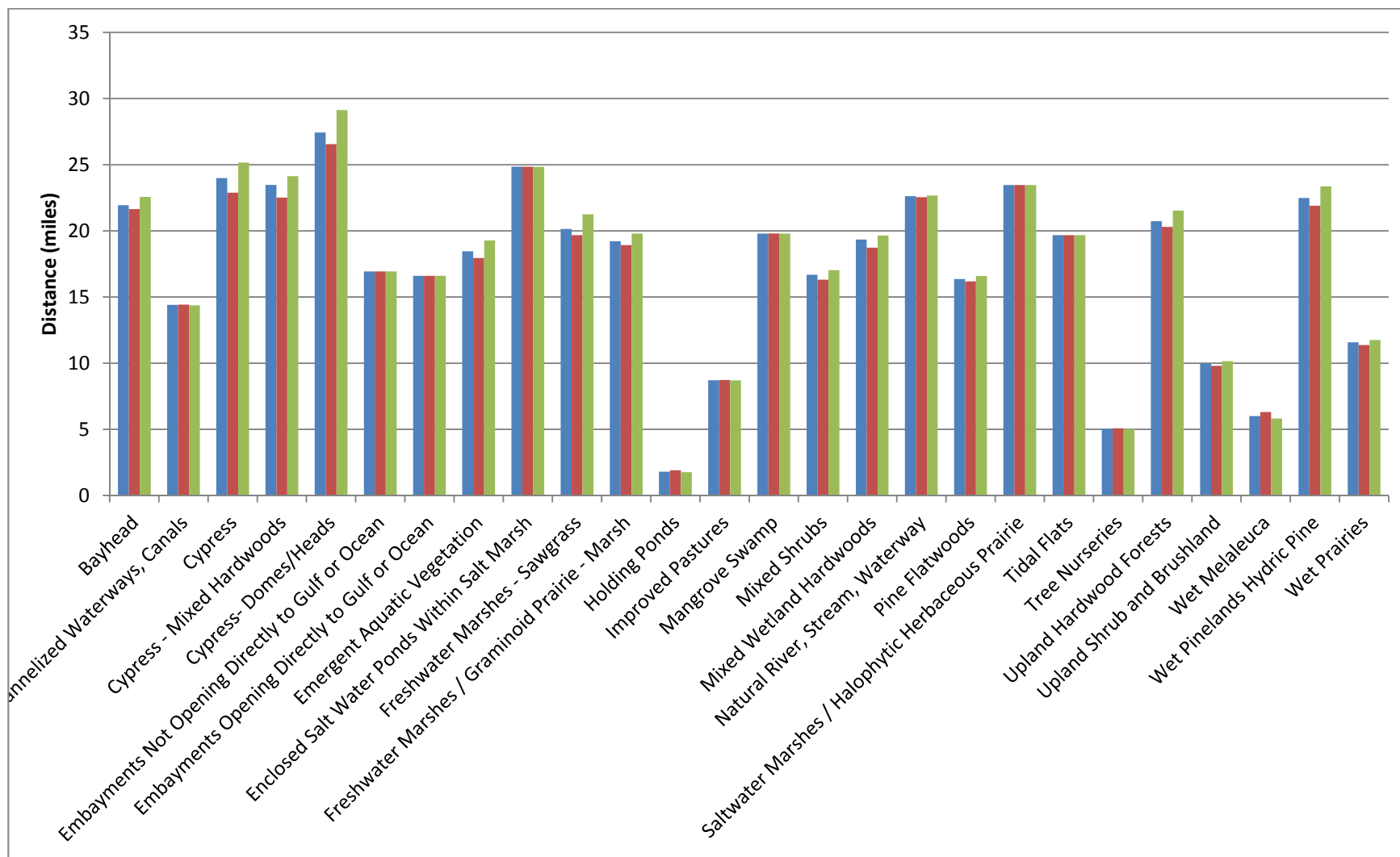


Figure 3-33. Relative risk in terms of distance of wood stork preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

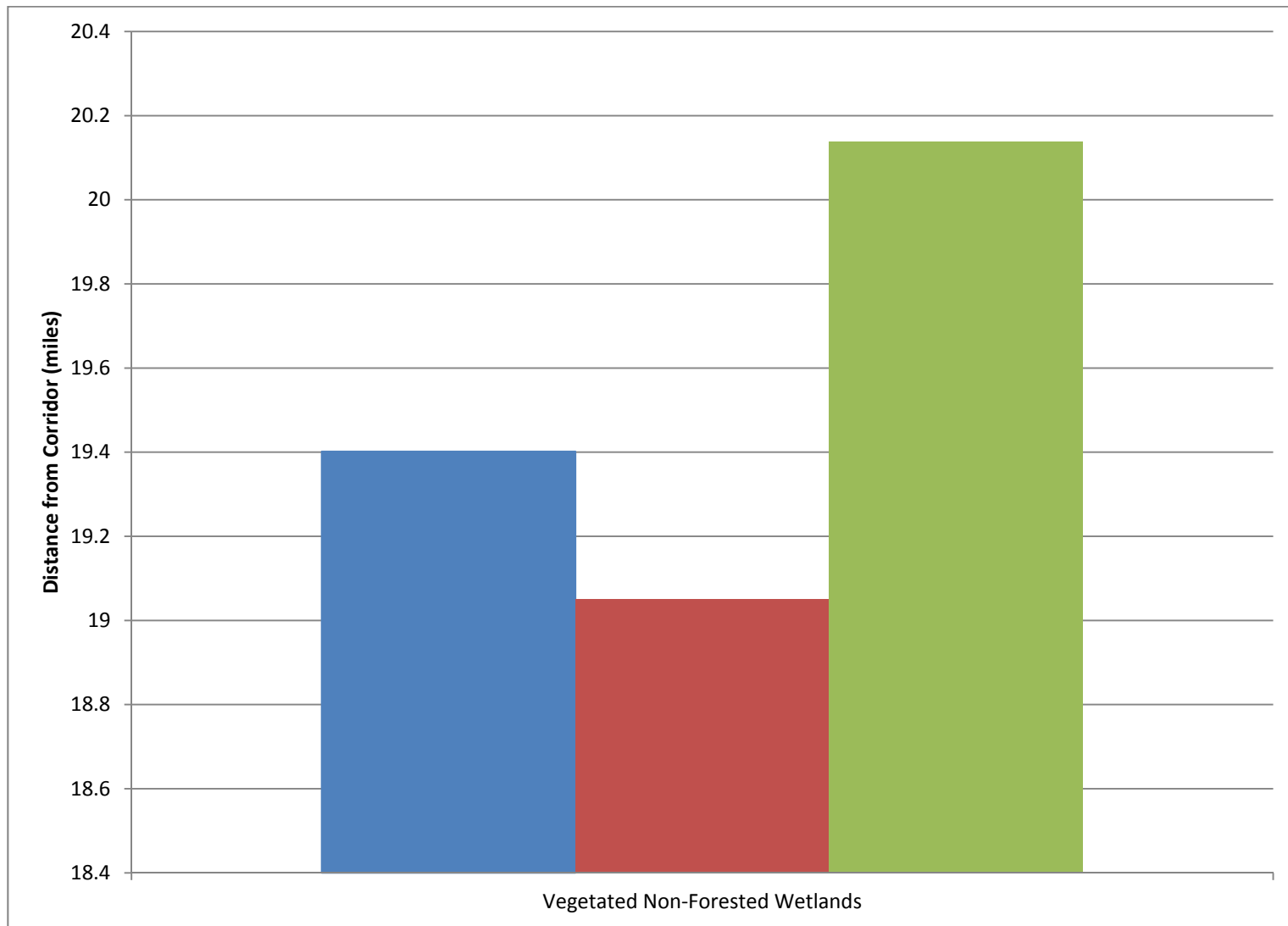


Figure 3-34. Relative risk in terms of distance of Florida sandhill crane preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

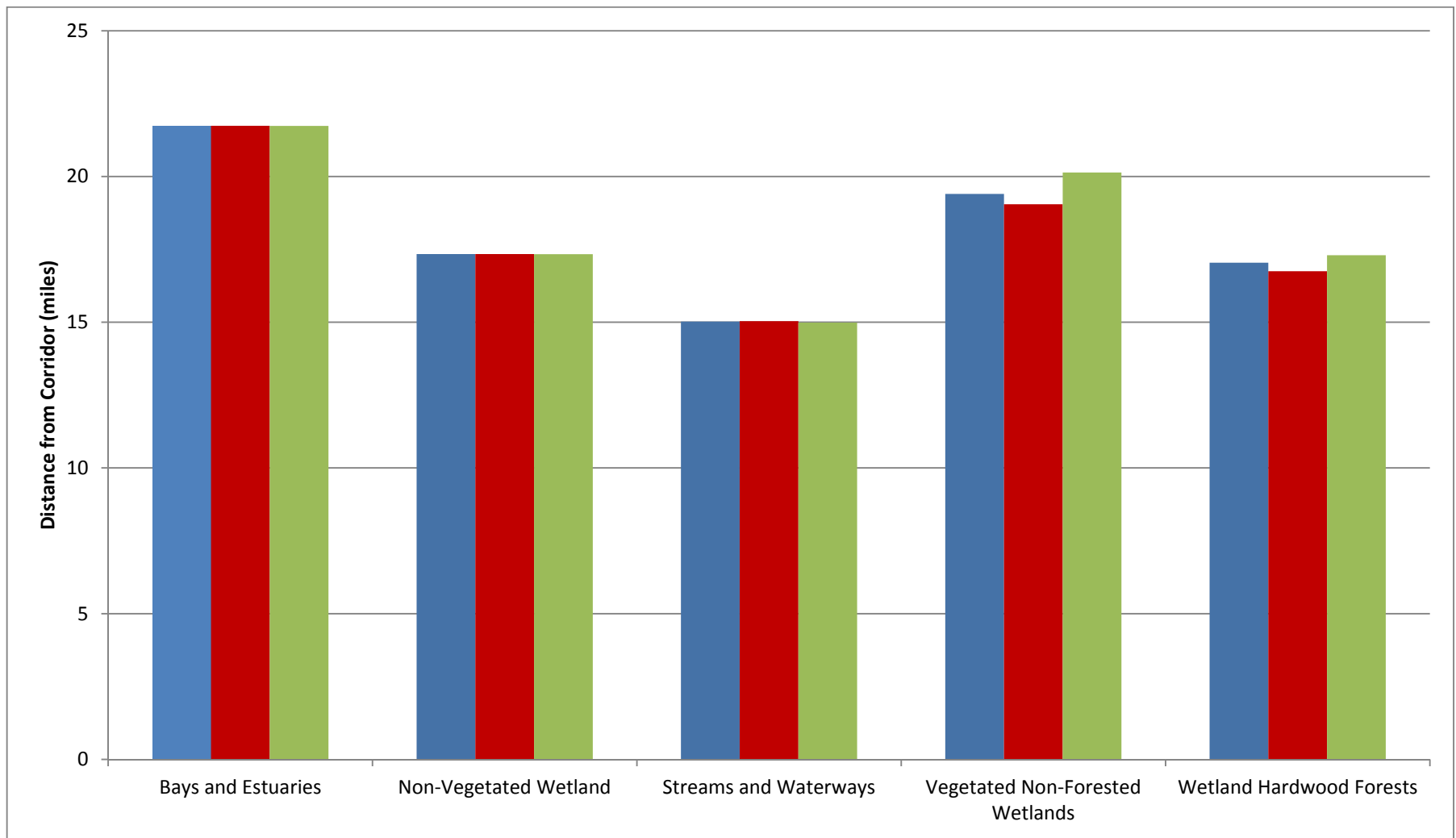


Figure 3-35. Relative risk in terms of distance of limpkin preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

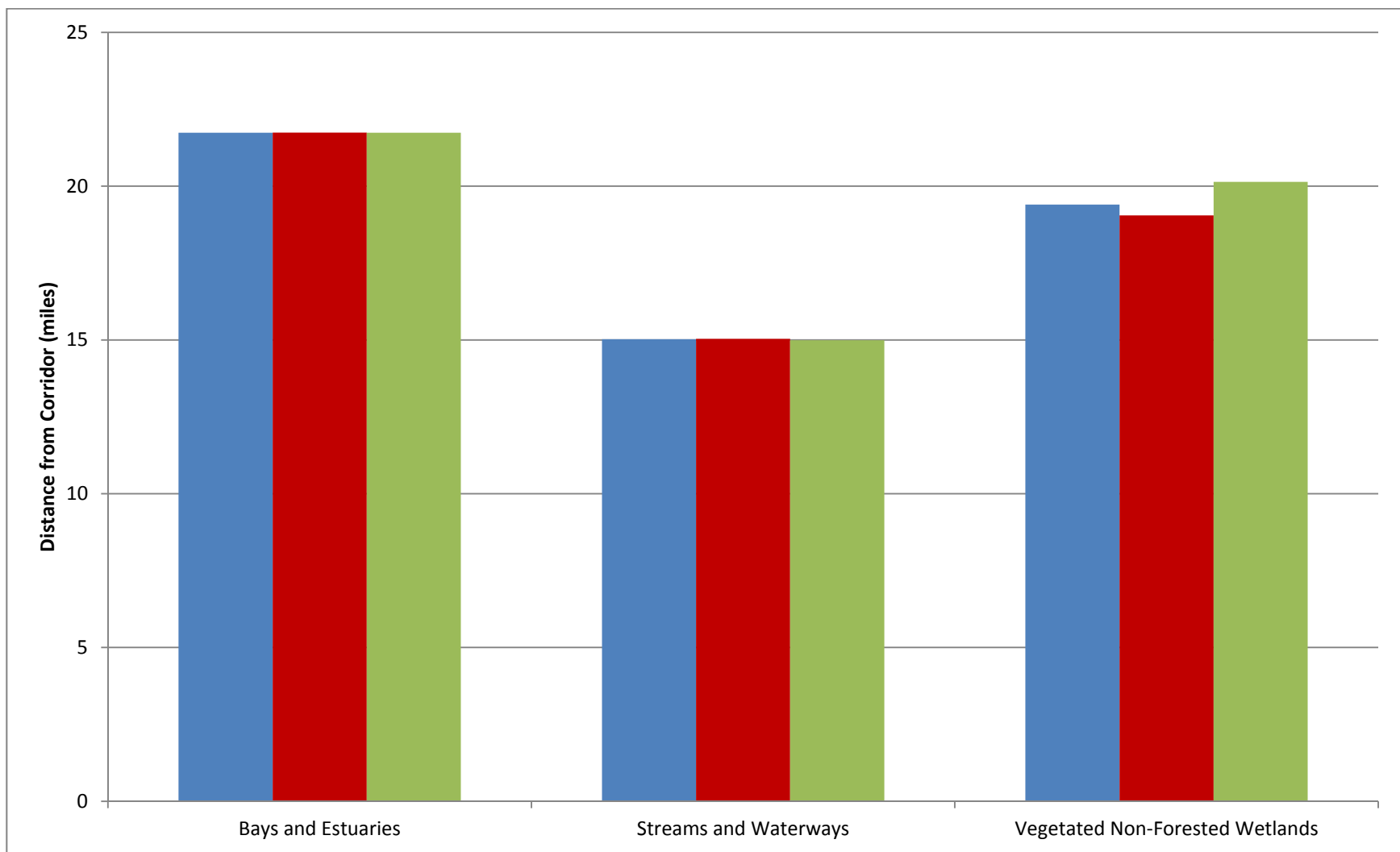


Figure 3-36. Relative risk in terms of distance of black rail preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A



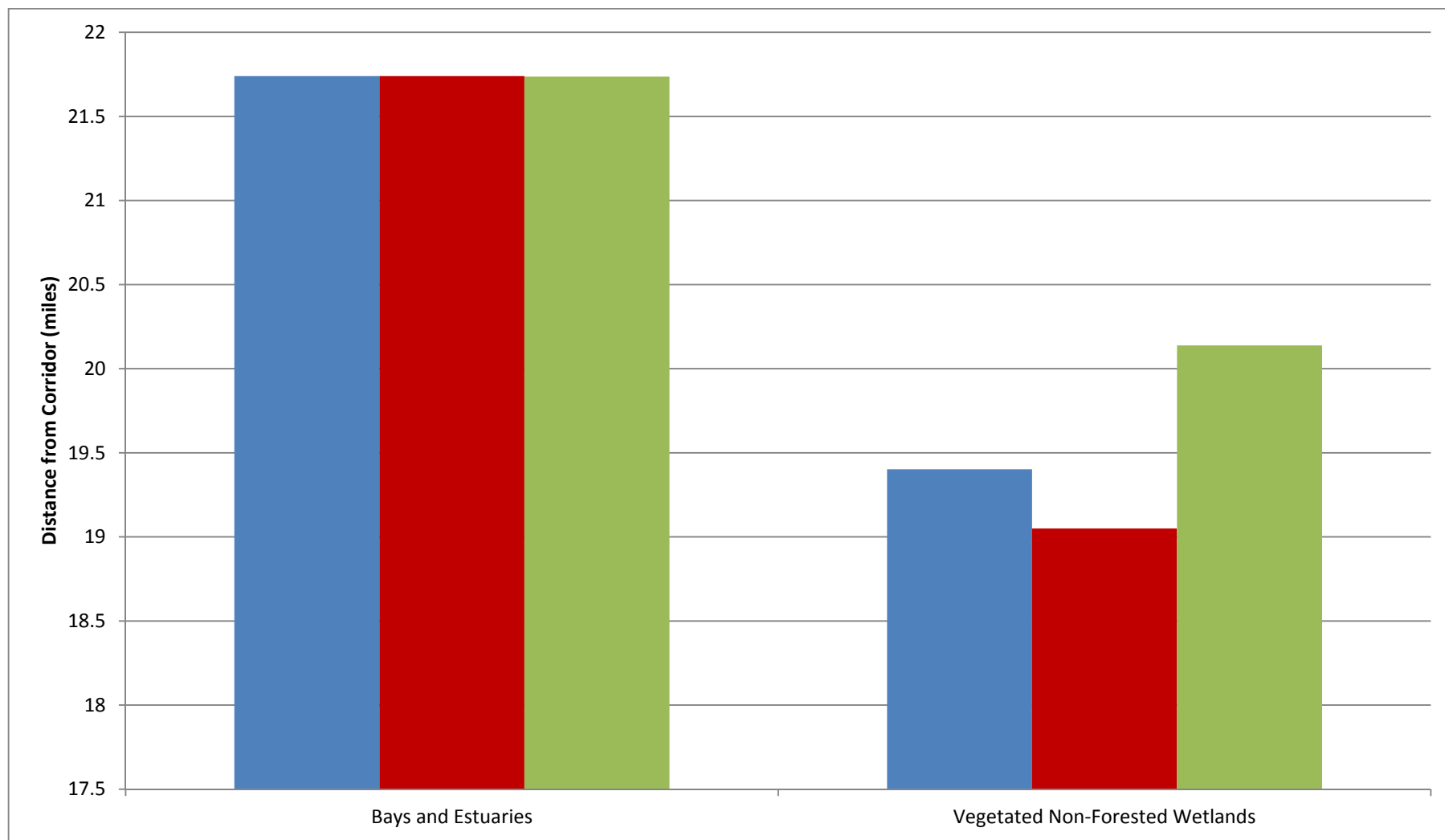


Figure 3-37. Relative risk in terms of distance of yellow rail preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

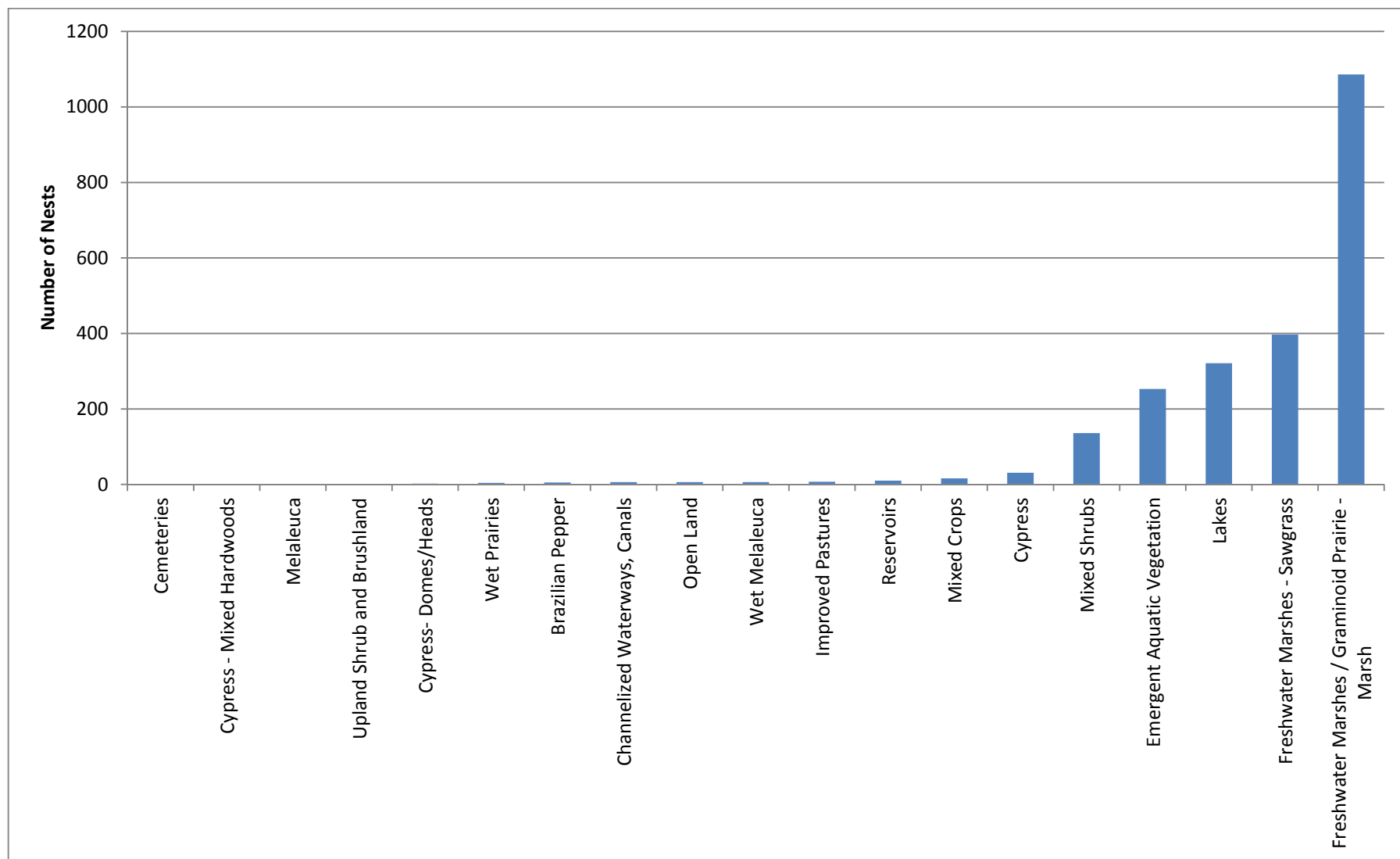


Figure 3-38. Number of snail kites associated with each Level 3 Land Use Land Cover category in the GIS database within the 30 mile boundary that surrounds the study area.

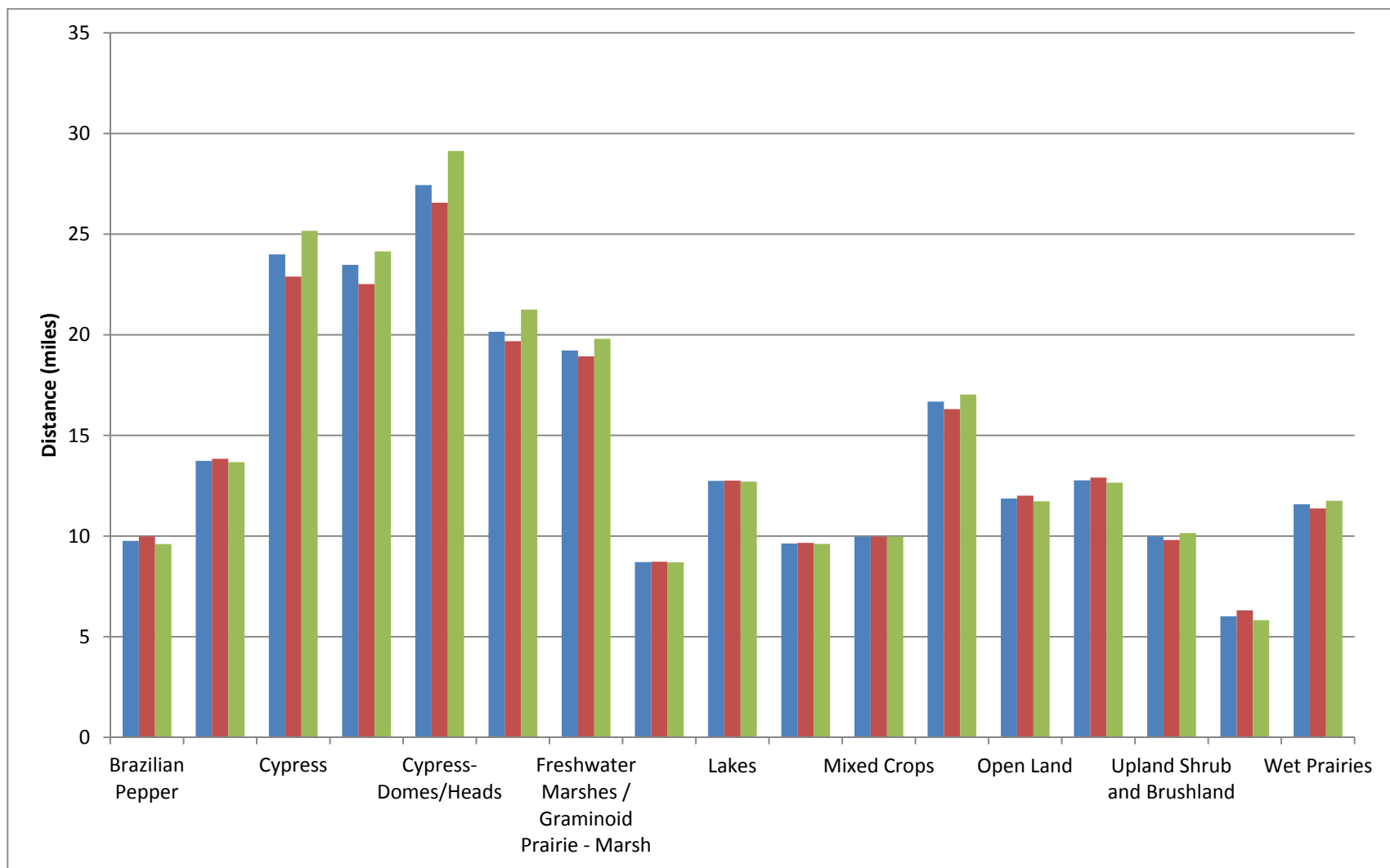


Figure 3-39. Relative risk in terms of distance of snail kite preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

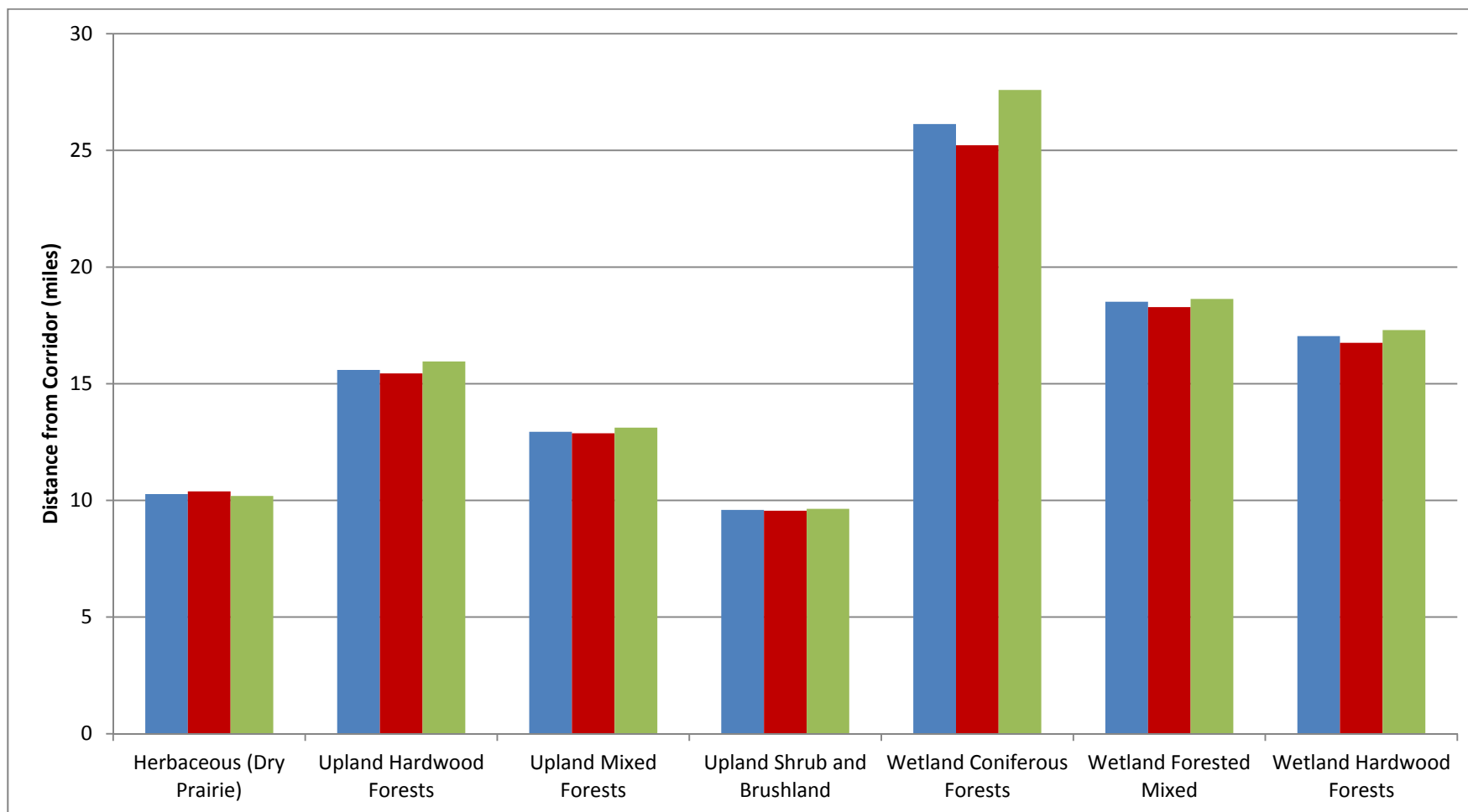


Figure 3-40. Relative risk in terms of distance of short tailed hawk preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

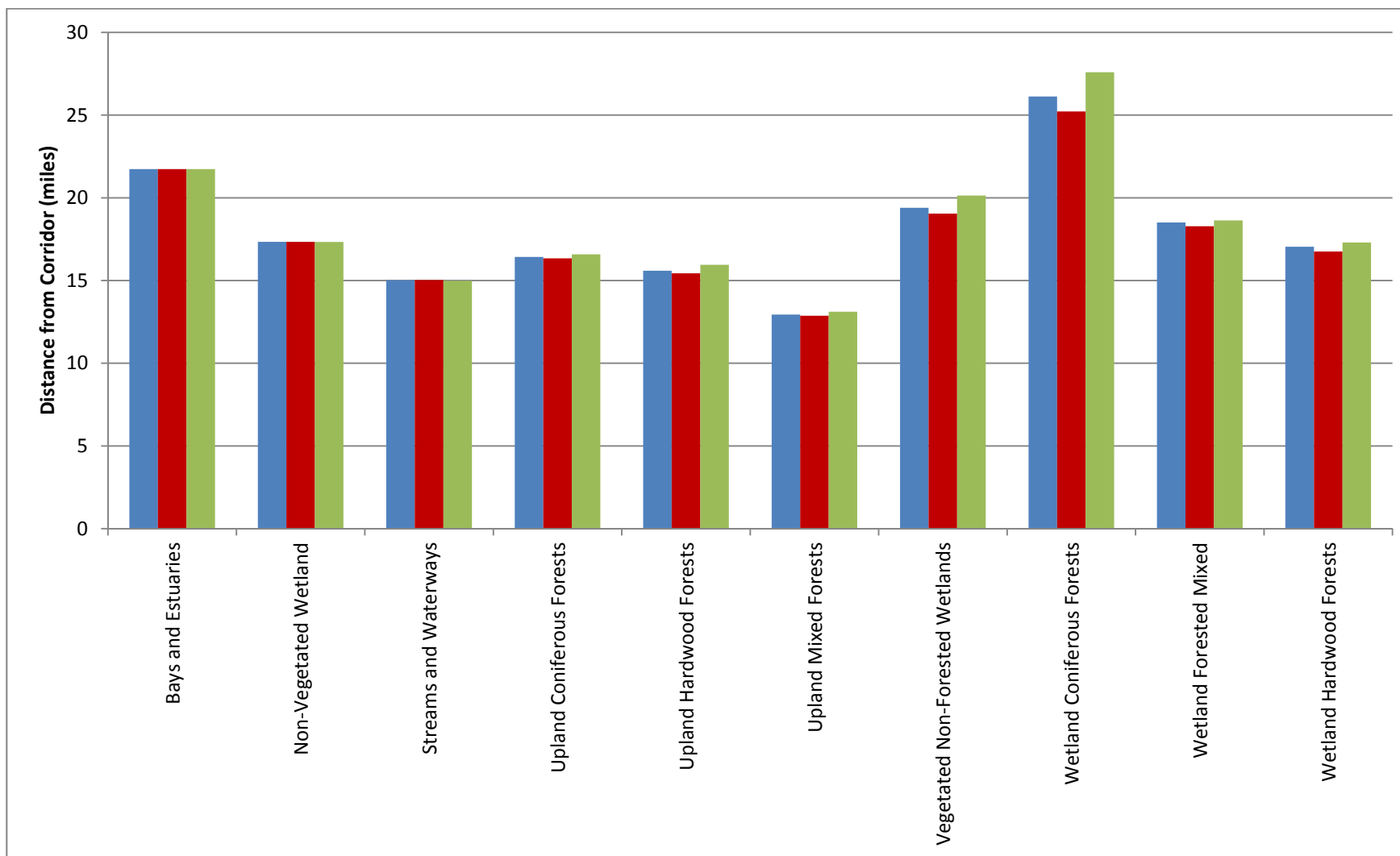


Figure 3-41. Relative risk in terms of distance of swallow tailed kite preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

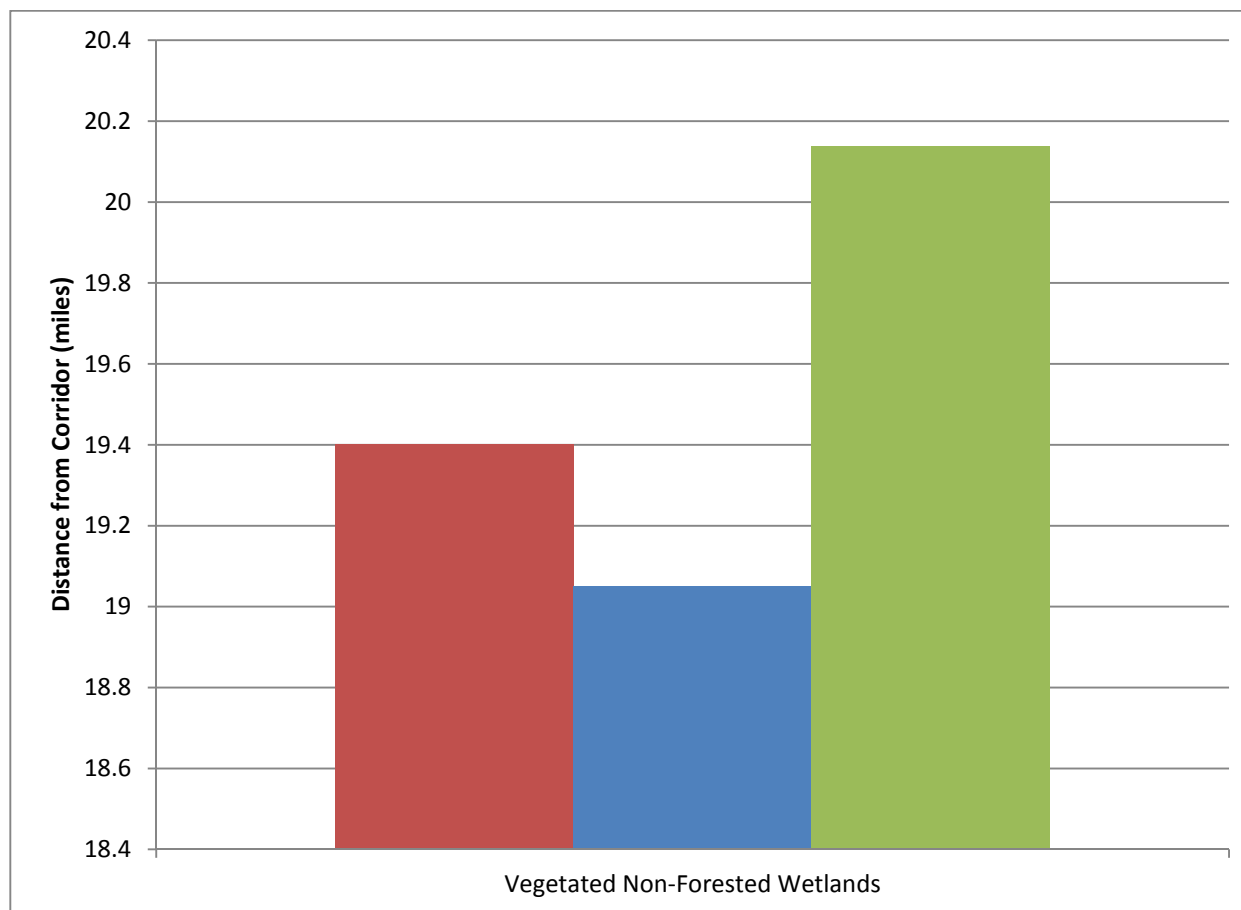


Figure 3-42. Relative risk in terms of distance of northern harrier preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

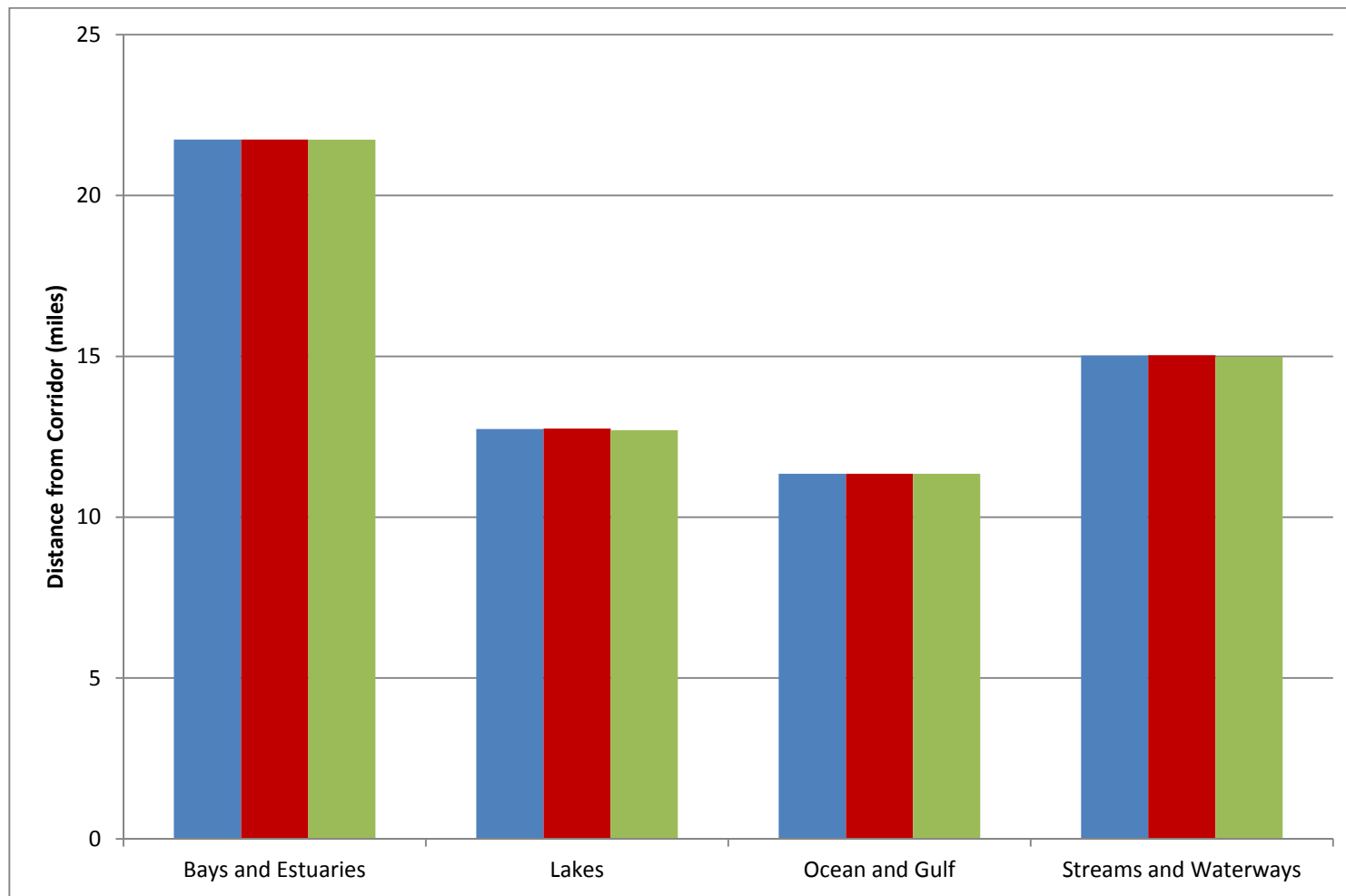


Figure 3-43. Relative risk in terms of distance of osprey preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

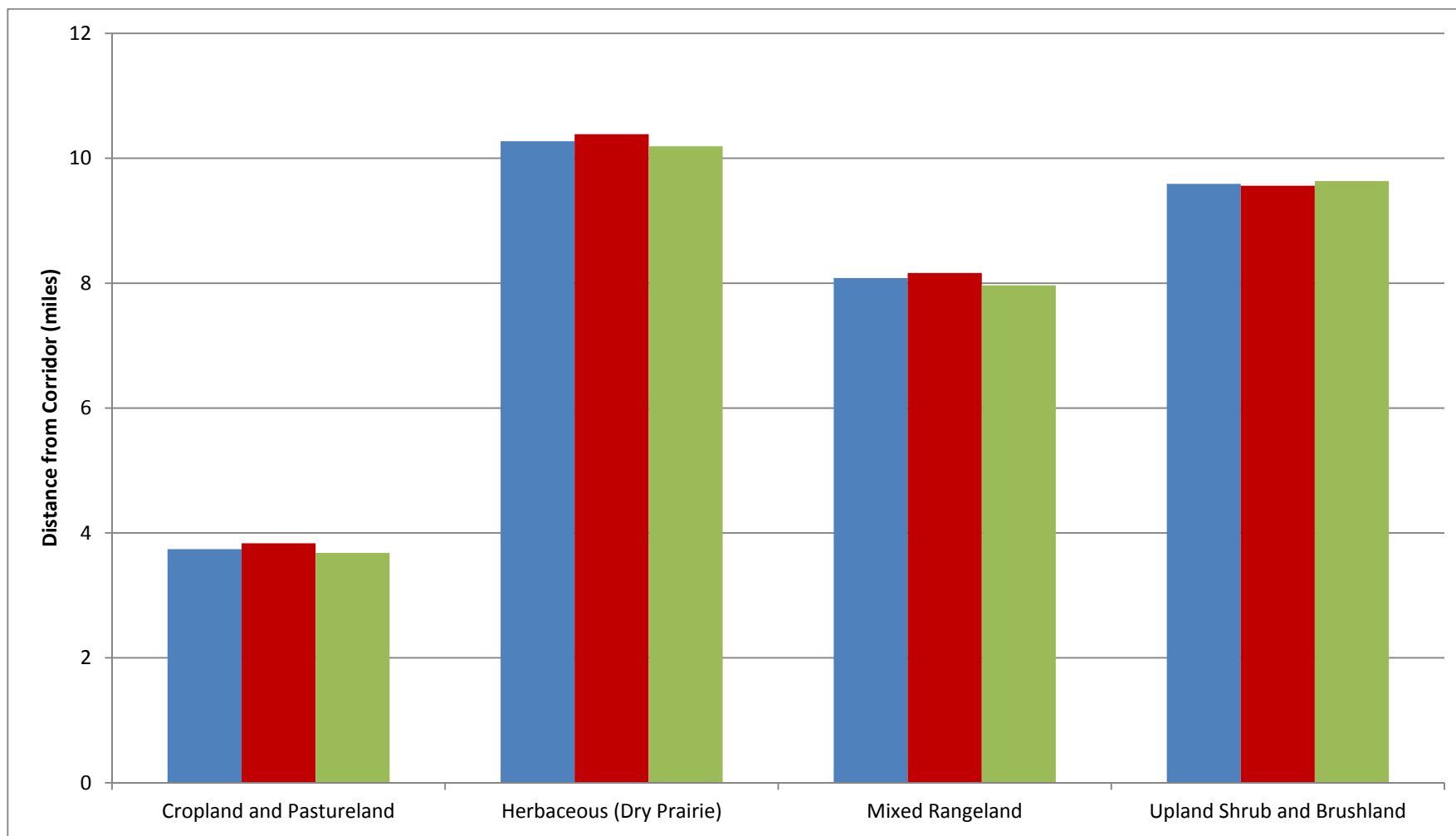


Figure 3-44. Relative risk in terms of distance of crested caracara preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A



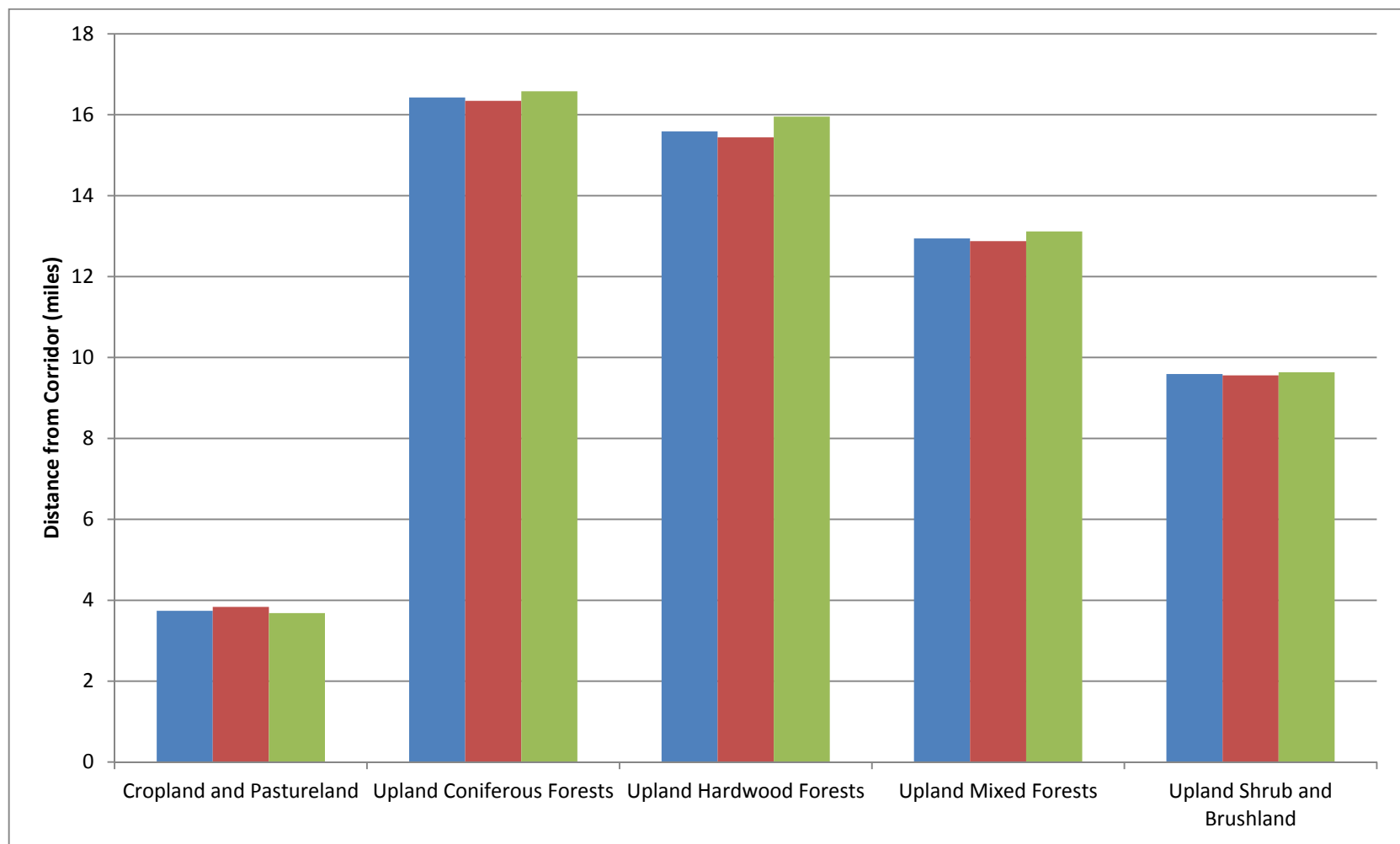


Figure 3-45. Relative risk in terms of distance of American kestrel preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

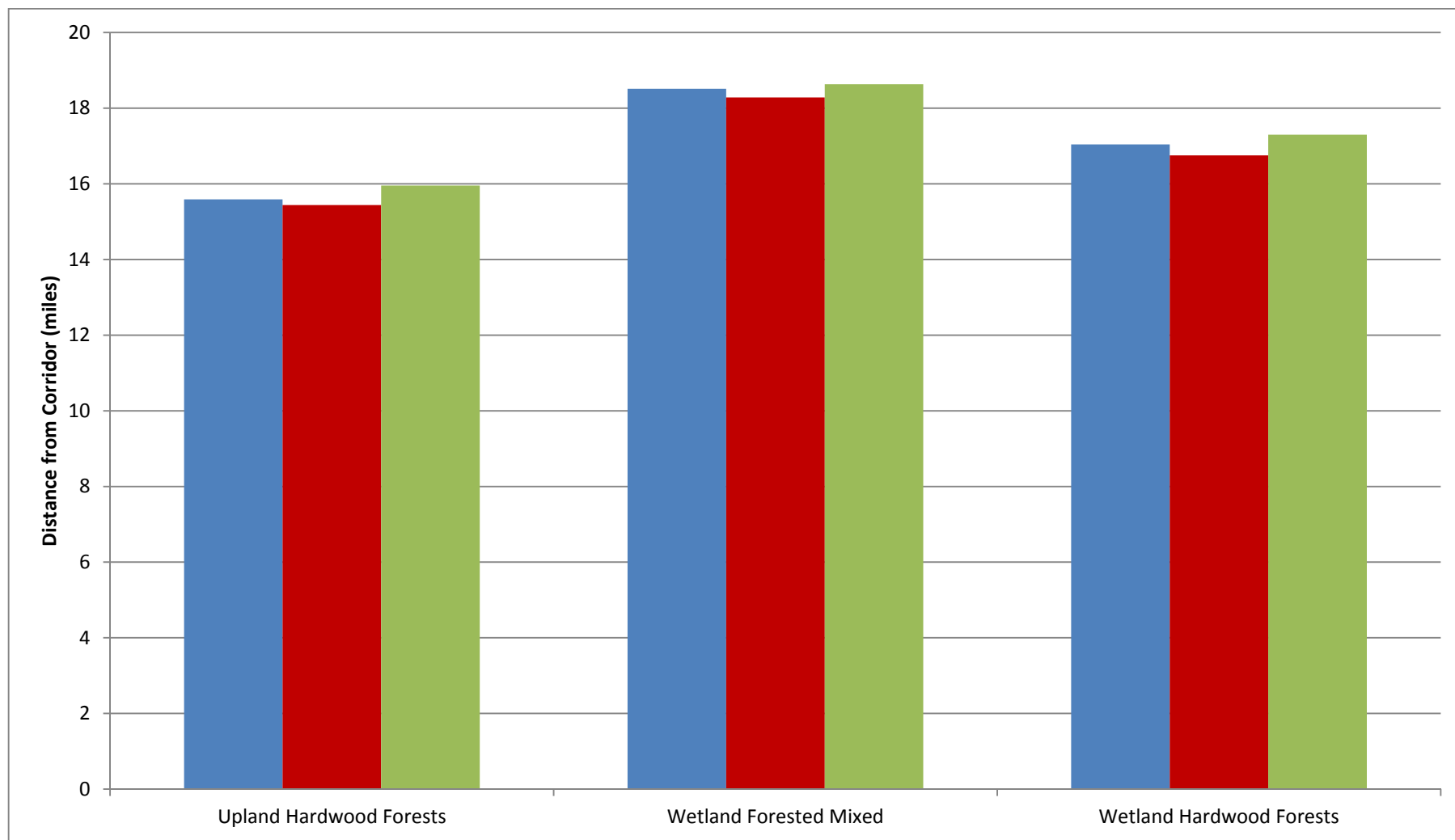


Figure 3-46. Relative risk in terms of distance of white crowned pigeon preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

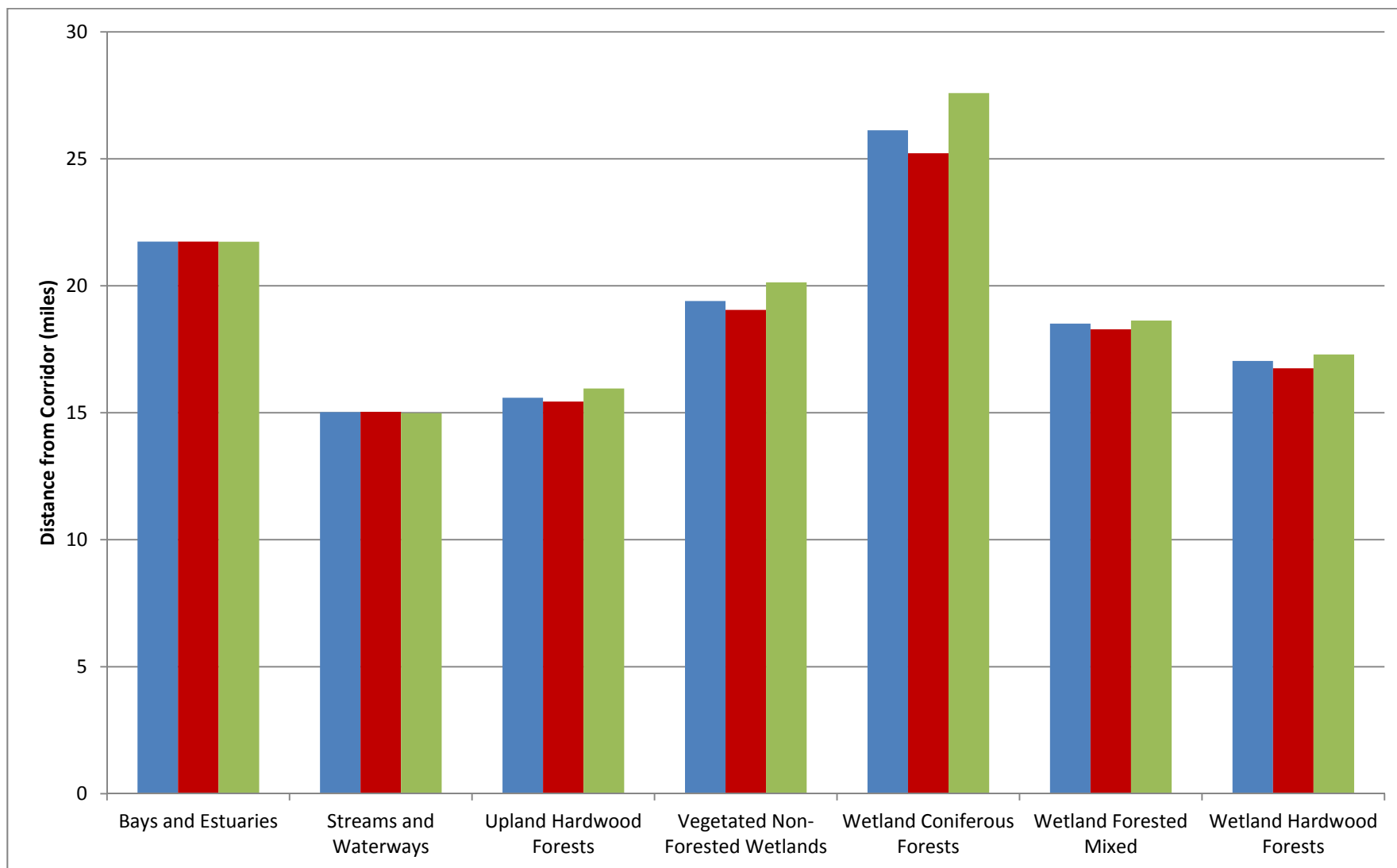


Figure 3-47. Relative risk in terms of distance of yellow billed cuckoo preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

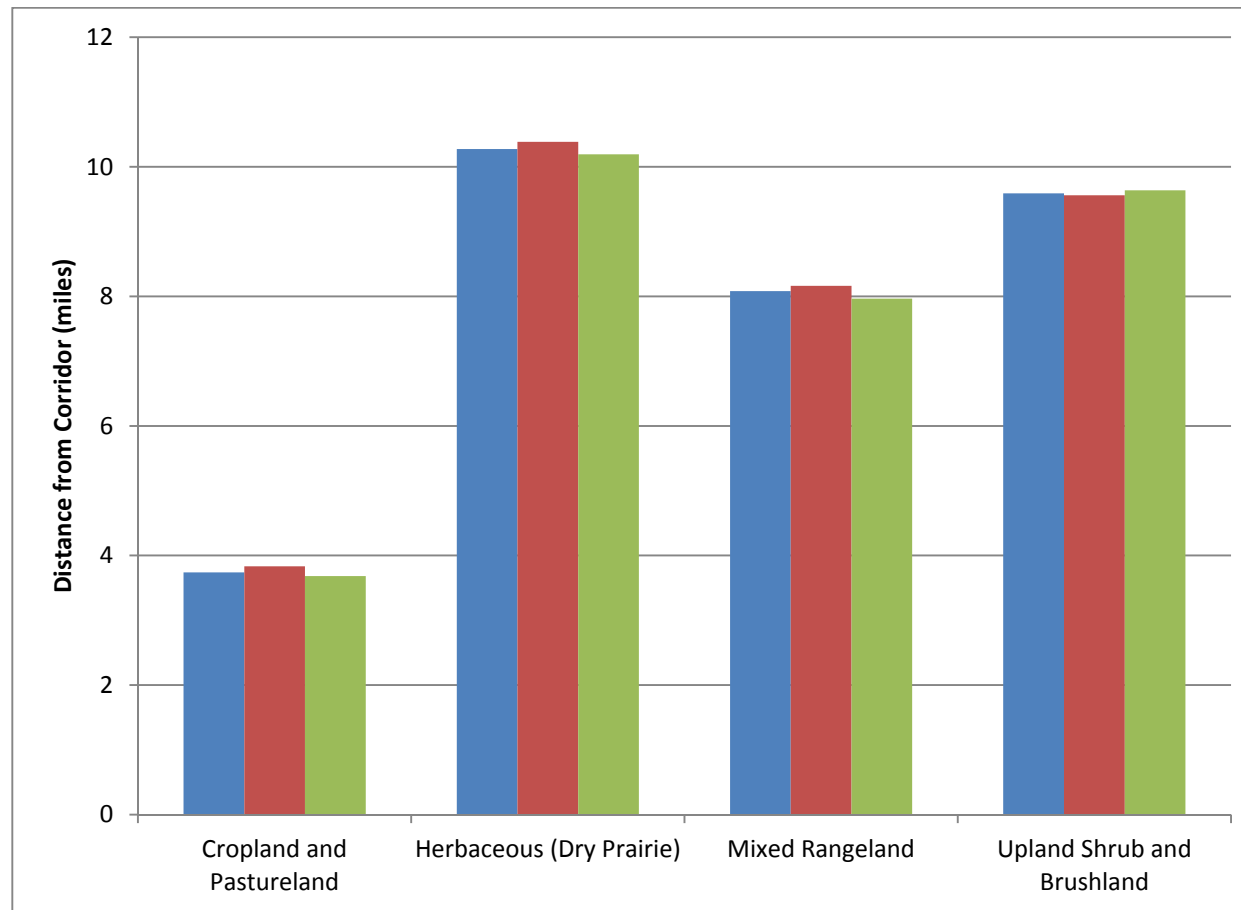


Figure 3-48. Relative risk in terms of distance of barn owl preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

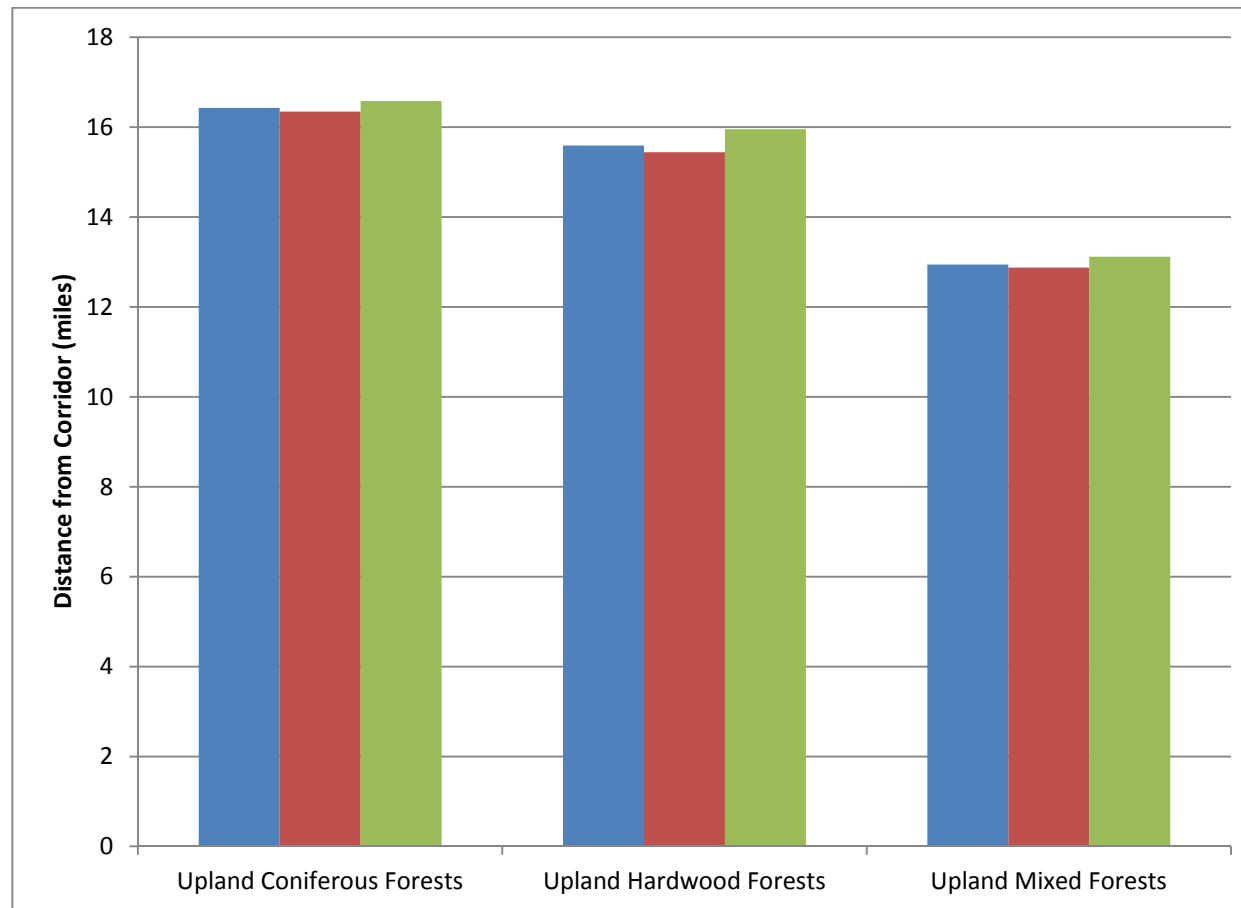


Figure 3-49. Relative risk in terms of distance of northern flicker preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

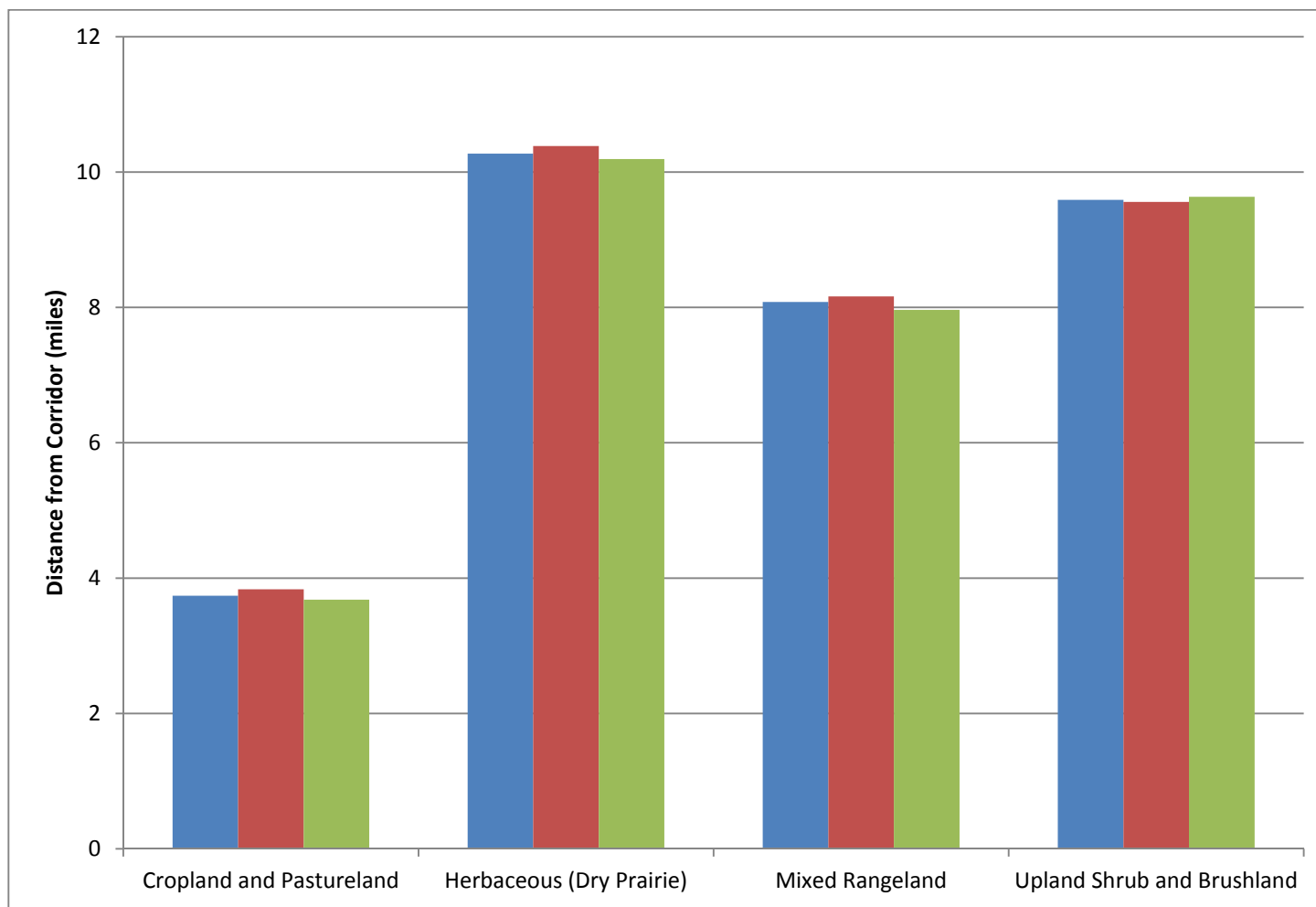


Figure 3-50. Relative risk in terms of distance of loggerhead shrike preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

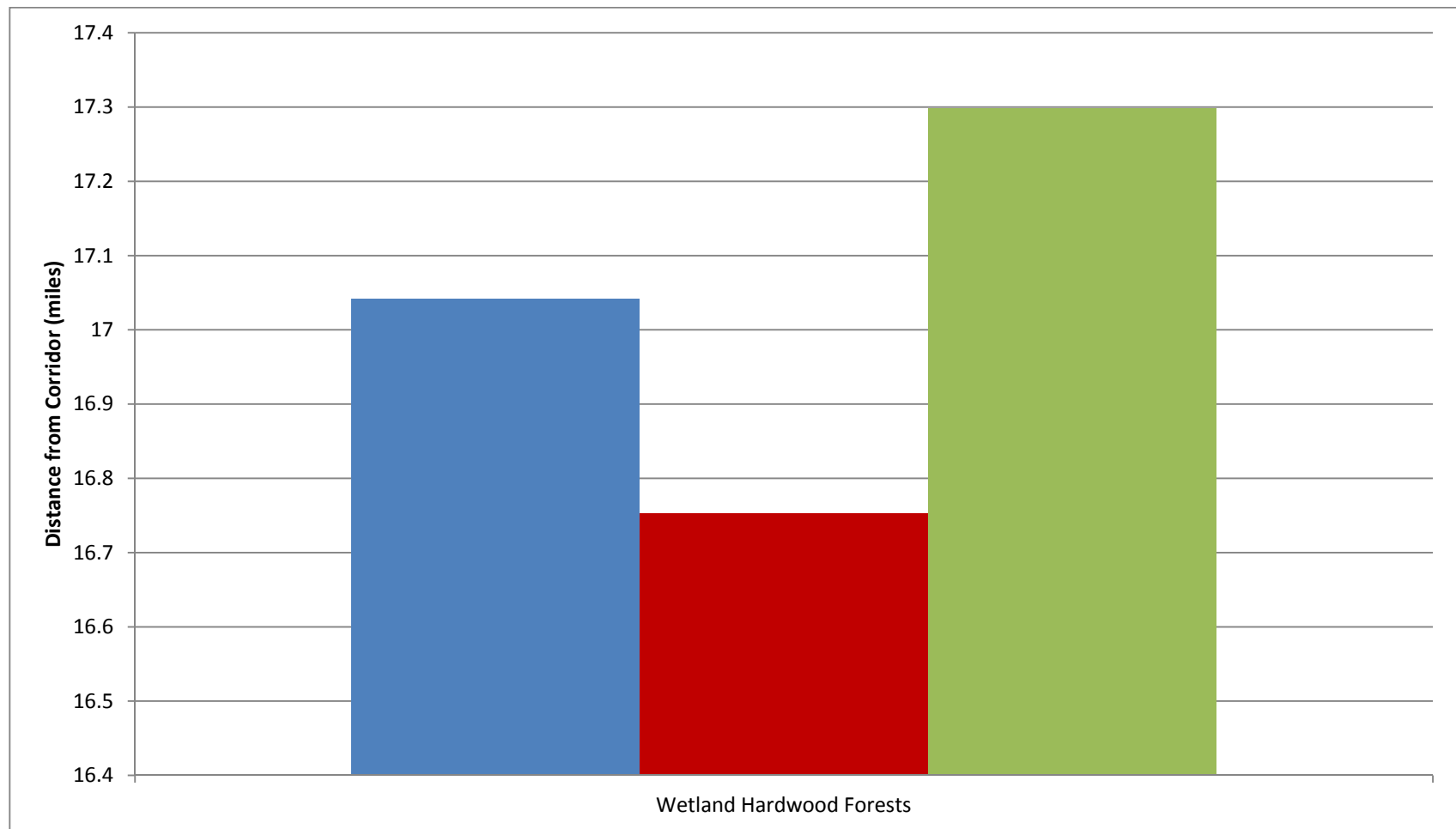


Figure 3-51. Relative risk in terms of distance of black whiskered vireo preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

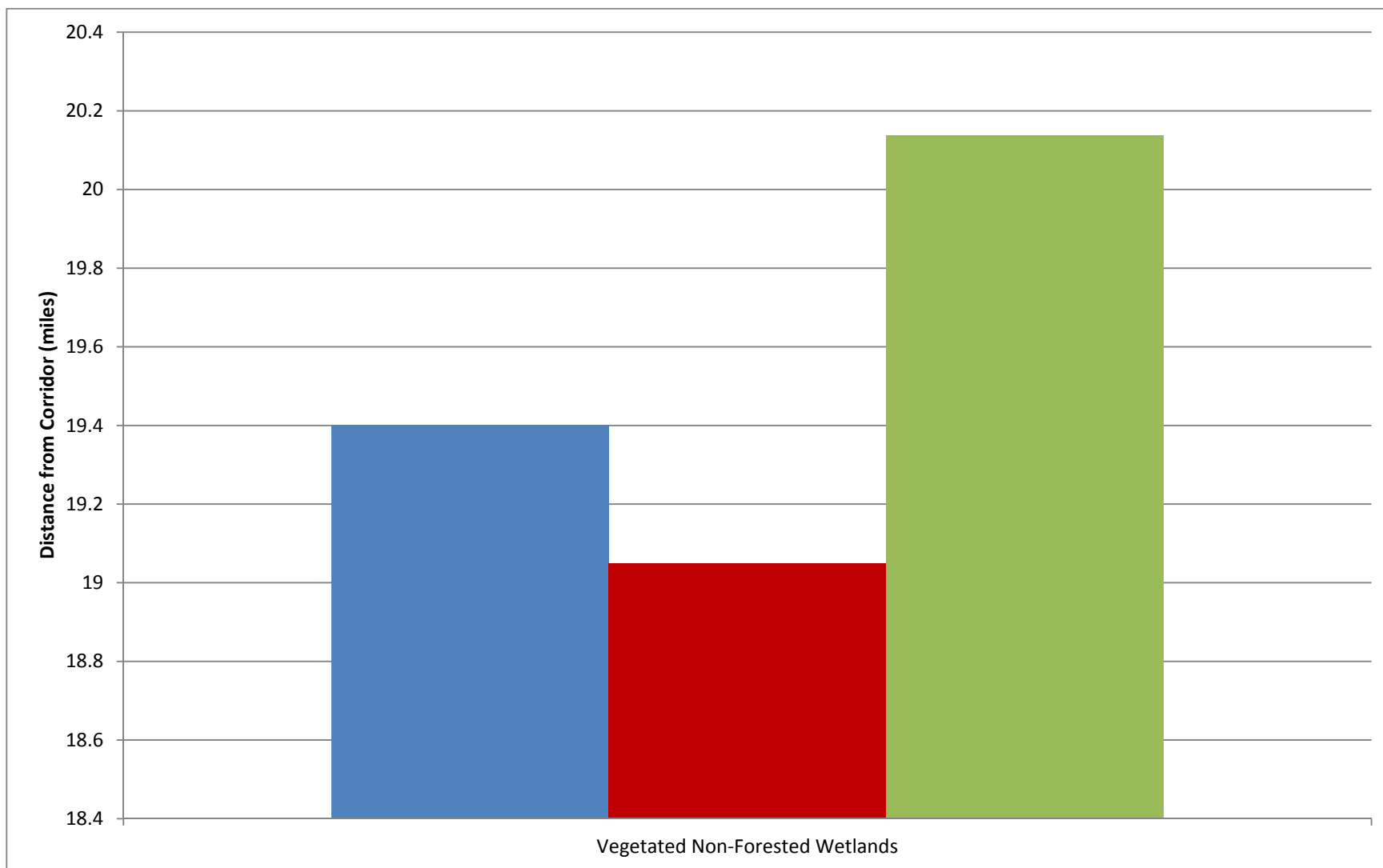


Figure 3-52. Relative risk in terms of distance of marsh wren preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A



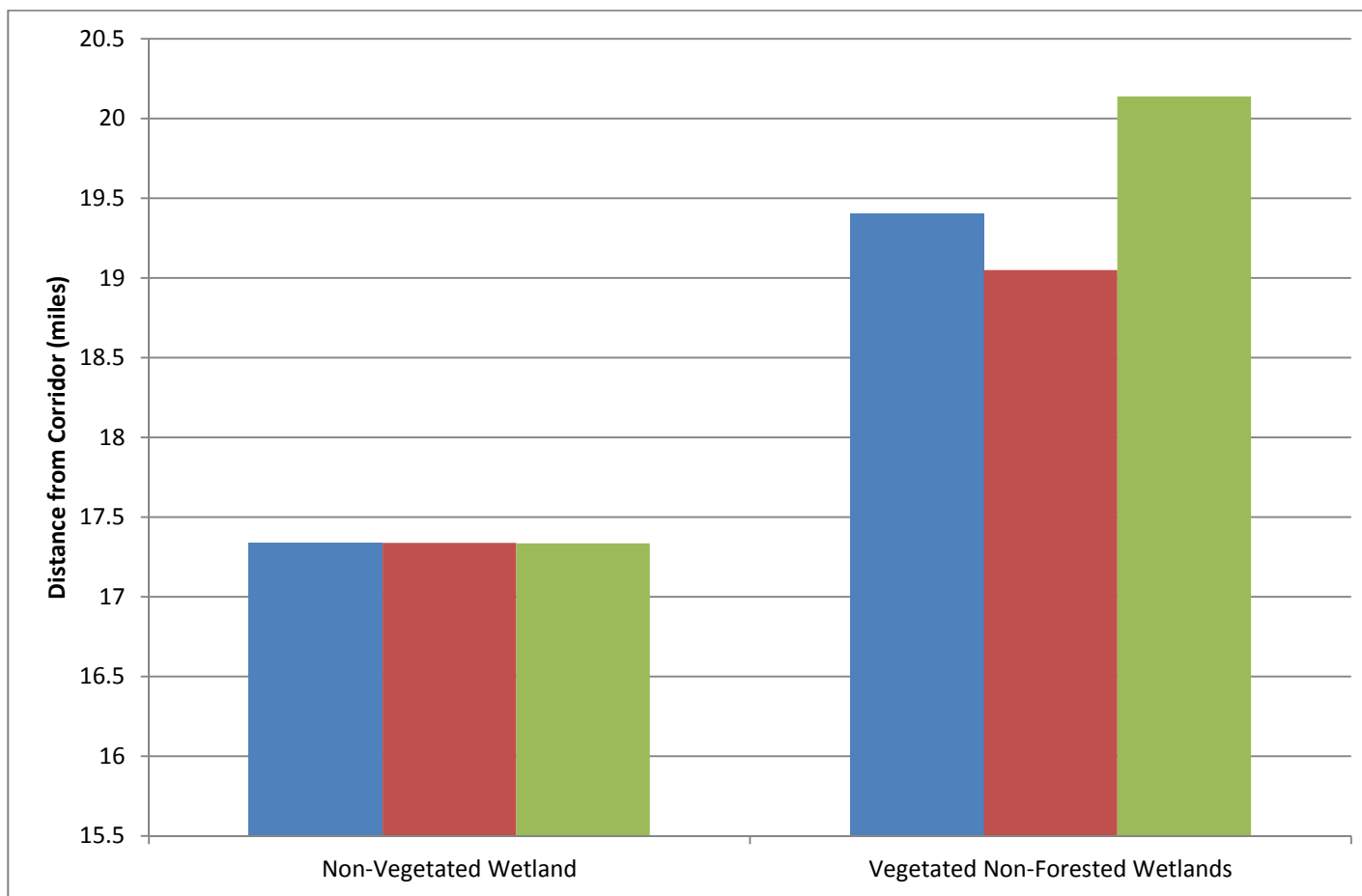


Figure 3-53. Relative risk in terms of distance of sedge wren preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

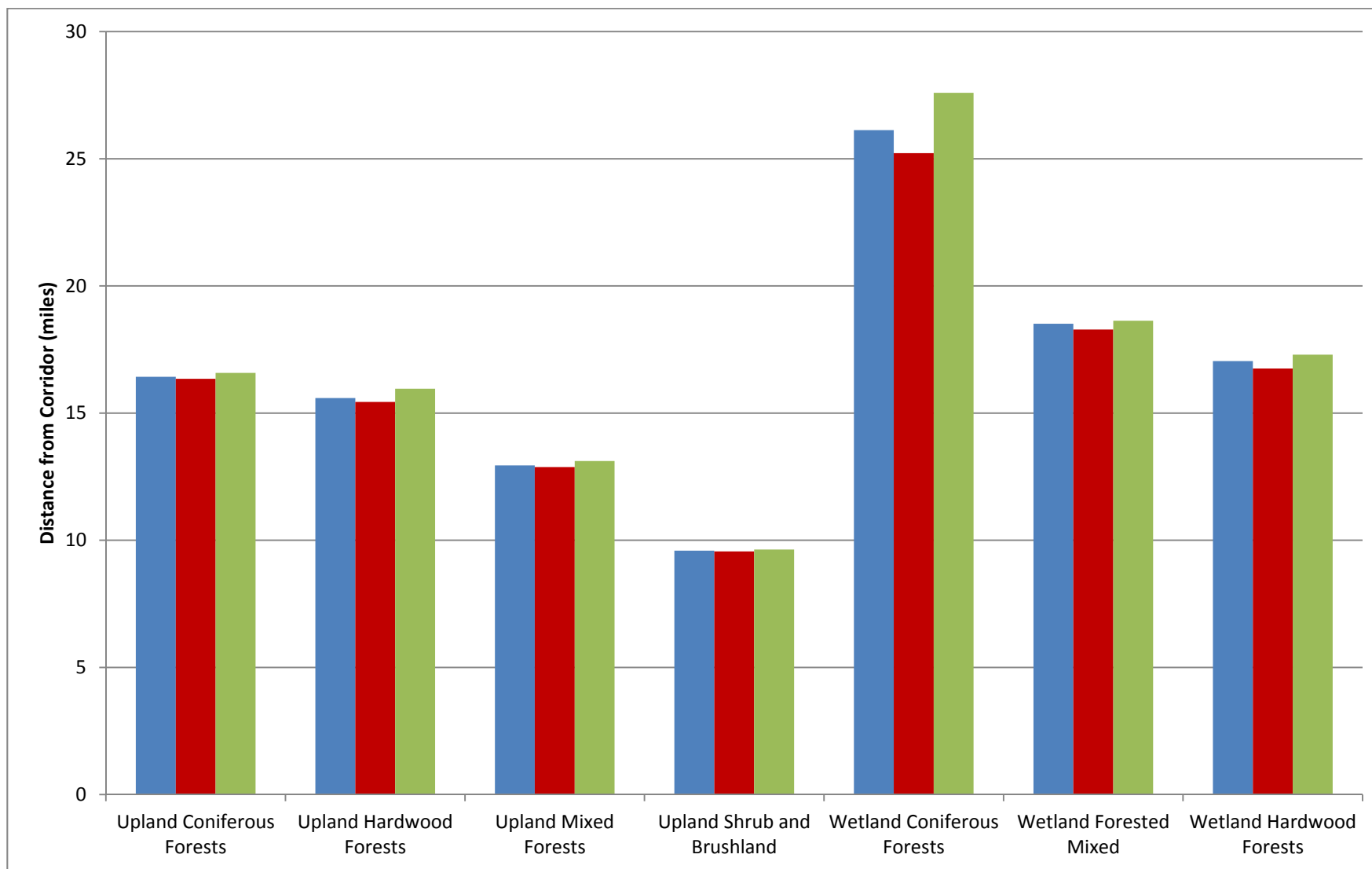


Figure 3-54. Relative risk in terms of distance of wood thrush preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

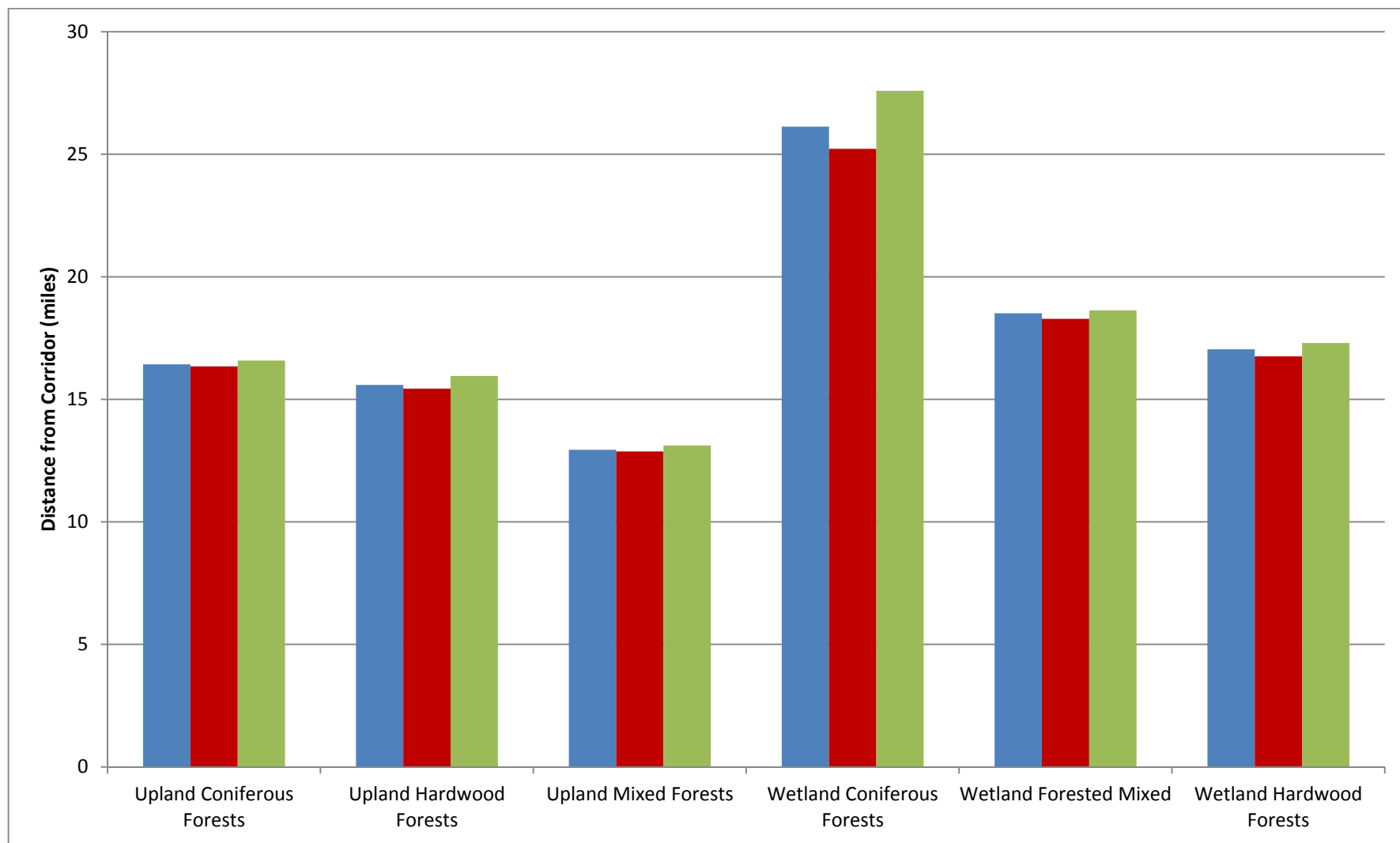


Figure 3-55. Relative risk in terms of distance of very preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

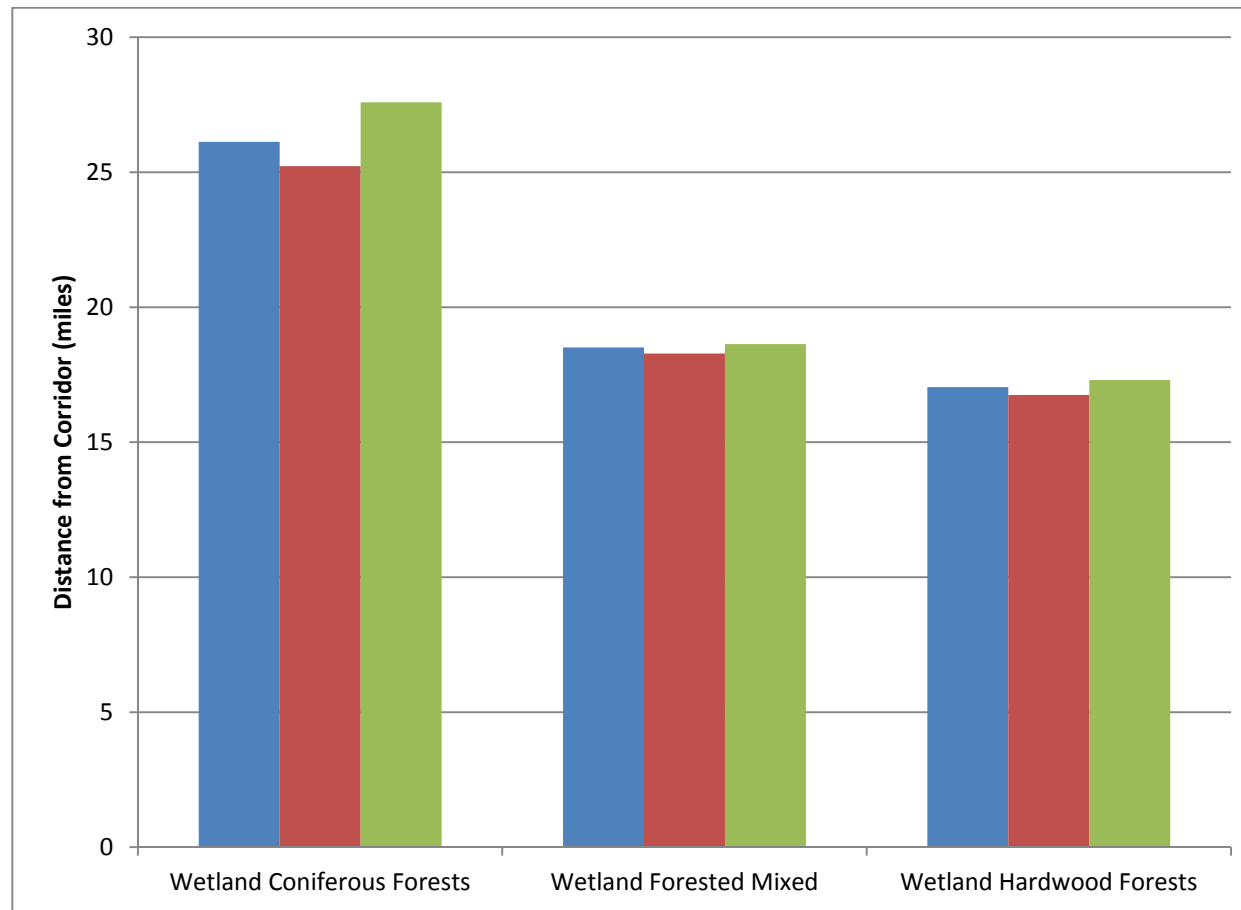


Figure 3-56. Relative risk in terms of distance of black throated blue warbler preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

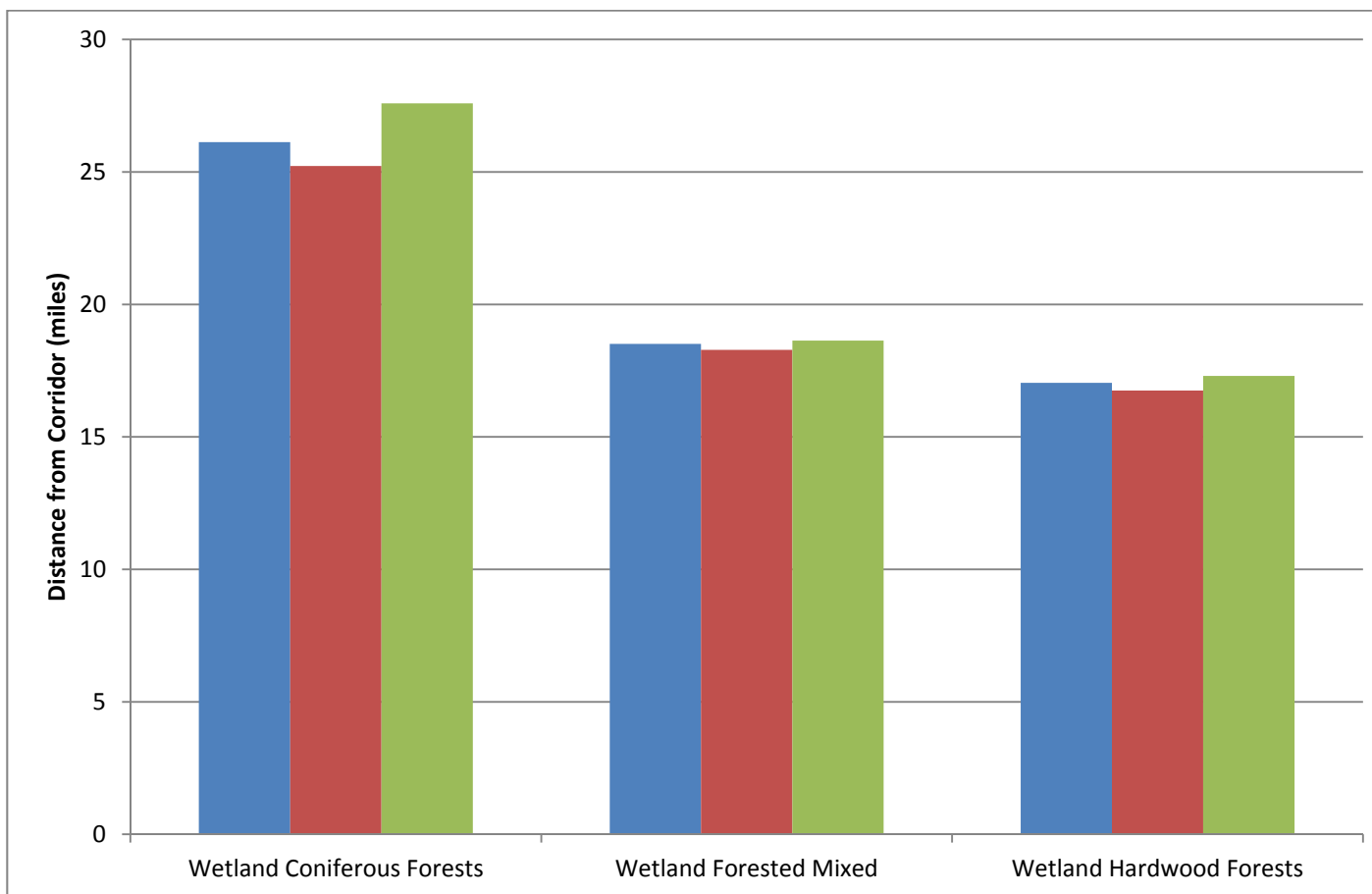


Figure 3-57. Relative risk in terms of distance of prairie warbler preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

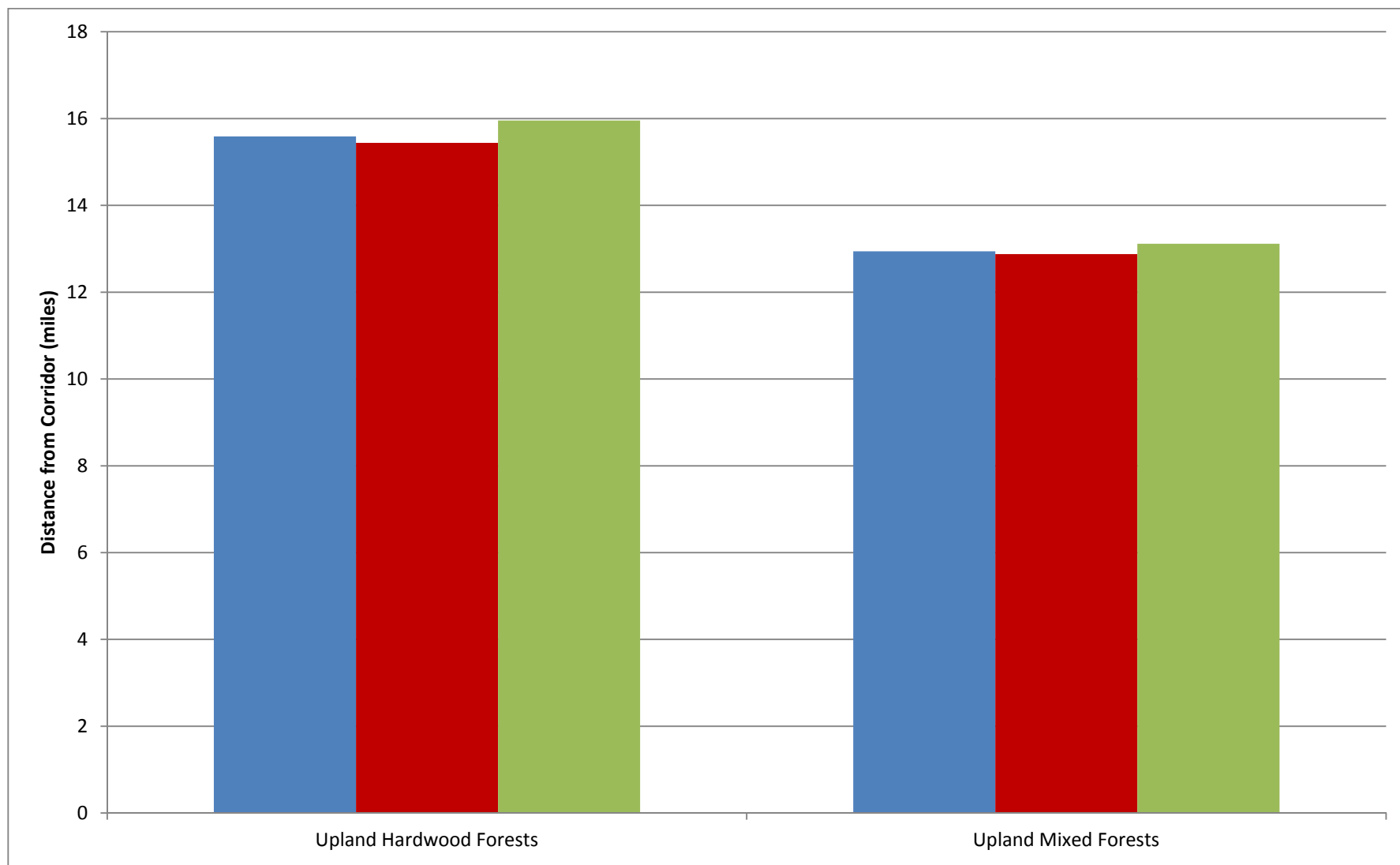


Figure 3-58. Relative risk in terms of distance of worm eating warbler preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

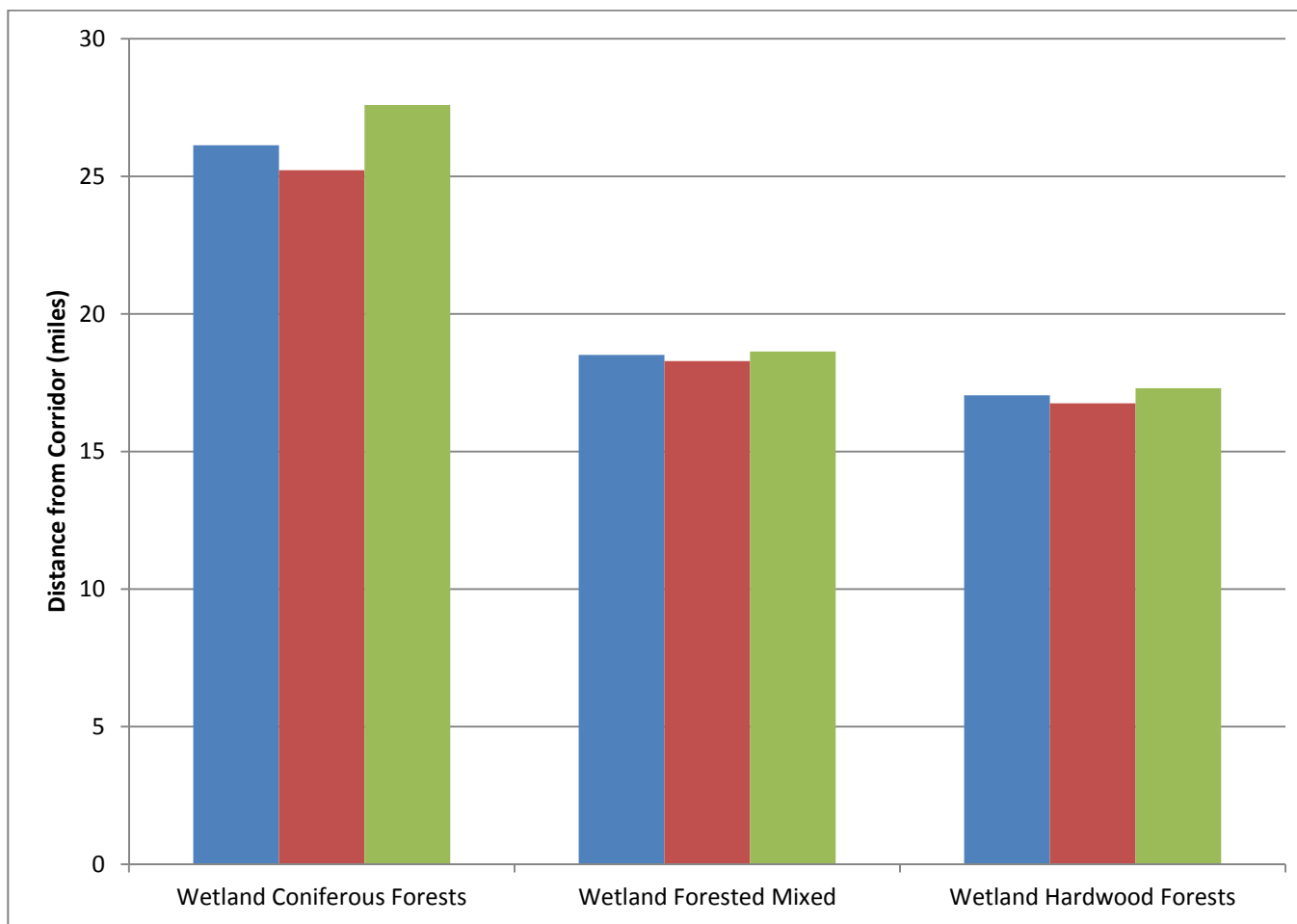


Figure 3-59. Relative risk in terms of distance of Swainson's warbler preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

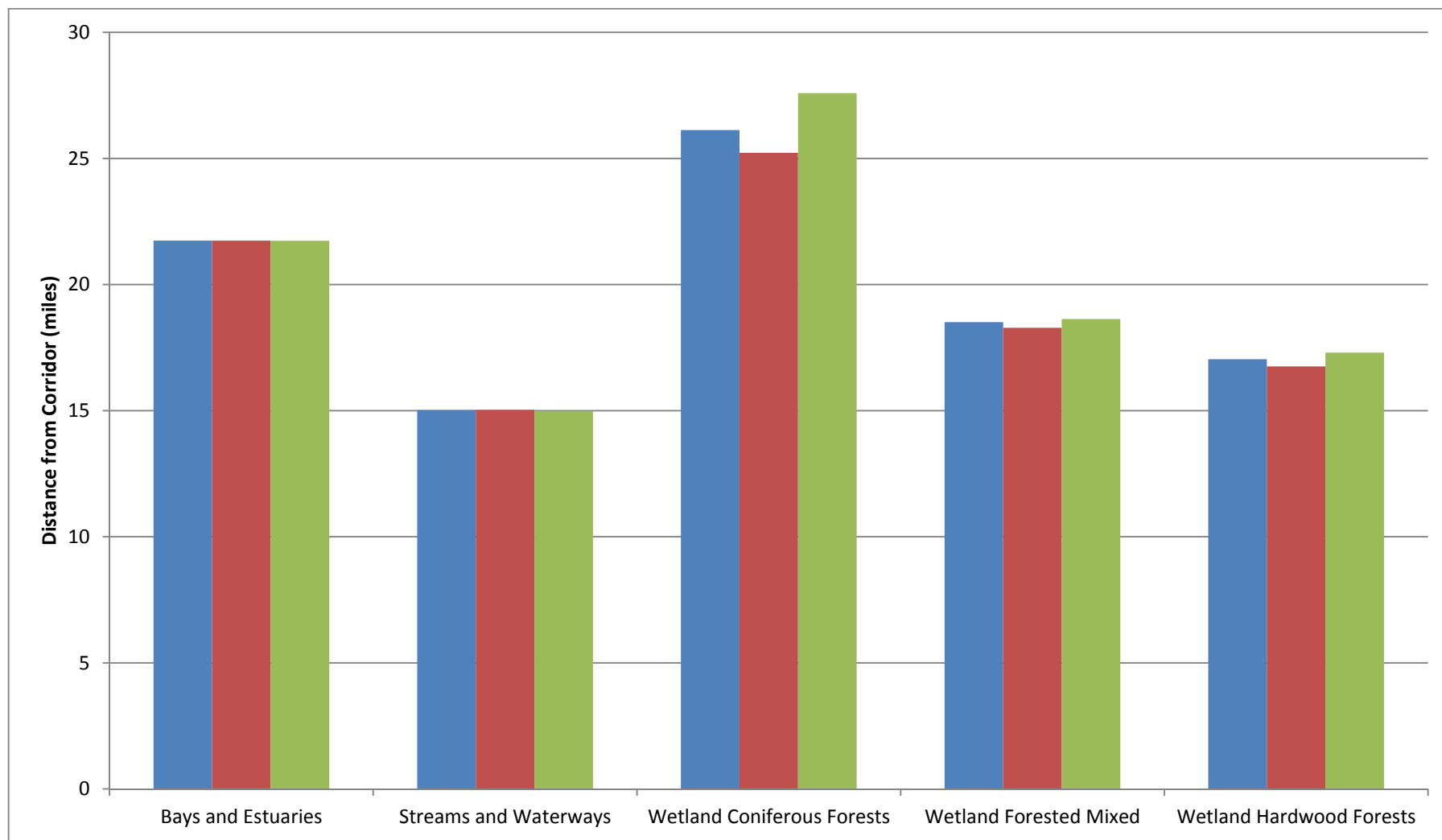


Figure 3-60. Relative risk in terms of distance of Louisiana waterthrush preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A



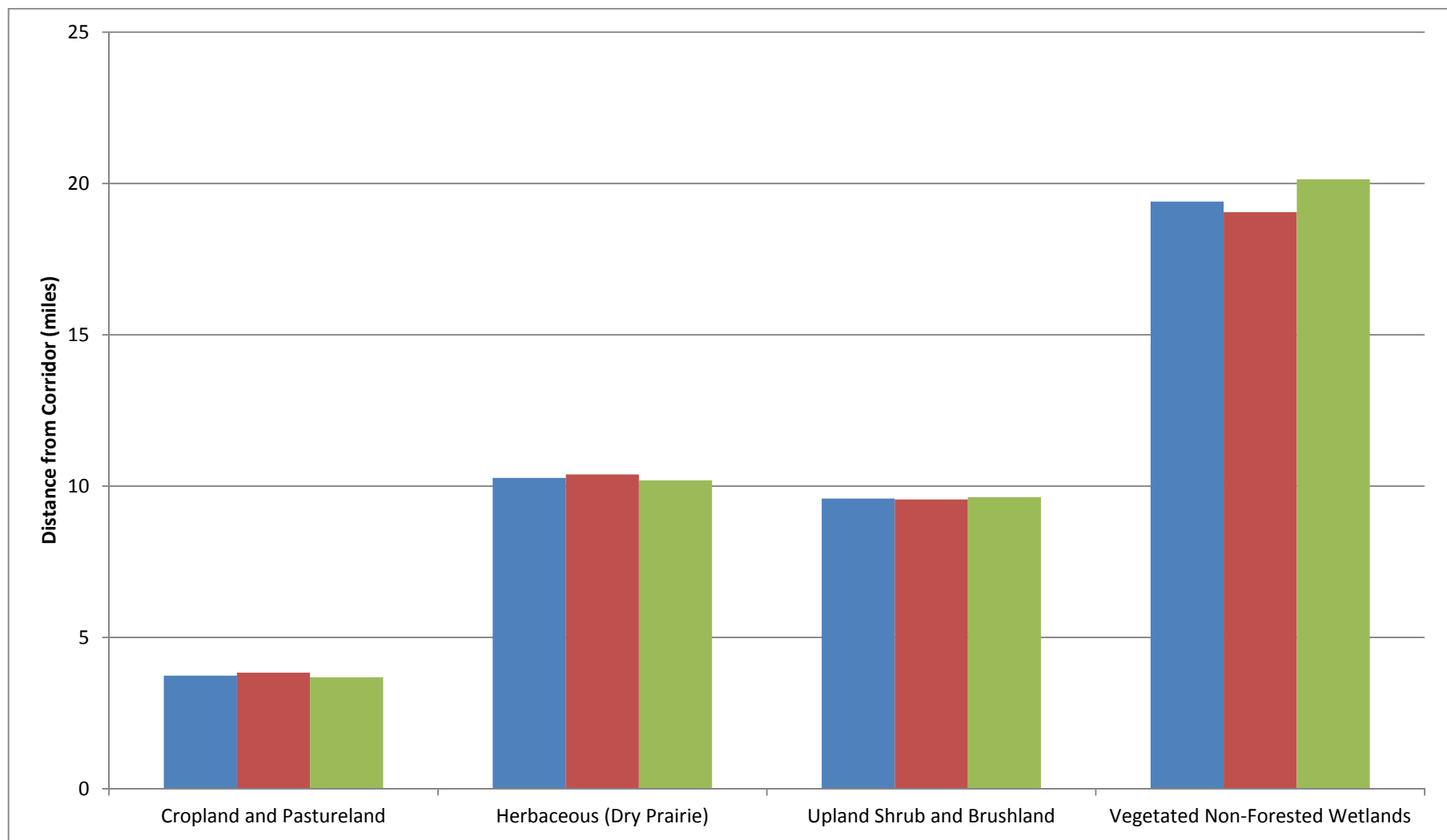


Figure 3-61. Relative risk in terms of distance of bobolink preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

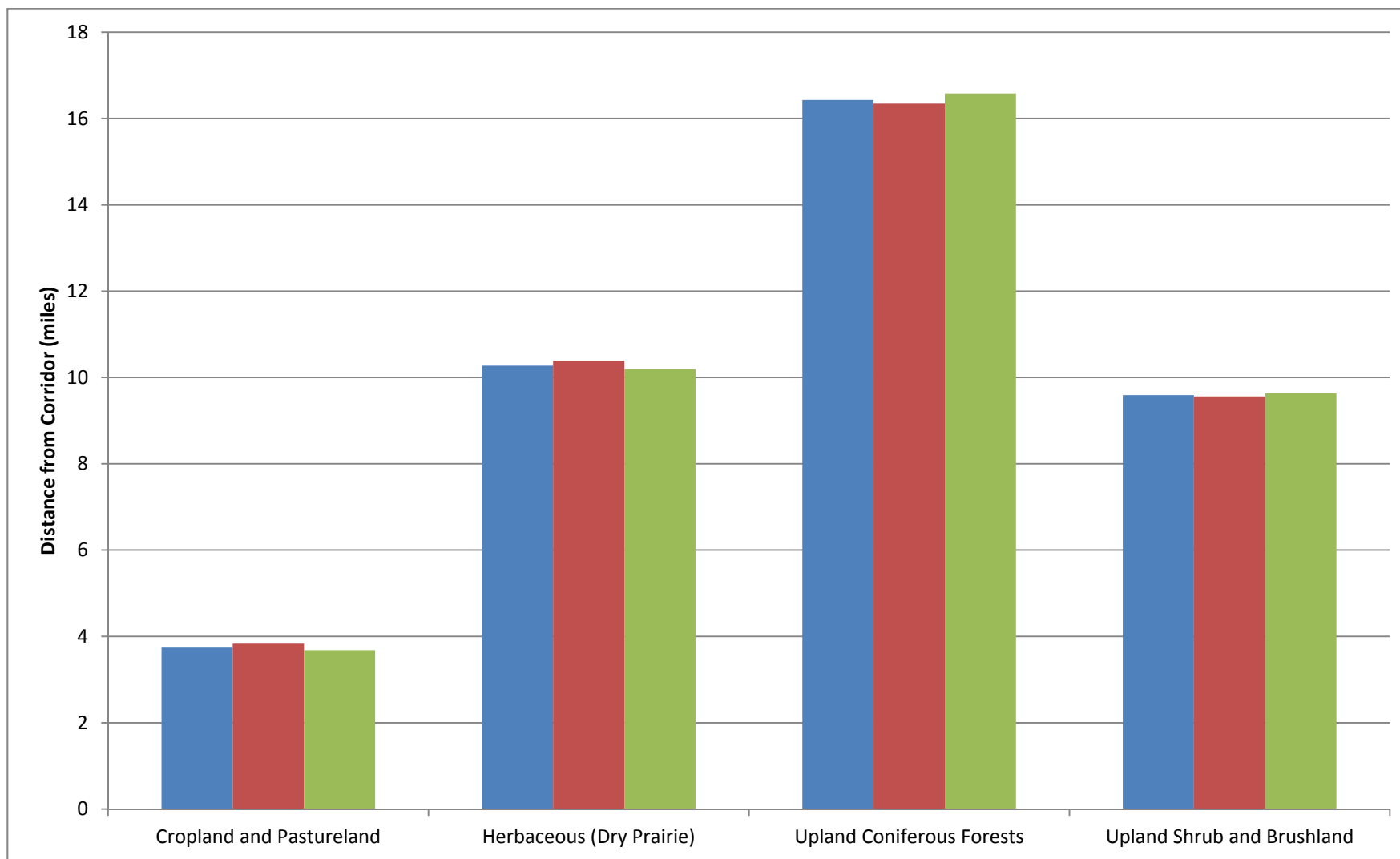


Figure 3-62. Relative risk in terms of distance of Eastern meadowlark preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

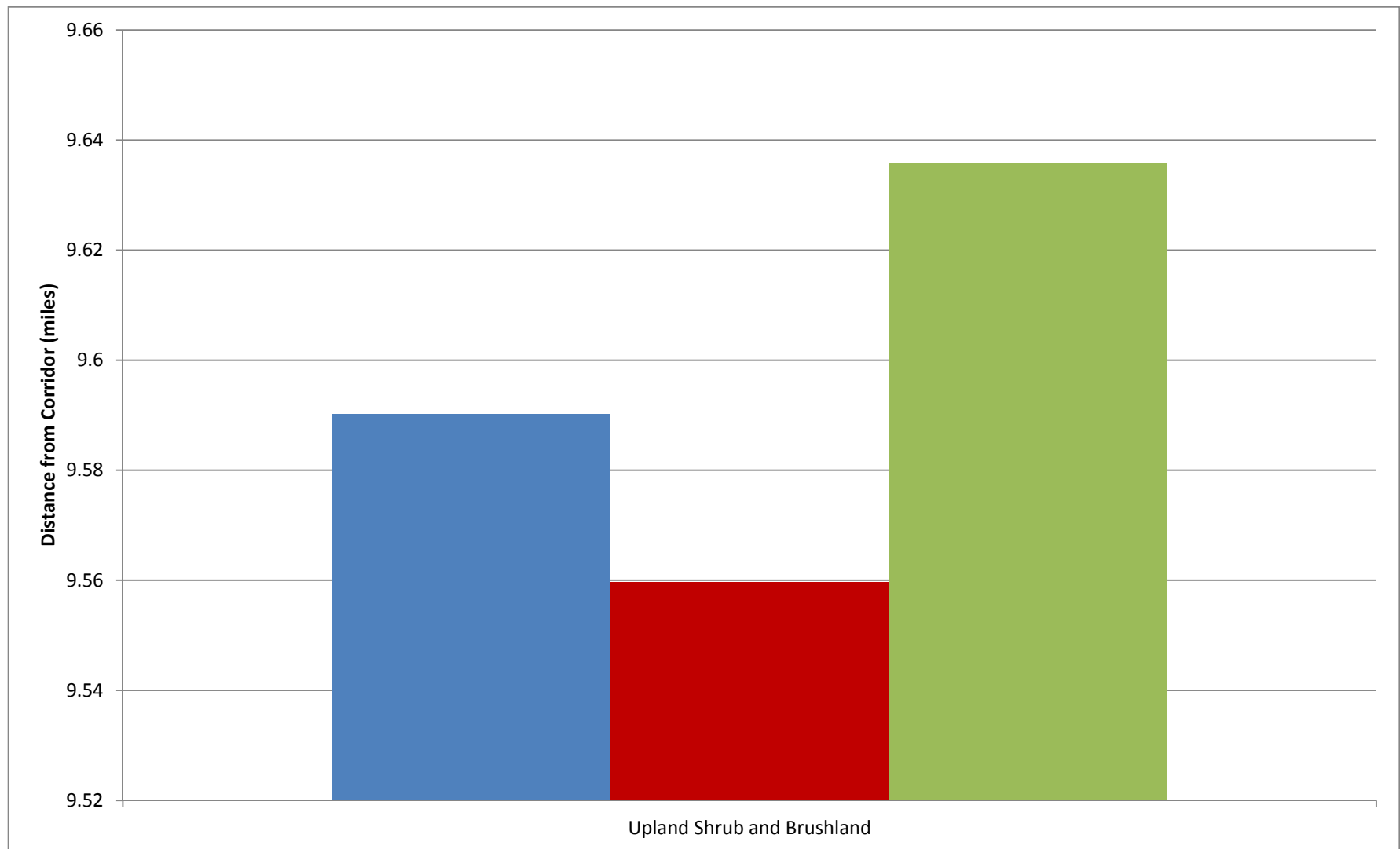


Figure 3-63. Relative risk in terms of distance of painted bunting preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

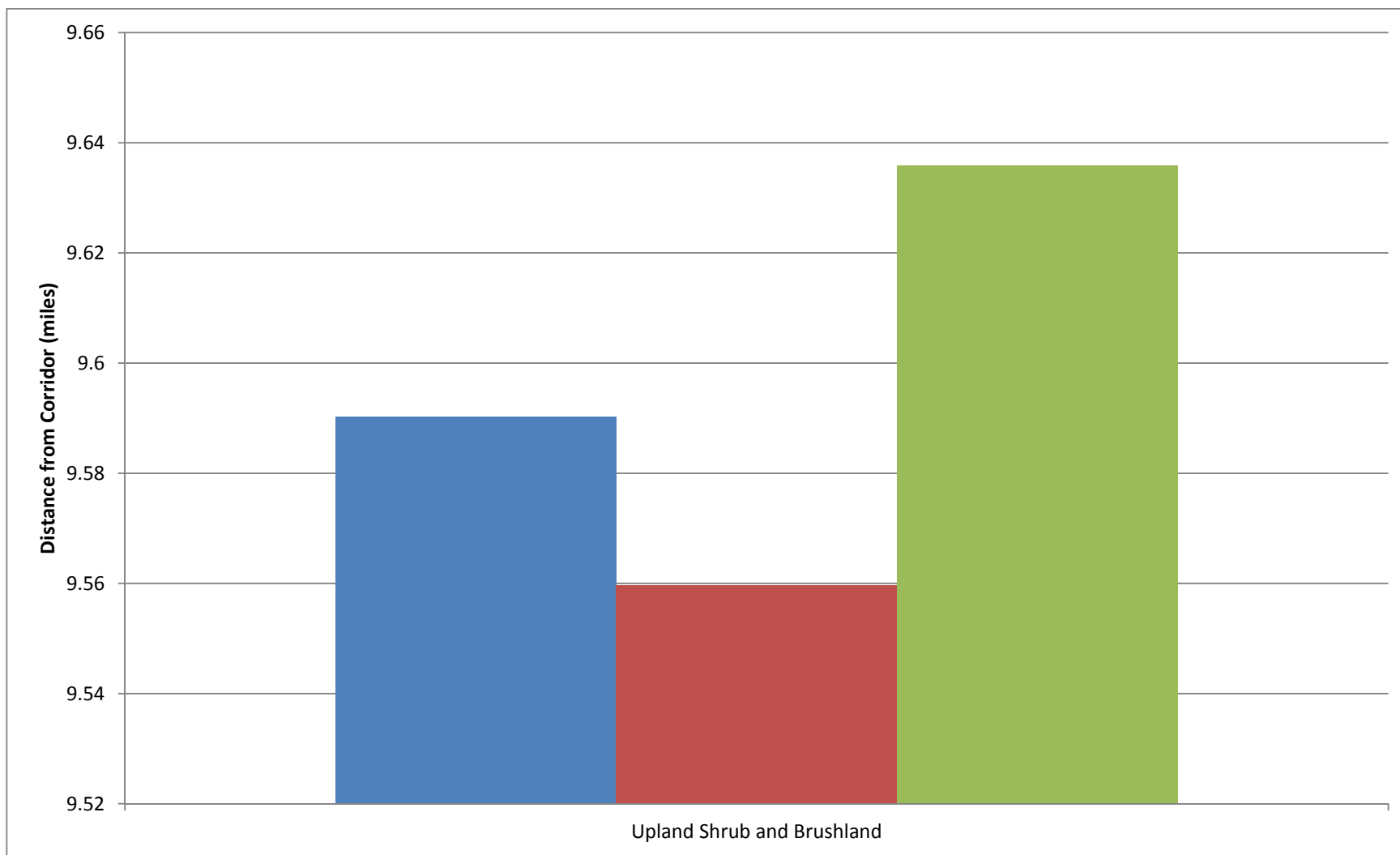


Figure 3-64. Relative risk in terms of distance of field sparrow preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

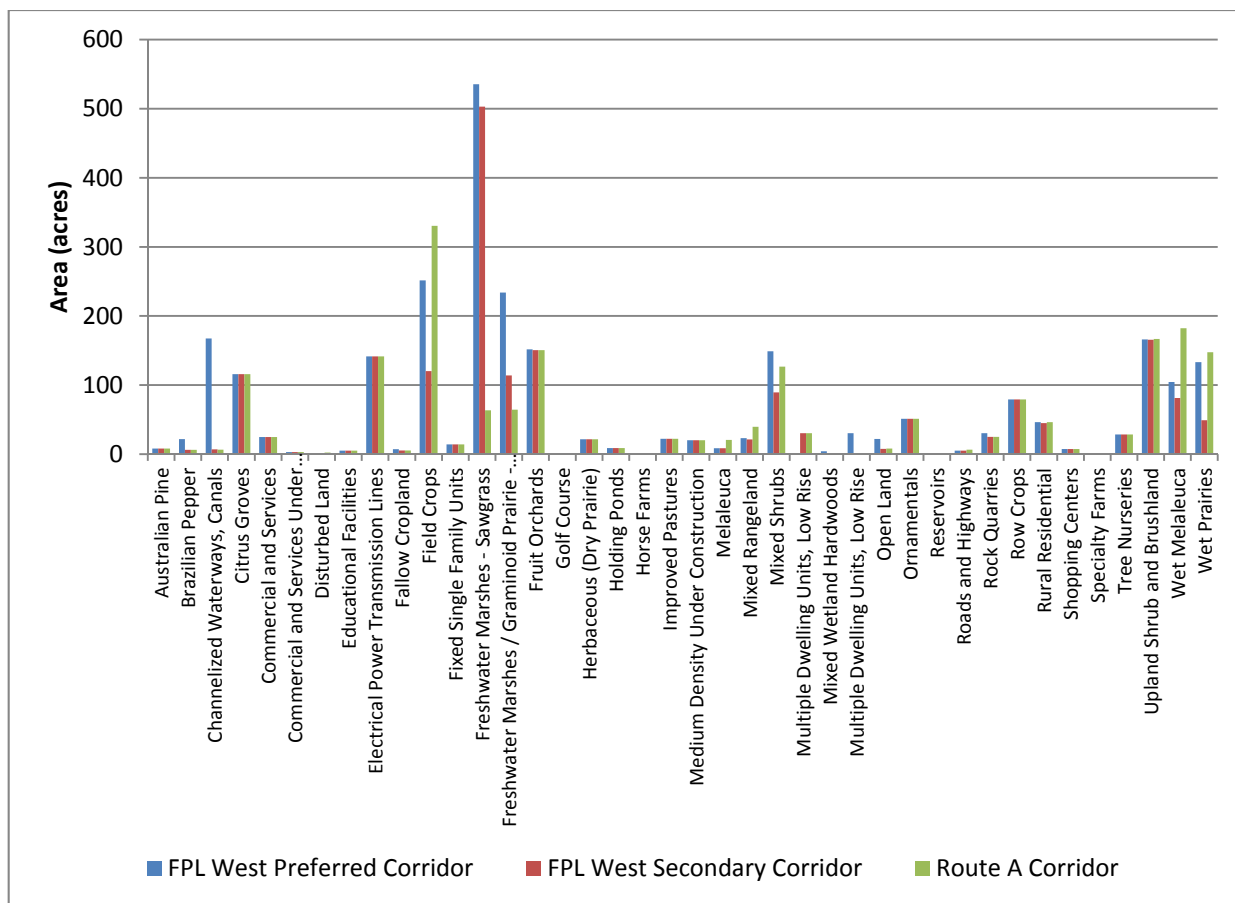


Figure 3-65. Area of each type of habitat (Level 3 land use land cover classification) located in each potential transmission corridor.

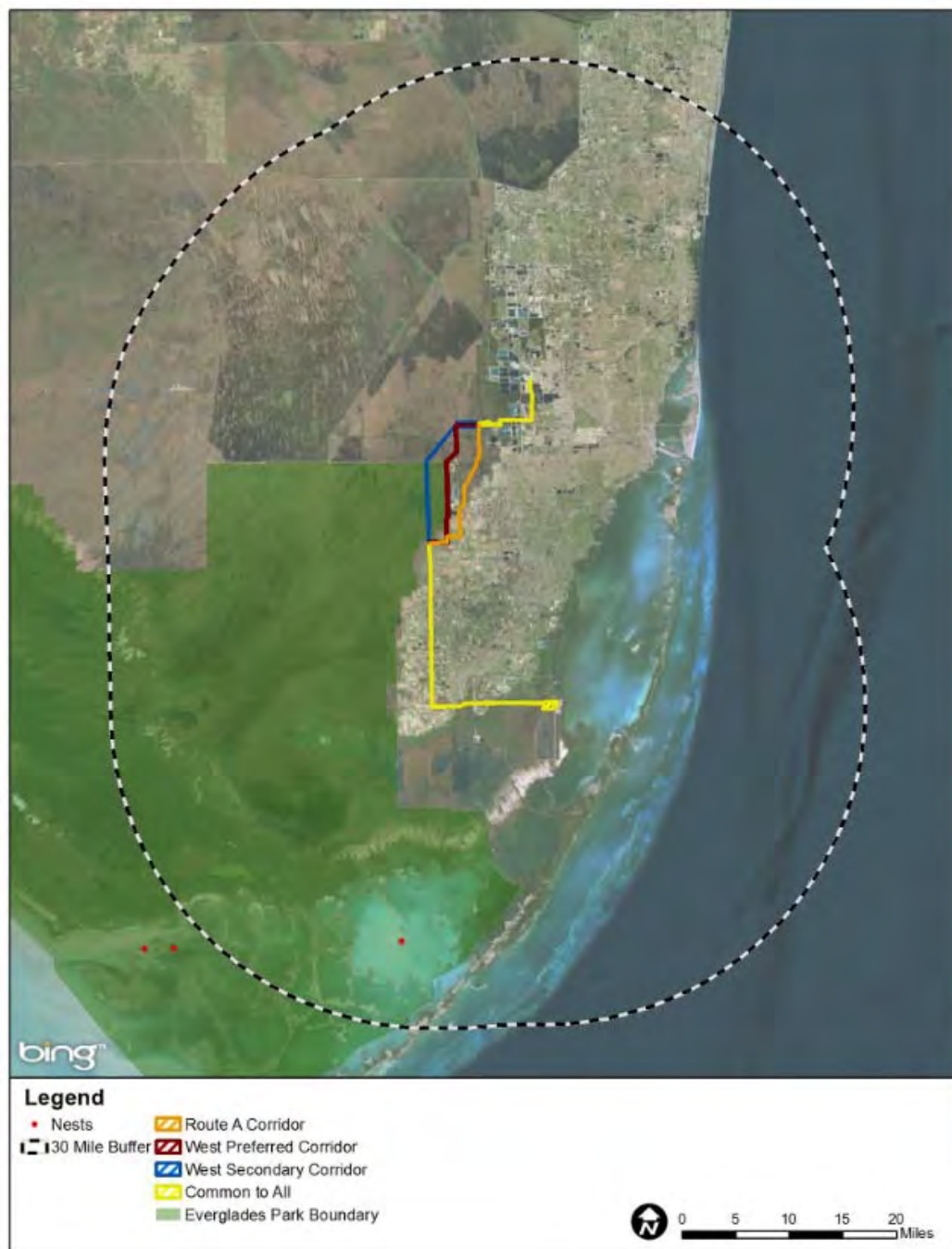


Figure 4-1. Brown pelican nest within the 30-mile study boundary of the transmission corridors.

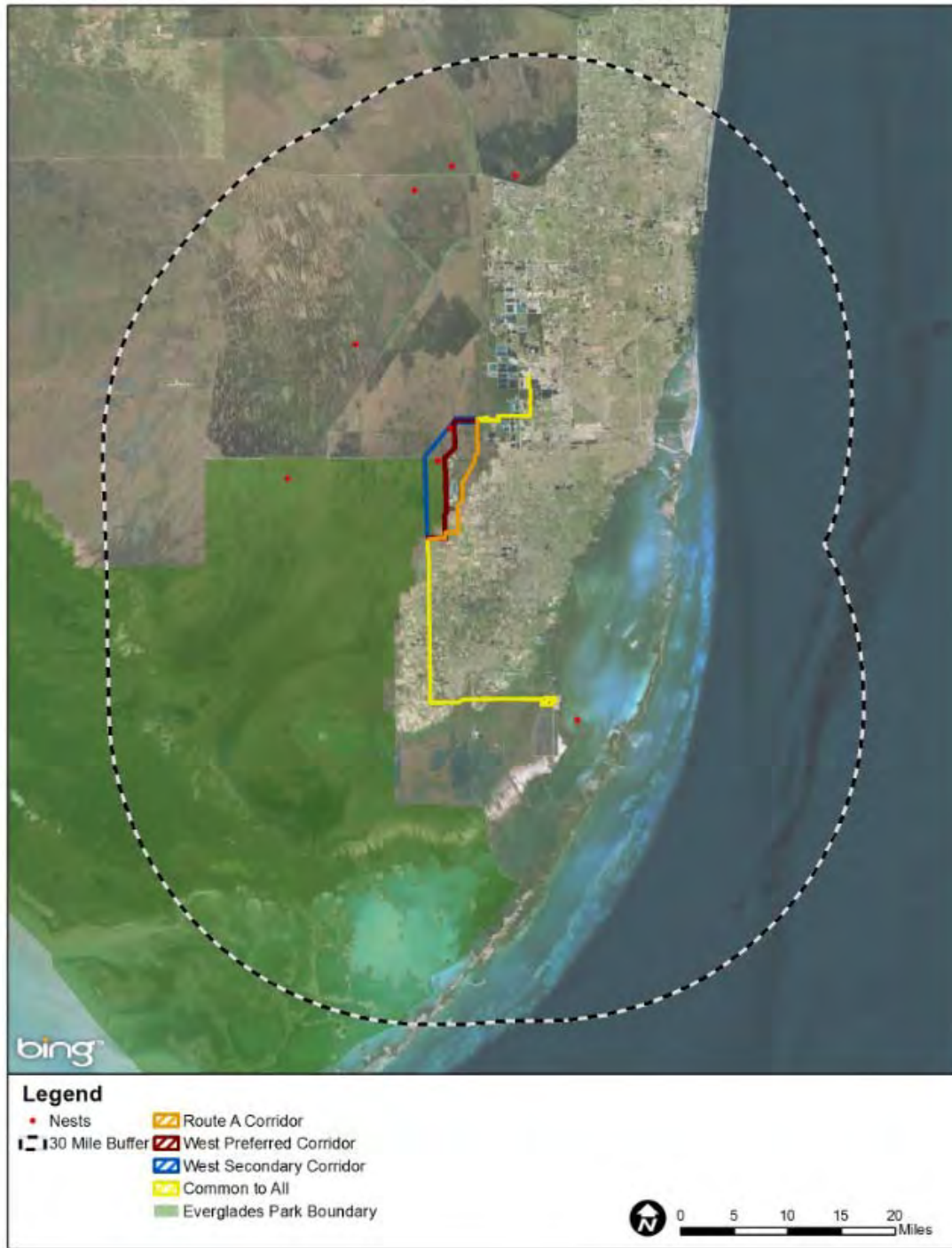


Figure 4-2. Aninga nests within the 30-mile study boundary of the transmission corridors.

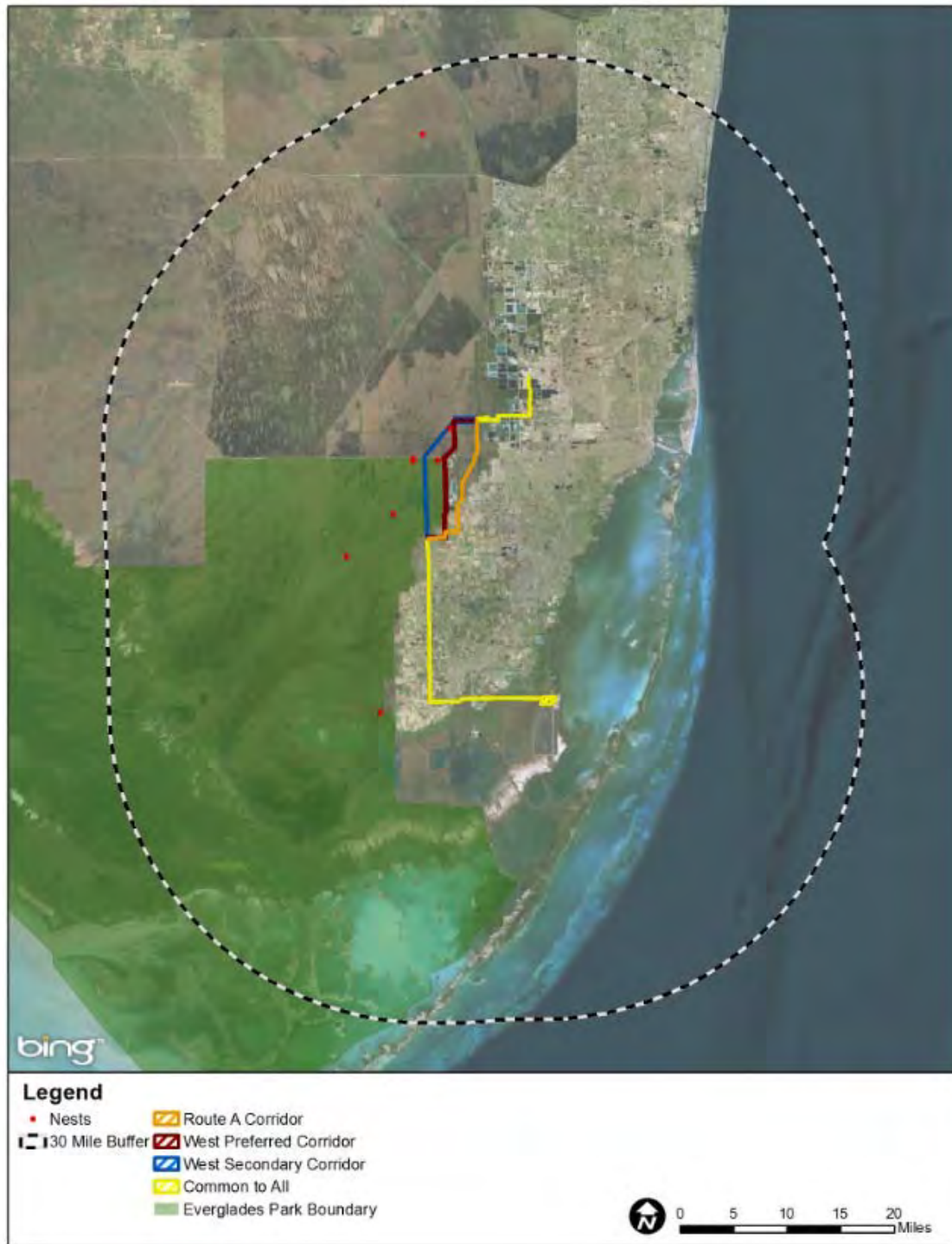


Figure 4-3. Black-crowned heron nests within the 30-mile study boundary of the transmission corridors.



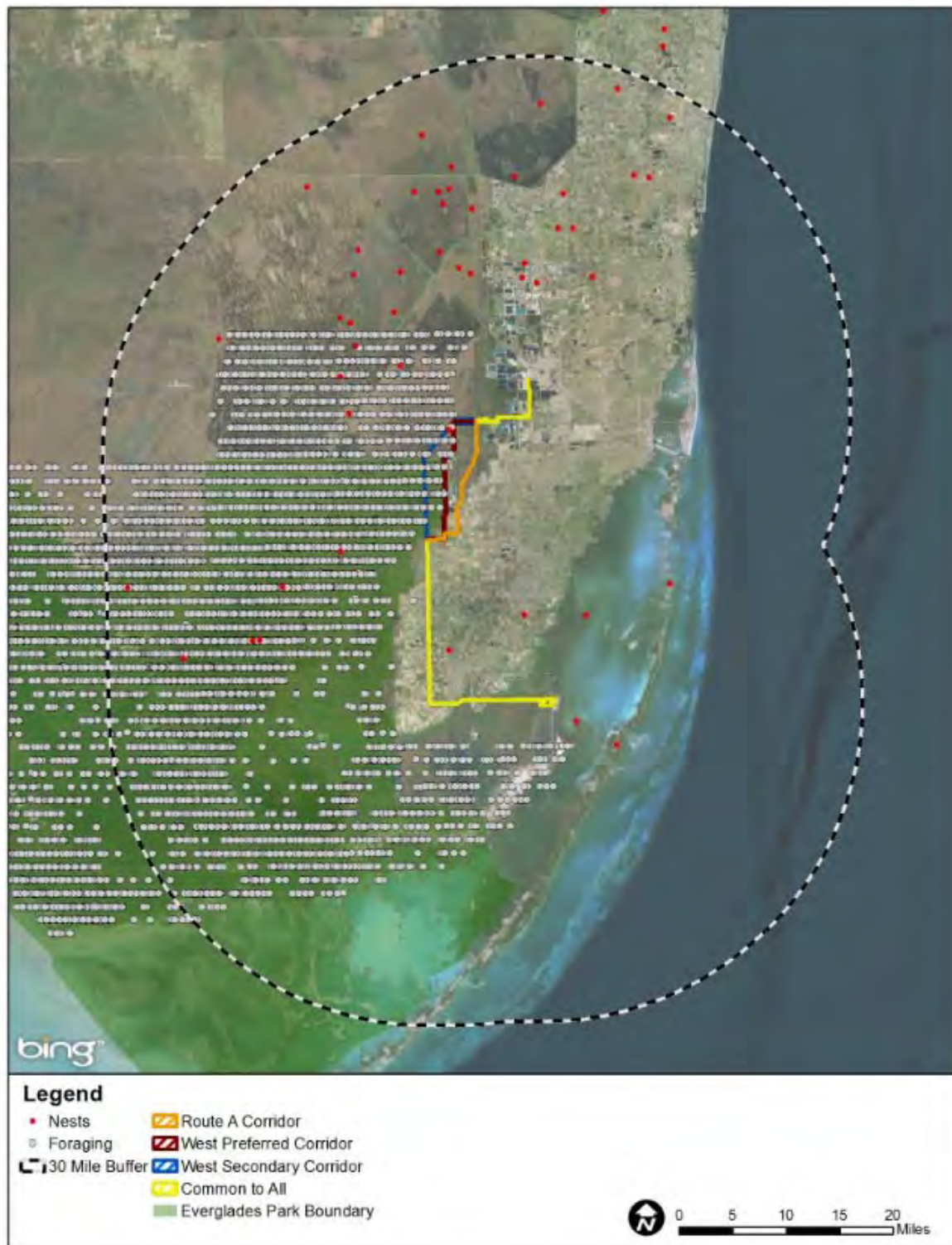


Figure 4-4. Great blue heron nests and foraging locations within the 30-mile study boundary of the transmission corridors.

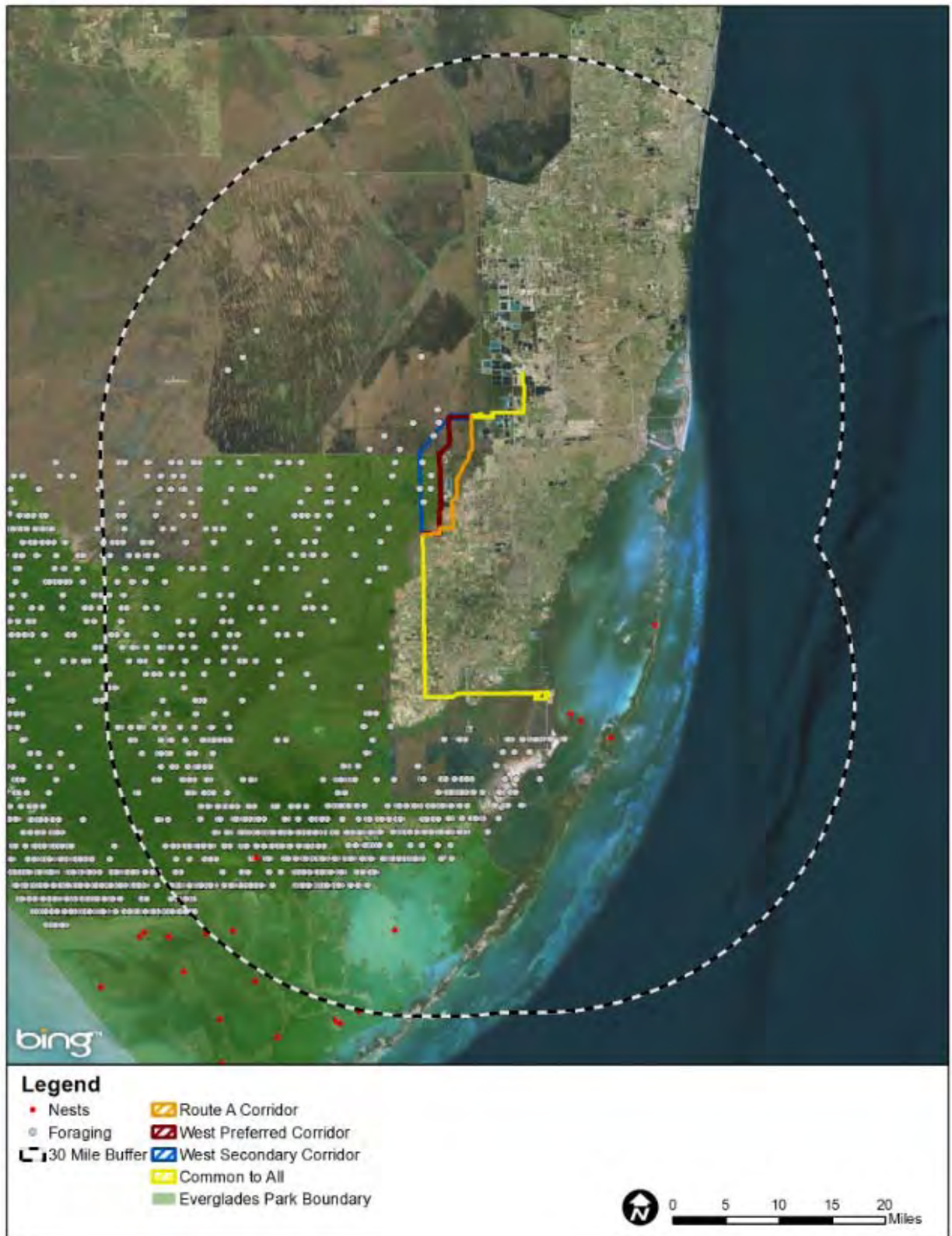


Figure 4-5. Great white heron nests and foraging locations within the 30-mile study boundary of the transmission corridors.



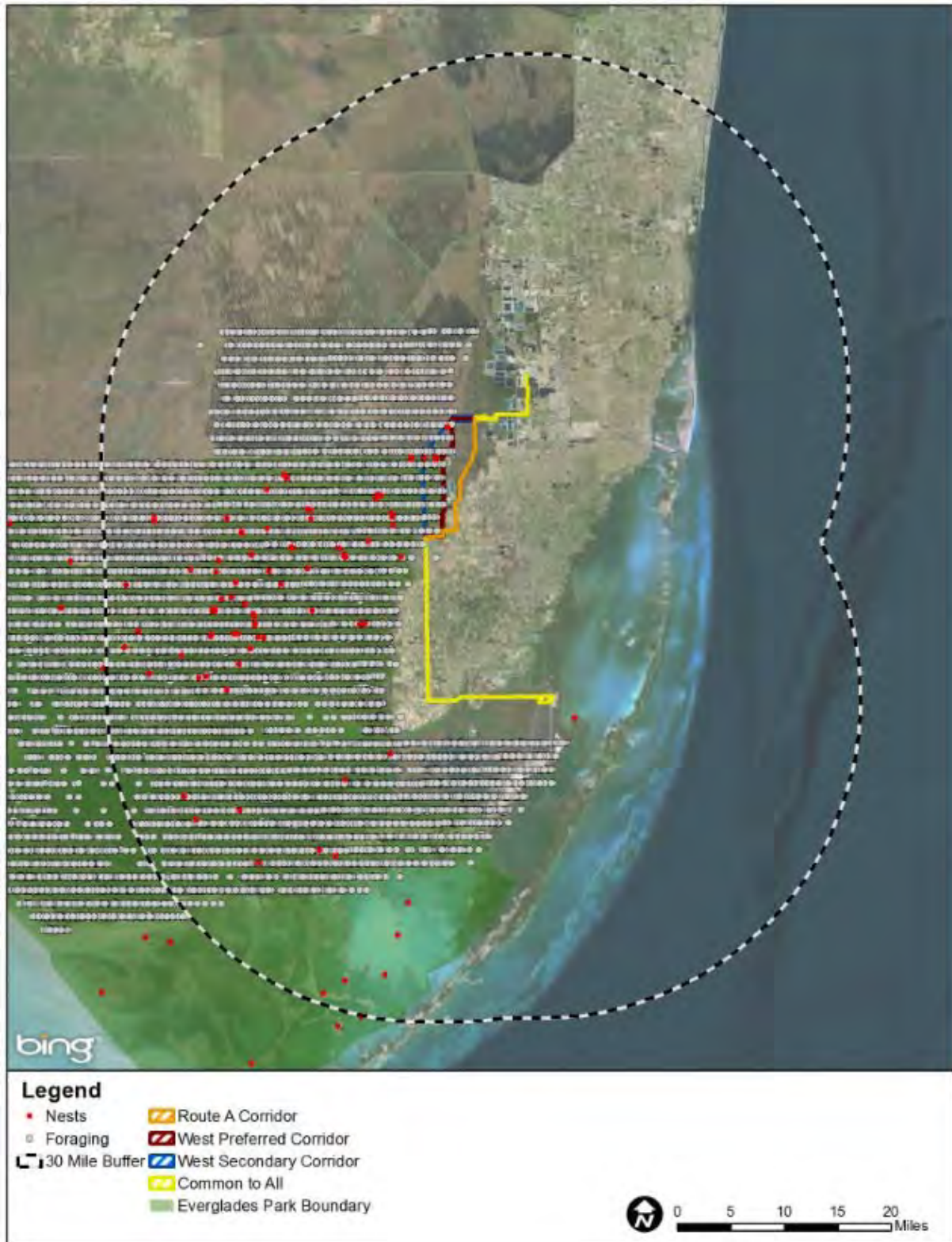


Figure 4-6. Great egret nests and foraging locations within the 30-mile study boundary of the transmission corridors.

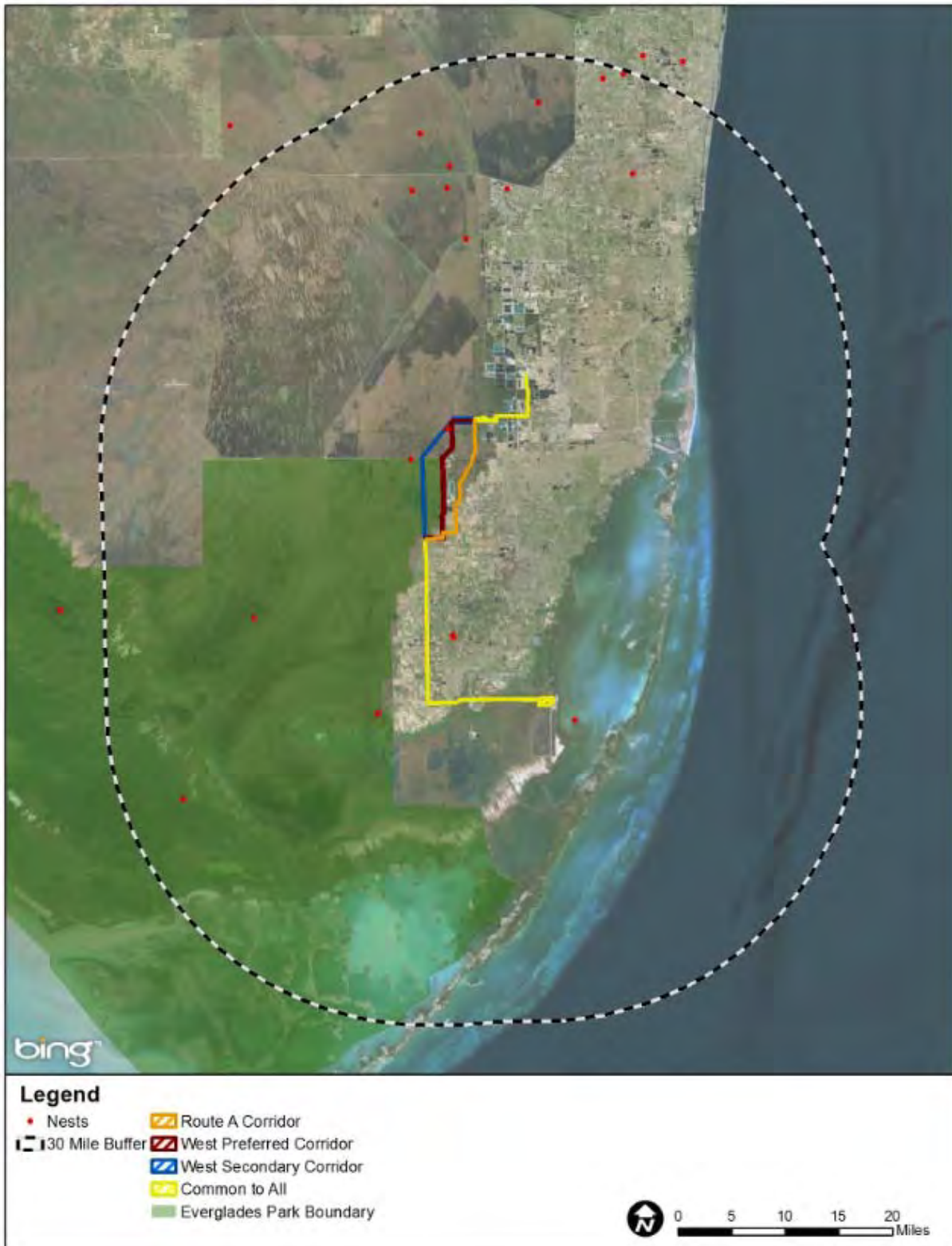


Figure 4-7. Little blue heron nests within the 30-mile study boundary of the transmission corridors



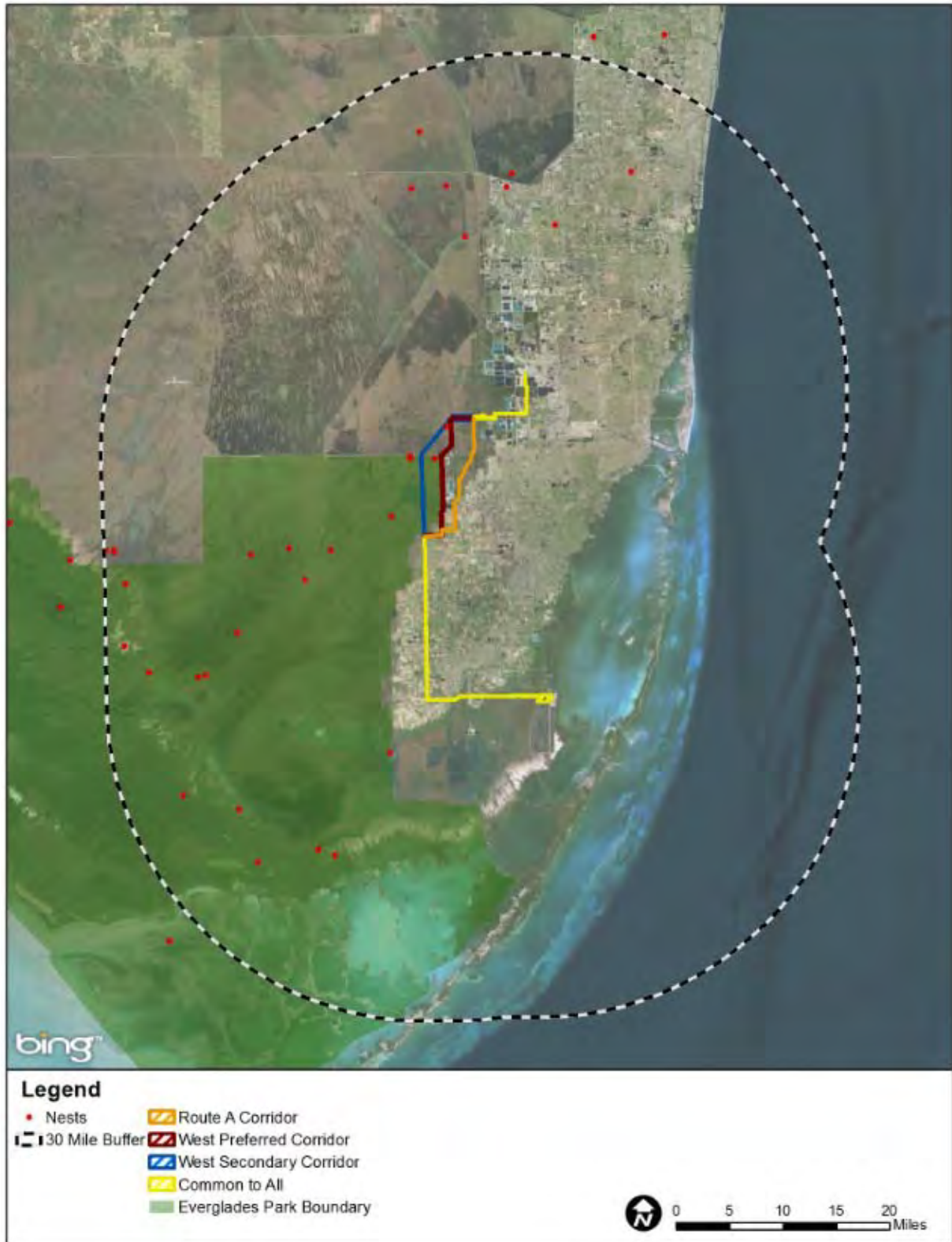


Figure 4-8. Snowy egret nests within the 30-mile study boundary of the transmission corridors.

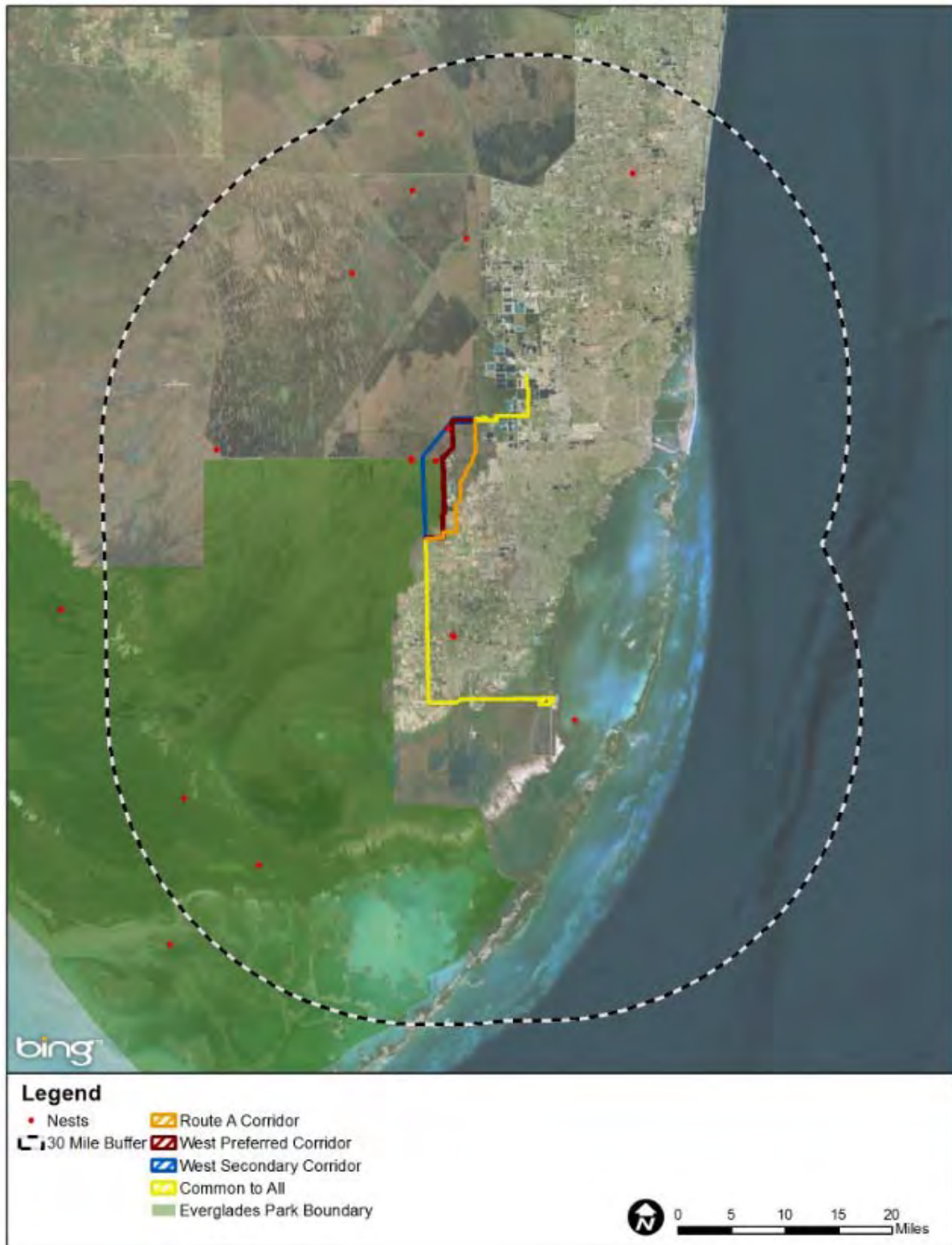


Figure 4-9. Tricolored heron nests within the 30-mile study boundary of the transmission corridors.

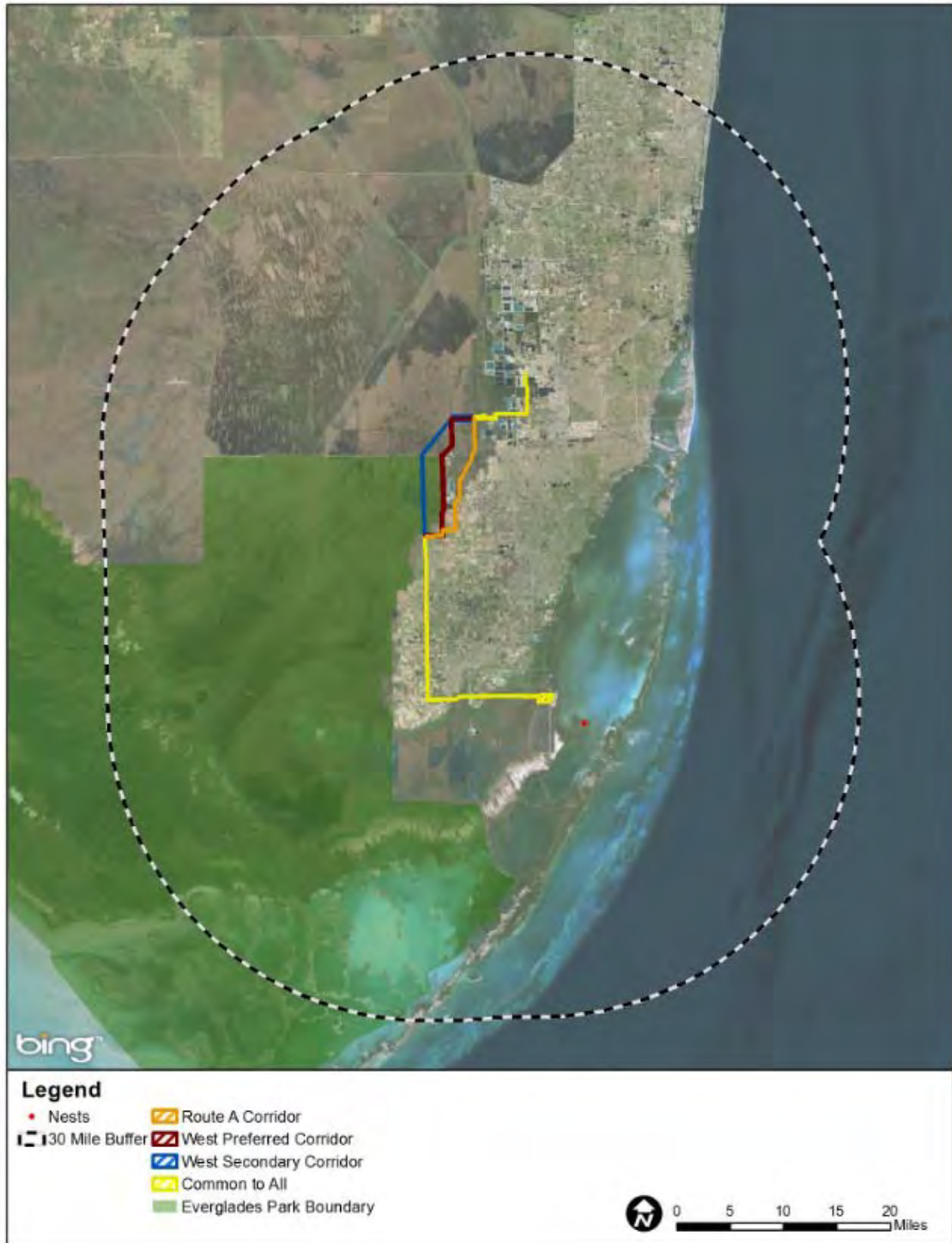


Figure 4-10. Reddish egret nest within the 30-mile study boundary of the transmission corridors.



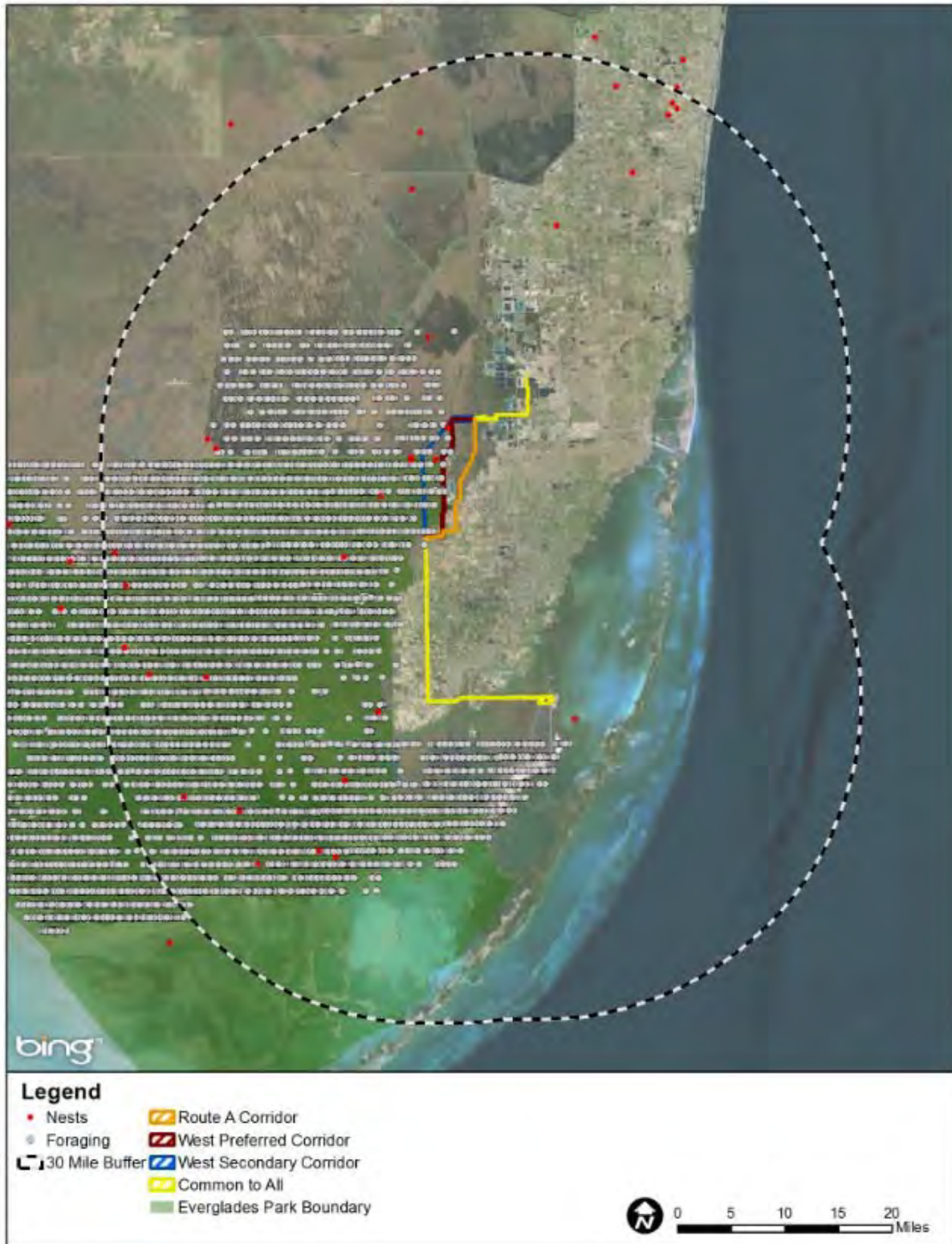


Figure 4-11. White ibis nests and foraging locations within the 30-mile study boundary of the transmission corridors.



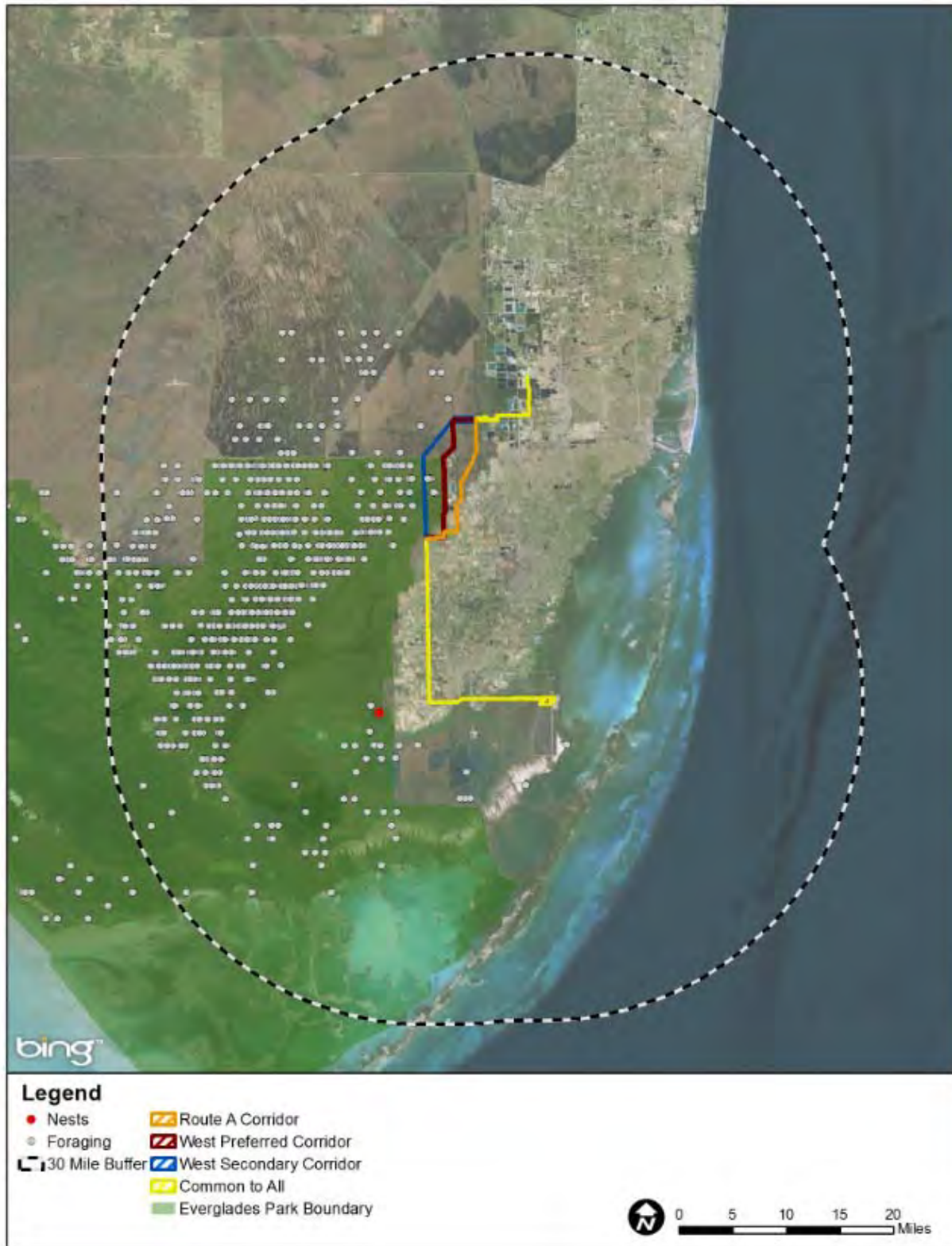


Figure 4-12. Glossy ibis nests and foraging locations within the 30-mile study boundary of the transmission corridors.

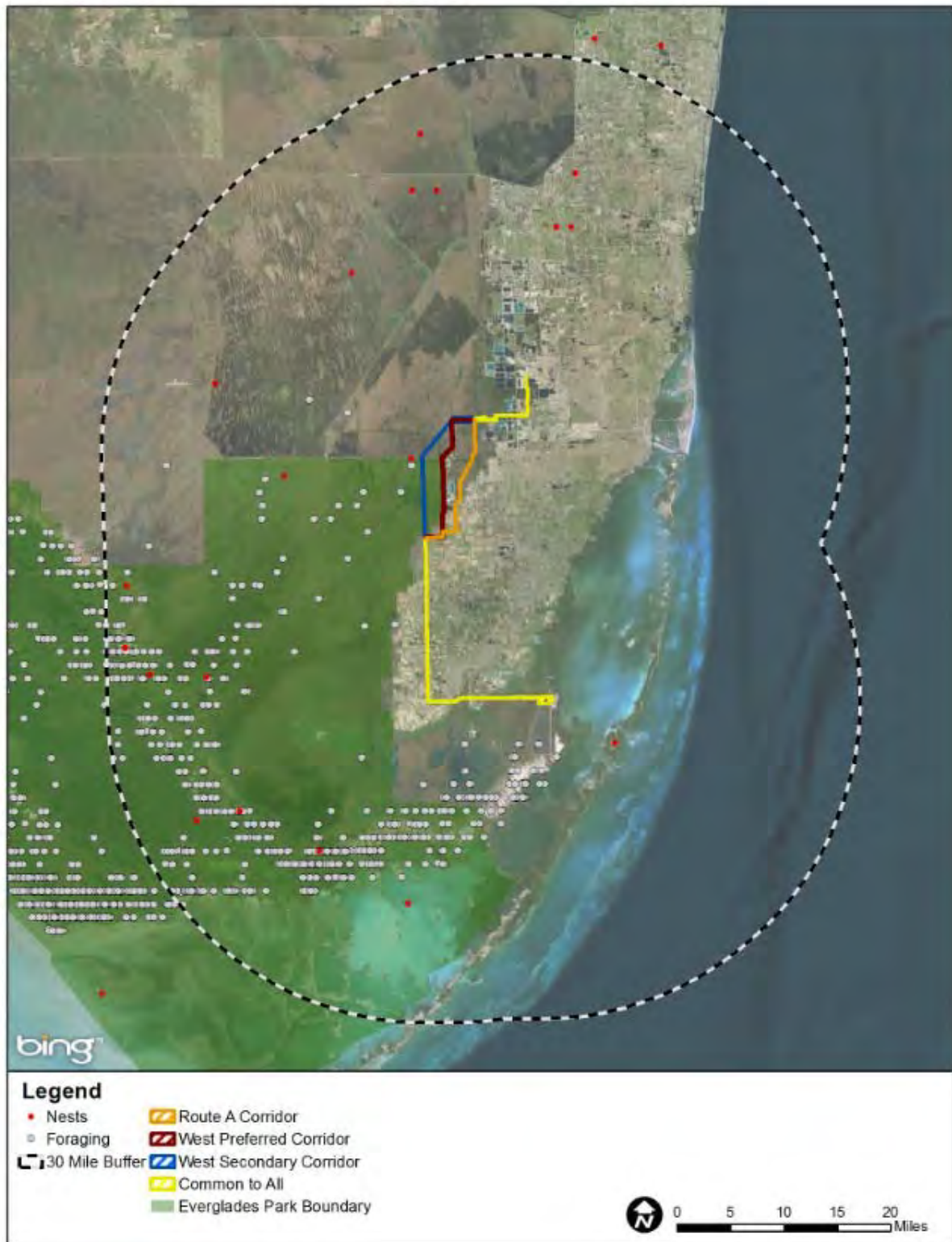


Figure 4-13. Roseate spoonbill nests and foraging locations within the 30-mile study boundary of the transmission corridors.



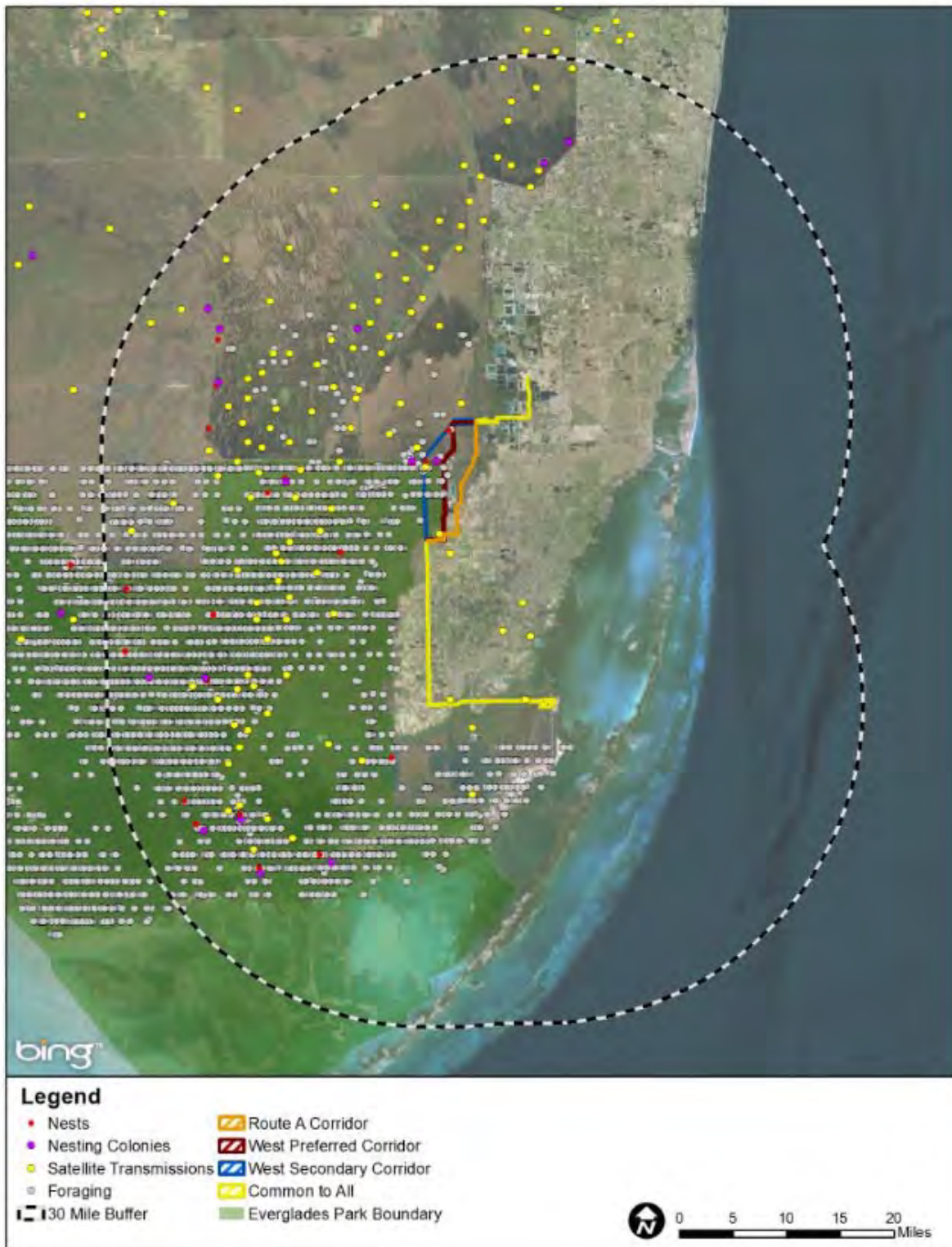


Figure 4-14. Wood stork nests, colonies, and foraging locations within the 30-mile study boundary of the transmission corridors.

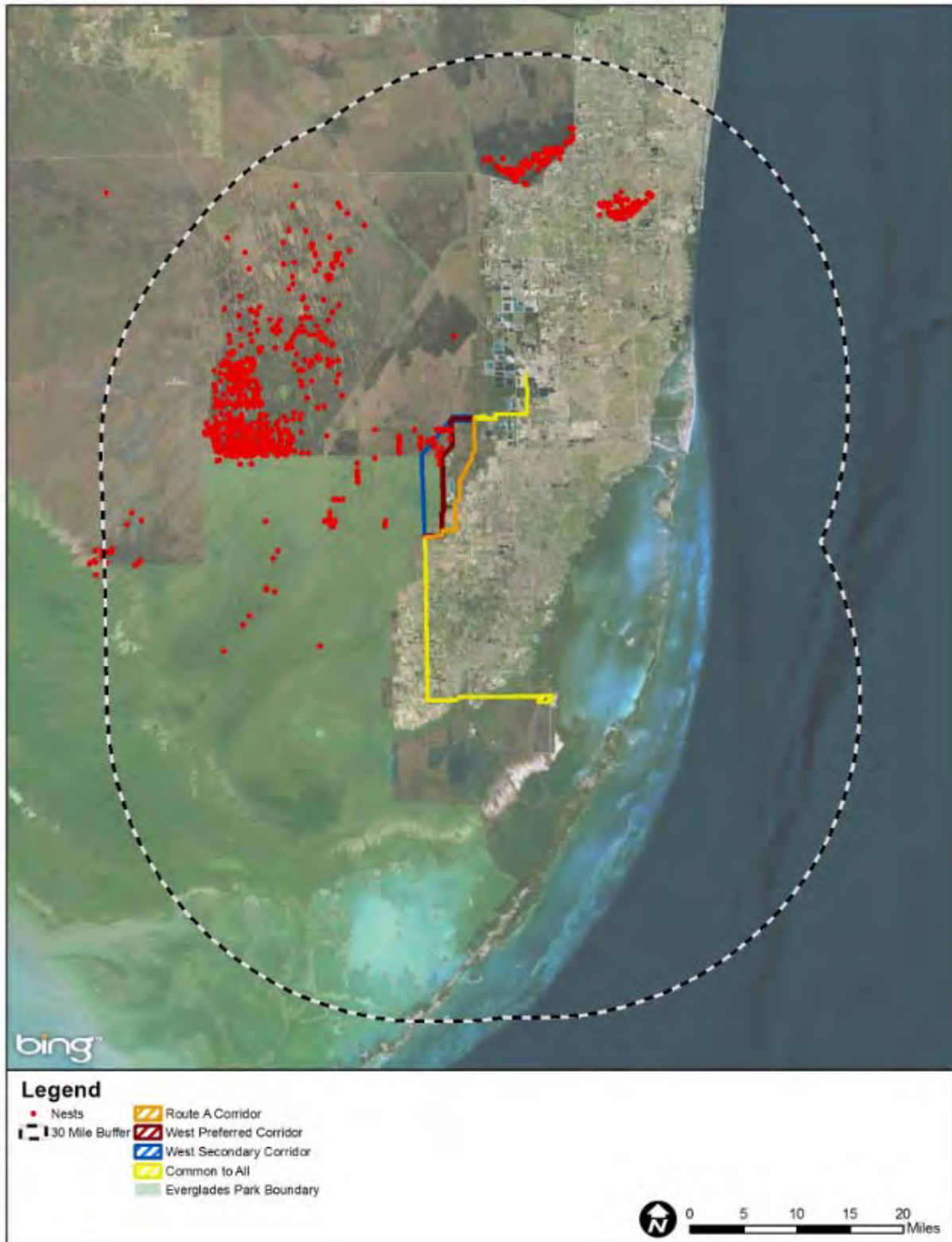


Figure 4-15. Snail kite nests within the 30-mile study boundary of the transmission corridors.

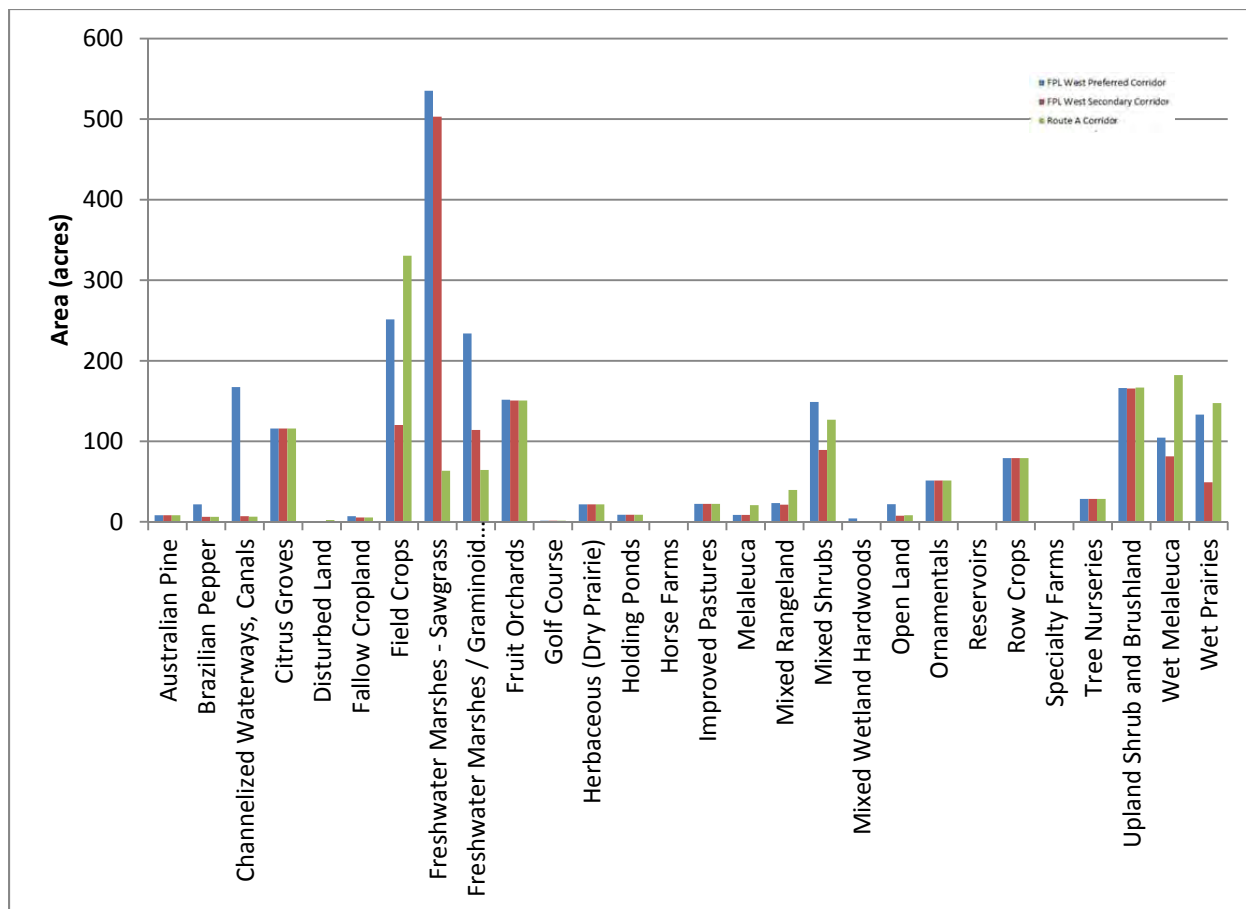


Figure 4-16. The area of each type of potential avian habitat (Level 3 land cover land use classification) located within each potential transmission corridor



Figure 4-17. USGS North American Breeding Bird Survey Routes located within the 30-mile boundary of the study area.

## **Tables**

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**Table 2-1. Species-specific information adapted from Logalbo and Zimmerman 2010**

Species		Federal Status	State of Florida Status	Breeding in Everglades National Park	Breeding in West Preferred Corridor Area	Spring	Summer	Fall	Winter	Reported Florida Utility Injury or Mortality	Reported Utility Injury or Mortality - US
	Common Name										
<i>Accipiter cooperii</i>	Cooper's hawk					r		r	r		X
<i>Accipiter striatus</i>	sharp-shinned hawk					u		u	u		X
<i>Actitis macularius</i>	spotted sandpiper					c		c	c		
<i>Agelaius phoeniceus</i>	red-winged blackbird			X	X	c	c	c	c		X
<i>Aix sponsa</i>	wood duck					r	r	r	r		X
<i>Anas acuta</i>	northern pintail					c		r	c		
<i>Anas americana</i>	American wigeon					u	r	u	c		
<i>Anas bahamensis</i>	white-cheeked pintail					r	r	r	r		
<i>Anas clypeata</i>	northern shoveler					c	r	c	c		
<i>Anas crecca</i>	green-winged teal					u		r	u	X	
<i>Anas cyanoptera</i>	cinnamon teal						*		*		
<i>Anas discors</i>	blue-winged teal					c	r	c	c	X	
<i>Anas fulvigula</i>	mottled duck			X	X	c	c	c	c	X	
<i>Anas platyrhynchos</i>	mallard					r			r		X
<i>Anas rubripes</i>	American black duck								*		
<i>Anas strepera</i>	gadwall							r	r		
<i>Anhinga anhinga</i>	anhinga			X	X	c	c	c	c		X
<i>Aquila chrysaetos</i>	golden eagle							*	*		X
<i>Aramus guarauna</i>	limpkin	C	SSC	X	X	u	u	u	u		
<i>Archilochus colubris</i>	ruby-throated hummingbird					c	r	c	c		
<i>Ardea alba</i>	great egret			X	X	c	c	c	c	X	
<i>Ardea herodias</i>	great blue heron			X	X	c	c	c	c	X	
<i>Asio flammeus</i>	short-eared owl					r		r	r		X
<i>Aythya affinis</i>	lesser scaup					c		c	c		
<i>Aythya collaris</i>	ring-necked duck					c		c	c		
<i>Aythya mania</i>	greater scaup								*		
<i>Baeolophus bicolor</i>	tufted titmouse					r	r	r	r		
<i>Bartramia longicauda</i>	upland sandpiper					*			*		
<i>Bombycilla cedrorum</i>	cedar waxwing					r-c		r-c	r-c		
<i>Botaurus lentiginosus</i>	American bittern	C				u	r	u	c		
<i>Branta canadensis</i>	Canada goose								*		X
<i>Bubulcus ibis</i>	cattle egret			X	X	c	c	c	c	X	
<i>Bucephala albeola</i>	bufflehead					r			r		
<i>Buteo brachyurus</i>	short-tailed hawk	C		X		u	r	u	u		



Table 2-1. (cont.)

Species										Reported Florida Utility Injury or Mortality	Reported Utility Injury or Mortality - US
	Common Name	Federal Status	State of Florida Status	Breeding in Everglades National Park	Breeding in West Preferred Corridor Area	Spring	Summer	Fall	Winter		
<i>Buteo jamaicensis</i>	red-tailed hawk			X		u	u	u	u	X	
<i>Buteo lagopus</i>	rough-legged hawk					*		*	*		X
<i>Buteo lineatus</i>	red-shouldered hawk			X	X	c	c	c	c	X	
<i>Buteo platypterus</i>	broad-winged hawk					u		u	u		
<i>Buteo swainsoni</i>	Swainson's hawk					r		r	u		X
<i>Butorides virescens</i>	green heron			X	X	c	c	c	c	X	
<i>Calidris bairdii</i>	Baird's sandpiper			,				*			
<i>Calidris himantopus</i>	stilt sandpiper					u	r	u	r		
<i>Calidris melanotos</i>	pectoral sandpiper					u	r	c			
<i>Caprimulgus carolinensis</i>	Chuck-will's-widow					c	c	c	r		X
<i>Caprimulgus vociferus</i>	whip-poor-will					u		u	c		X
<i>Caracara cheriway</i>	caracara, Audubon's crested	T	T			*	*			X	
<i>Cardinalis cardinalis</i>	northern cardinal			X	X	c	c	c	c		X
<i>Carduelis pinus</i>	pine siskin						r		r		
<i>Carduelis tristis</i>	American goldfinch					u-c		u-c	u-c		
<i>Cathartes aura</i>	turkey vulture			X	X	c	c	c	c	X	
<i>Catharus fuscescens</i>	veery	C				u		u			
<i>Catharus guttatus</i>	hermit thrush					r		u	u		
<i>Catharus minimus</i>	gray-cheeked thrush					*		u			
<i>Catharus ustulatus</i>	Swainsons thrush					u		u	*		
<i>Chaetura pelagica</i>	chimney swift					u		r			
<i>Charadrius vociferus</i>	killdeer			X	X	c	u	c	c		
<i>Chidonias niger</i>	black tern					u	u	u	r		
<i>Chordeiles minor</i>	common nighthawk			X	X	c	c	c	r		
<i>Circus cyaneus</i>	northern harrier	C				u	r	u	c		X
<i>Cistothorus palustris</i>	marsh wren		SSC			u		u	u		
<i>Cistothorus platensis</i>	sedge wren	C				u		u	u		
<i>Coccyzus americanus</i>	yellow-billed cuckoo	C		X	X	c	c	c	r		
<i>Coereba flaveola</i>	bananaquit					*			*		
<i>Colaptes auratus</i>	northern flicker	C		X	X	c	c	c	c		X
<i>Columba livia</i>	rock pigeon (dove)					*	*	*	*		X
<i>Contopus virens</i>	eastern wood-pewee					u		u	r		
<i>Coragyps atratus</i>	black vulture			X	X	c	c	c	c	X	
<i>Corvus brachyrhynchos</i>	American crow			X	X	c	c	c	c	X	
<i>Coturnicops noveboracensis</i>	yellow rail	C				*		*	*		

Table 2-1. (cont.)

Species		Federal Status	State of Florida Status	Breeding in Everglades National Park	Breeding in West Preferred Corridor Area	Spring	Summer	Fall	Winter	Reported Florida Utility Injury or Mortality	Reported Utility Injury or Mortality - US
Scientific Name	Common Name										
<i>Crotophaga ani</i>	smooth-billed ani			X	X	u	u	u	u		
<i>Crotophaga sulcirostris</i>	grove-billed ani					r		r	r		
<i>Cyanocitta cristata</i>	blue jay			X	X	c	c	c	c		X
<i>Dendrocygna bicolor</i>	Fulvous whistling-duck					u	r	u	u		
<i>Deridroica caerulescens</i>	black-throated blue warbler	C				c		c	r		
<i>Dendroica castanea</i>	bay-breasted warbler					*		*			
<i>Dendroica cerulea</i>	Cerulean warbler							*			
<i>Dendroica coronata</i>	yellow-rumped warbler					u		u	c		
<i>Dendroica discolor</i>	prairie warbler	C		X	X	c	c	c	c		
<i>Dendroica dominica</i>	yellow-throated warbler					c	u	c	c		
<i>Dendroica fusca</i>	blackburnian warbler					u		u	*		
<i>Dendroica magnolia</i>	magnolia warbler					u		u	r		
<i>Dendroica nigrescens</i>	black-throated gray warbler					r		r	r		
<i>Dendroica palmarum</i>	palm warbler					c		c	c		
<i>Dendroica pensylvanica</i>	chestnut-sided warbler					r		r	*		
<i>Dendroica petechia</i>	yellow warbler			X	X	c	c	c	u		
<i>Dendroica striata</i>	blackpoll warbler					c		r			
<i>Dendroica tigrina</i>	Cape May warbler					u-c		u-c	. r		
<i>Dendroica virens</i>	black-throated green warbler					u		u	u		
<i>Dolichonyx oryzivorus</i>	bobolink	C				c		c	*		
<i>Dryocopus pileatus</i>	pileated woodpecker			X	X	c	c	c	c		X
<i>Dumetella carolinensis</i>	grey catbird					c		c	c		X
<i>Egretta caerulea</i>	little blue heron		SSC	X	X	c	c	c	c	X	
<i>Egretta rufescens</i>	reddish egret	C	SSC	X		u	u	u	u		
<i>Egretta thula</i>	snowy egret		SSC	X	X	c	c	c	c	X	
<i>Egretta tricolor</i>	tricolored heron		SSC	X	X	c	c	c	c	X	
<i>Elanoides forficatus</i>	swallow-tailed kite	C		X	X	c	c	r			X
<i>Elanus leucurus</i>	white-tailed kite			X	X	r	r	r	r		
<i>Empidonax minimus</i>	least flycatcher					u		u	r		
<i>Empidonax traillii</i>	willow flycatcher							*	*		
<i>Empidonax virens</i>	Acadian flycatcher							*			
<i>Eudocimus albus</i>	white ibis		SSC	X	X	c	c	c	c	X	
<i>Euphagus cyanocephalus</i>	Brewer's blackbird					*			r		
<i>Falco columbarius</i>	merlin					u		u	u	X	
<i>Falco peregrinus</i>	peregrine falcon					u		u	u	X	

Table 2-1. (cont.)

Species		Federal Status	State of Florida Status	Breeding in Everglades National Park	Breeding in West Preferred Corridor Area	Spring	Summer	Fall	Winter	Reported Florida Utility Injury or Mortality	Reported Utility Injury or Mortality - US
Scientific Name	Common Name										
<i>Falco sparverius paulus</i>	American kestrel		T			c		c	c	X	
<i>Fulica americana</i>	American coot			X	X	c	r	c	c	X	
<i>Gallinago delicata</i>	Wilson's snipe					u		u	u		
<i>Gallinula chloropus</i>	common moorhen			X	X	c	c	c	c	X	
<i>Geothlypis trichas</i>	common yellowthroat			X	X	c	c	c	c		X
<i>Grus canadensis pratensis</i>	Florida sandhill crane		T	X	X	u	u	u	u	X	
<i>Haliaeetus leucocephalus</i>	bald eagle			X		c	c	c	c	X	
<i>Lemitheros vermivorum</i>	worm-eating warbler	C				u		u	r		
<i>Himantopus mexicanus</i>	black-necked stilt			X	X	u	r	u	r	X	
<i>Hirunda pyrrhonota</i>	cliff swallow					r	r	u			X
<i>Hirundo rustica</i>	barn swallow			X	X	c	c	c	r		X
<i>Hylocichla mustelina</i>	wood thrush	C				*		r	*		
<i>Icteria virens</i>	yellow-breasted chat					u		u	u		
<i>Icterus bullockii</i>	Bullock's oriole						r	r	r		
<i>Icterus galbula</i>	Baltimore oriole						c	c	r		
<i>Ictinia mississippiensis</i>	Mississippi kite					r		r			
<i>Ixobrychus exilis</i>	least bittern	C		X	X	u	u	u	u		
<i>Junco hyemalis</i>	dark-eyed junco					*		*	*		X
<i>Lanius ludovicianus</i>	loggerhead shrike	C		X	X	u	u	u	u	X	
<i>Larus argentatus</i>	herring gull					c	u	c	c	.	
<i>Larus atricilla</i>	laughing gull			X		c	c	c	c		X
<i>Larus delawarensis</i>	ring-billed gull					c	u	c	c		
<i>Larus philadelphia</i>	Bonaparte's gull					u			u		
<i>Laterallus jamaicensis</i>	black rail	C				r	r	r	r		
<i>Limnodromus scolopaceus</i>	long-billed dowitcher					u	u	u	r		
<i>Limnothlypis swainsonii</i>	Swainson's warbler	C				r		r	*		
<i>Lophodytes cucullatus</i>	hooded merganser					r		r	u		
<i>Megaceryle alcyon</i>	belted kingfisher					c	r	c	c		
<i>Megascops asio</i>	eastern screech-owl			X	X	c	c	c	c	X	
<i>Melanerpes carolinus</i>	red-bellied woodpecker			X	X	c	c	c	c		X
<i>Melospiza georgiana</i>	swamp sparrow					c		c	c		
<i>Melospiza melodia</i>	song sparrow					*			r		
<i>Mimus polyglottos</i>	northern mockingbird			X	X	c	c	c	c		X
<i>Mniotilta varia</i>	black- and- white warbler					c	u	c	c		

Table 2-1. (cont.)

Species										Reported Florida Utility Injury or Mortality	Reported Utility Injury or Mortality - US
	Common Name	Federal Status	State of Florida Status	Breeding in Everglades National Park	Breeding in West Preferred Corridor Area	Spring	Summer	Fall	Winter		
<i>Mycteria americana</i>	wood stork	E	E	X	X	u	r	u	u	X	
<i>Myiarchus cinerascens</i>	great crested flycatcher			X	X	c	c	c	c		
<i>Myiarchus tyrannulus</i>	brown-crested flycatcher					u		u	u		
<i>Nomonyx dominicus</i>	masked duck							*	*		
<i>Nyctanassa violacea</i>	yellow- crowned night heron		.	X	X	u	u	u	u	X	
<i>Nyctanassa nycticorax</i>	black-crowned night heron			X	X	c	c	c	c	X	
<i>Oporornis agilis</i>	Connecticut warbler					*			*		
<i>Oporornis formosus</i>	Kentucky warbler					r		r	*		
<i>Oporornis philadelphia</i>	mourning warbler							*			
<i>Pandion haliaetus</i>	osprey		ssC - Monroe County	X		c	c	c	c	X	
<i>Parula americana</i>	northern parula					c	r	c	c		X
<i>Passerculus sandwichensis</i>	savannah sparrow					c		c	c		
<i>Passerina caerulea</i>	blue grosbeak					u		u	*		
<i>Passerina ciris</i>	painter bunting	C				c	*	c	u		
<i>Passerina cyanea</i>	indigo bunting					c		c	r		
<i>Patagioenas leucocephala</i>	white-crowned pigeon	C	T	X		c	c	c	u		
<i>Pelecanus erythrorhynchos</i>	American white pelican					c	r	c	c	X	
<i>Petrochelidon fulva</i>	cave swallow							r	r		
<i>Phalacrocorax auritus</i>	double-crested cormorant			X		c	c	c	c	X	
<i>Phalaropus tricolor</i>	Wilson's phalarope							*			
<i>Pheucticus ludovicianus</i>	rose-breasted grosbeak					u		u	r		
<i>Picoides pubescens</i>	downy woodpecker			X	X	u	u	u	u		
<i>Pipilo erythrophthalmus</i>	eastern towhee			X	X	c	c	c	c		
<i>Piranga ludoviciana</i>	western tanager							*			
<i>Piranga olivacea</i>	scarlet tanager					r		r	*		
<i>Piranga rubra</i>	summer tanager					r		r	*		
<i>Platalea ajaja</i>	roseate spoon bill		SSC	X		c	u	c	c	X	
<i>Plegadis chihi</i>	white-faced ibis						*				
<i>Plegadis falcinellus</i>	glossy ibis			X		u	u	u	u	X	
<i>Podilymbus podiceps</i>	pied-billed grebe			X	X	c	u	c	c		X
<i>Poliophtila caerulea</i>	blue-grey gnatcatcher					c		c	c		
<i>Porphyrio martinica</i>	purple gallinule			X	X	c	u	c	c		
<i>Porzana carolina</i>	sora					c		c	c		

Table 2-1. (cont.)

Species		Federal Status	State of Florida Status	Breeding in Everglades National Park	Breeding in West Preferred Corridor Area	Spring	Summer	Fall	Winter	Reported Florida Utility Injury or Mortality	Reported Utility Injury or Mortality - US
Scientific Name	Common Name										
<i>Protonotaria citrea</i>	prothonotary warbler					u	*	u	*		
<i>Quiscalus major</i>	boat-tailed grackle			X	X	c	c	c	c	X	
<i>Quiscalus quiscula</i>	common grackle			X	X	c	c	c	c	X	
<i>Rallus elegans</i>	king rail			X	X	c	c	c	c	X	
<i>Rallus limicola</i>	Virginia rail					r		r	r		X
<i>Regulus calendula</i>	ruby-crowned kinglet					u		u	u		
<i>Riparia riparia</i>	bank swallow						u	u	*		
<i>Rostrhamus sociabilis</i>	Everglade snail kite	E	E	X	X	r	r	r	r		
<i>Sayornis phoebe</i>	eastern phoebe					c		c	c		
<i>Sayornis saya</i>	Sah's phoebe										
<i>Scolopax minor</i>	American woodcock					r			r		X
<i>Seiurus aurocapilla</i>	ovenbird					c		c	c		X
<i>Seiurus motacilla</i>	Louisiana waterthrush	C				c	u	c	r		
<i>Seiurus noveboracensis</i>	northern waterthrush					c		c	c		X
<i>Selasphorus rufus</i>	rufous hummingbird							*	*		
<i>Setophaga ruticilla</i>	American redstart					c	u	c	c		
<i>Sphyrapicus varius</i>	yellow-bellied sapsucker					u		u	c		
<i>Spindalis zena</i>	western spindalis					*			*		
<i>Spiza americana</i>	dickcissel							*	*		
<i>Spizella pallida</i>	clay-colored sparrow					r		r	r		
<i>Spizella passerina</i>	chipping sparrow					u		u	u		X
<i>Spizella pusilla</i>	field sparrow	C				u		u	u		
<i>Stelgidopteryx serripennis</i>	northern rough-winged swallow					u		u	r		
<i>Sterna caspia</i>	Caspian tern					c	r	c	c		
<i>Sterna forsteri</i>	Forster's tern					c	u	c	c		
<i>Strix varia</i>	barred owl			X	X	c	c	c	c	X	
<i>Sturnella magna</i>	eastern meadowlark	C		X	X	c	c	c	c		X
<i>Tochycineta bicolor</i>	tree swallow					c		c	c		
<i>Thryothorus ludovicianus</i>	Carolina wren			X	X	c	c	c	c		
<i>Tiaris bicolor</i>	black-faced grassquit					*	*	*			
<i>Toxostoma rufum</i>	brown thrasher					u	*	u	u		
<i>Tringa flavipes</i>	lesser yellowlegs					c	u	c	c		
<i>Tringa melanoleuca</i>	greater yellowlegs					c	u	c	c		
<i>Tringa solitaria</i>	solitary sandpiper					u		u	r	X	
<i>Troglodytes aedon</i>	house wren					c		c	c		

Table 2-1. (cont.)

Species		Federal Status	State of Florida Status	Breeding in Everglades National Park	Breeding in West Preferred Corridor Area	Spring	Summer	Fall	Winter	Reported Florida Utility Injury or Mortality	Reported Utility Injury or Mortality - US
	Common Name										
<i>Turdus migratorius</i>	American robin					u	*	u	u		
<i>Tyrannus melancholicus</i>	tropical kingbird					*			*		
<i>Tyrannus tyrannus</i>	eastern kingbird			X	X	c	c	c	r		
<i>Tyrannus verticalis</i>	western kingbird					u		u	u		
<i>Tyto alba</i>	barn owl	C		X	X	u	u	u	u	X	
<i>Vermivora celata</i>	orange- crowned warbler					u		u	u		
<i>Vermivora chrysoptera</i>	golden-winged warbler					r		r			
<i>Vermivora peregrina</i>	Tennessee warbler					u		u	*		
<i>Vermivora pinus</i>	blue-winged warbler					r		r	r		
<i>Vermivora ruficapilla</i>	Nashville warbler					r		r	*		
<i>Vireo altiloquus</i>	black- whiskered vireo	C		X	X	c	c	c	*		
<i>Vireo bellii</i>	Bell's vireo					*			*		
<i>Vireo crassirostris</i>	thick-billed vireo								*		
<i>Vireo flavifrons</i>	yellow-throated vireo					u		u	u		
<i>Vireo griseus</i>	white-eyed vireo			X	X	c	c	c	c		
<i>Vireo olivaceus</i>	red-eyed vireo					c		c	*		
<i>Vireo philadelphicus</i>	Philadelphia vireo							*			
<i>Vireo solitarius</i>	blue-headed vireo					u		u	u		
<i>Wilsonia</i>	hooded warbler					u		u	*		
<i>Wilsonia</i>	Wilson's warbler					r		r	r		
<i>Zenaidura macroura</i>	white-winged dove					r	r	r	r		X
<i>Zenaidura macroura</i>	mourning dove			X	X	c	c	c	c		
<i>Zonotrichia albicollis</i>	white-throated sparrow					*		*	r		
<i>Zonotrichia albicollis</i>	white-crowned sparrow							r	*		

E = Endangered

T = Threatened

C = U.S. Fish and Wildlife Service designated nongame migratory species concern

SSC = state of Florida species of special concern

c = commonly observed (seen &gt;50% of the time)

u = uncommonly observed (seen &lt; 50% of the time)

r = rarely observed (&lt;25% of the time)

\* = fewer than 10 records in Everglades National Park

**Table 2-2. Habitat preferences/associations for focal species of interest**

Land Use/Land Cover (Level 2 Designation)	Limpkin	American Bittern	Short-Tailed Hawk	Crested Caracara	Veery	Northern Harrier	Marsh Wren	Sedge Wren	Yellow-billed Cuckoo	Northern Flicker	Yellow Rail	Black Throated-Blue Warbler
<b>AGRICULTURE</b>												
Cropland and Pastureland				X								
Feeding Operations												
Nurseries and Vineyards												
Specialty Farms												
Tree Crops												
<b>UPLAND FORESTS</b>												
Tree Plantations												
Upland Coniferous Forests					X					X		
Upland Hardwood Forests			X		X					X		
Upland Mixed Forests			X		X					X		
<b>UPLAND NONFORESTED</b>												
Herbaceous (Dry Prairie)			X	X					X			
Mixed Rangeland				X								
Upland Shrub and Brushland			X	X								
<b>WATER</b>												
Bays and Estuaries	X	X									X	
Lakes												
Ocean and Gulf												
Reservoirs												
Streams and Waterways	X	X										
<b>WETLANDS</b>												
Non-Vegetated Wetland	X							X				
Vegetated Non-Forested Wetlands	X	X				X	X	X	X		X	
Wetland Coniferous Forests		X	X		X							X
Wetland Forested Mixed		X	X		X							X
Wetland Hardwood Forests		X	X		X							X

**Table 2-2. (cont.)**

Land Use/Land Cover (Level 2 Designation)	Prairie Warbler	Bobolink	American Kestrel	Florida Sandhill Crane	Worm-Eating Warbler	Wood Thrush	Least Bittern	Black Rail	Swainson's Warbler	Osprey	Painted Bunting	White Crowned Pigeon
AGRICULTURE												
Cropland and Pastureland		X	X									
Feeding Operations												
Nurseries and Vineyards												
Specialty Farms												
Tree Crops												
UPLAND FORESTS												
Tree Plantations												
Upland Coniferous Forests			X			X						
Upland Hardwood Forests			X		X	X						X
Upland Mixed Forests			X		X	X						
UPLAND NONFORESTED												
Herbaceous (Dry Prairie)		X										
Mixed Rangeland												
Upland Shrub and Brushland		X	X								X	
WATER												
Bays and Estuaries								X		X		
Lakes										X		
Ocean and Gulf										X		
Reservoirs												
Streams and Waterways								X		X		
WETLANDS												
Non-Vegetated Wetland												
Vegetated Non-Forested Wetlands		X		X			X	X				
Wetland Coniferous Forests	X					X			X			
Wetland Forested Mixed	X					X	X		X			X
Wetland Hardwood Forests	X					X	X		X			X



**Table 2-2. (cont.)**

Land Use/Land Cover (Level 2 Designation)	Louisiana Waterthrush	Field Sparrow	Eastern Meadowlark	Barn Owl	Black-Whiskered Vireo	Loggerhead Shrike	Swallow-Tailed Kite
AGRICULTURE							
Cropland and Pastureland			X	X		X	
Feeding Operations							
Nurseries and Vineyards							
Specialty Farms							
Tree Crops							
UPLAND FORESTS							
Tree Plantations							
Upland Coniferous Forests			X				X
Upland Hardwood Forests							X
Upland Mixed Forests							X
UPLAND NONFORESTED							
Herbaceous (Dry Prairie)			X	X		X	
Mixed Rangeland				X		X	
Upland Shrub and Brushland		X	X	X		X	
WATER							
Bays and Estuaries	X						X
Lakes							
Ocean and Gulf							
Reservoirs							
Streams and Waterways	X						X
WETLANDS							
Non-Vegetated Wetland							X
Vegetated Non-Forested Wetlands							X
Wetland Coniferous Forests	X						X
Wetland Forested Mixed	X						X
Wetland Hardwood Forests	X				X		X

**Table 4-1. Summary of relative risk assessment results by species**

Species	Data-Based Relative Risk Results			Habitat-Based Relative Risk Results		
	FPL West Preferred Corridor	FPL West Secondary Corridor	Route A Corridor	FPL West Preferred Corridor	FPL West Secondary Corridor	Route A Corridor
Brown Pelican	ND	ND	ND	ND	ND	ND
Double-Crested Cormorant	ND	ND	ND	Intermediate	Most	Least
Anhinga	Most	Intermediate	Least	Intermediate	Most	Least
Black-Crowned Night Heron	Intermediate	Most	Least	Intermediate	Most	Least
Great Blue Heron	Intermediate	Most	Least	Intermediate	Most	Least
Great White Heron	Intermediate	Most	Least	Intermediate	Most	Least
Great Egret	Intermediate	Most	Least	Intermediate	Most	Least
Little Blue Heron	Intermediate	Most	Least	Intermediate	Most	Least
Snowy Egret	Intermediate	Most	Least	Intermediate	Most	Least
Tricolored Heron	Intermediate	Most	Least	Intermediate	Most	Least
Reddish Egret	ND	ND	ND	Intermediate	Least	Most
Least Bittern	--	--	--	Intermediate	Most	Least
American Bittern	--	--	--	Intermediate	Most	Least
White Ibis	Intermediate	Most	Least	Intermediate	Most	Least
Glossy Ibis	Intermediate	Most	Least	Intermediate	Most	Least
Roseate Spoonbill	Intermediate	Most	Least	Intermediate	Most	Least
Wood Stork	Intermediate	Most	Least	Intermediate	Most	Least
Florida Sandhill Crane	--	--	--	Intermediate	Most	Least
Limpkin	--	--	--	Intermediate	Most	Least
Black Rail	--	--	--	Intermediate	Most	Least
Yellow Rail	--	--	--	Intermediate	Most	Least
Snail Kite	Intermediate	Most	Least	Intermediate	Most	Least
Short-Tailed Hawk	--	--	--	Intermediate	Most	Least
Swallow-Tailed Kite	--	--	--	Intermediate	Most	Least
Northern Harrier	--	--	--	Intermediate	Least	Most
Osprey	--	--	--	ND	ND	ND
Crested Caracara	--	--	--	Intermediate	Least	Most
American Kestrel	--	--	--	Intermediate	Most	Least
White Crowned Pigeon	--	--	--	Intermediate	Most	Least
Yellow-Billed Cuckoo	--	--	--	Intermediate	Most	Least
Barn Owl	--	--	--	Intermediate	Least	Most
Northern Flicker	--	--	--	Intermediate	Most	Least
Loggerhead Shrike	--	--	--	Intermediate	Least	Most
Black-Whiskered Vireo	--	--	--	Intermediate	Most	Least
Marsh Wren	--	--	--	Intermediate	Most	Least
Sedge Wren	--	--	--	Intermediate	Most	Least
Wood Thrush	--	--	--	Intermediate	Most	Least
Veery	--	--	--	Intermediate	Most	Least
Black-Throated Blue Warbler	--	--	--	Intermediate	Most	Least
Prairie Warbler	--	--	--	Intermediate	Most	Least
Worm-Eating Warbler	--	--	--	Intermediate	Most	Least
Swainson's Warbler	--	--	--	Intermediate	Most	Least
Louisiana Waterthrush	--	--	--	Intermediate	Most	Least
Bobolink	--	--	--	Intermediate	Least	Most
Eastern Meadowlark	--	--	--	Intermediate	Least	Most
Painted Bunting	--	--	--	Intermediate	Most	Least
Field Sparrow	--	--	--	Intermediate	Most	Least

**Notes:**

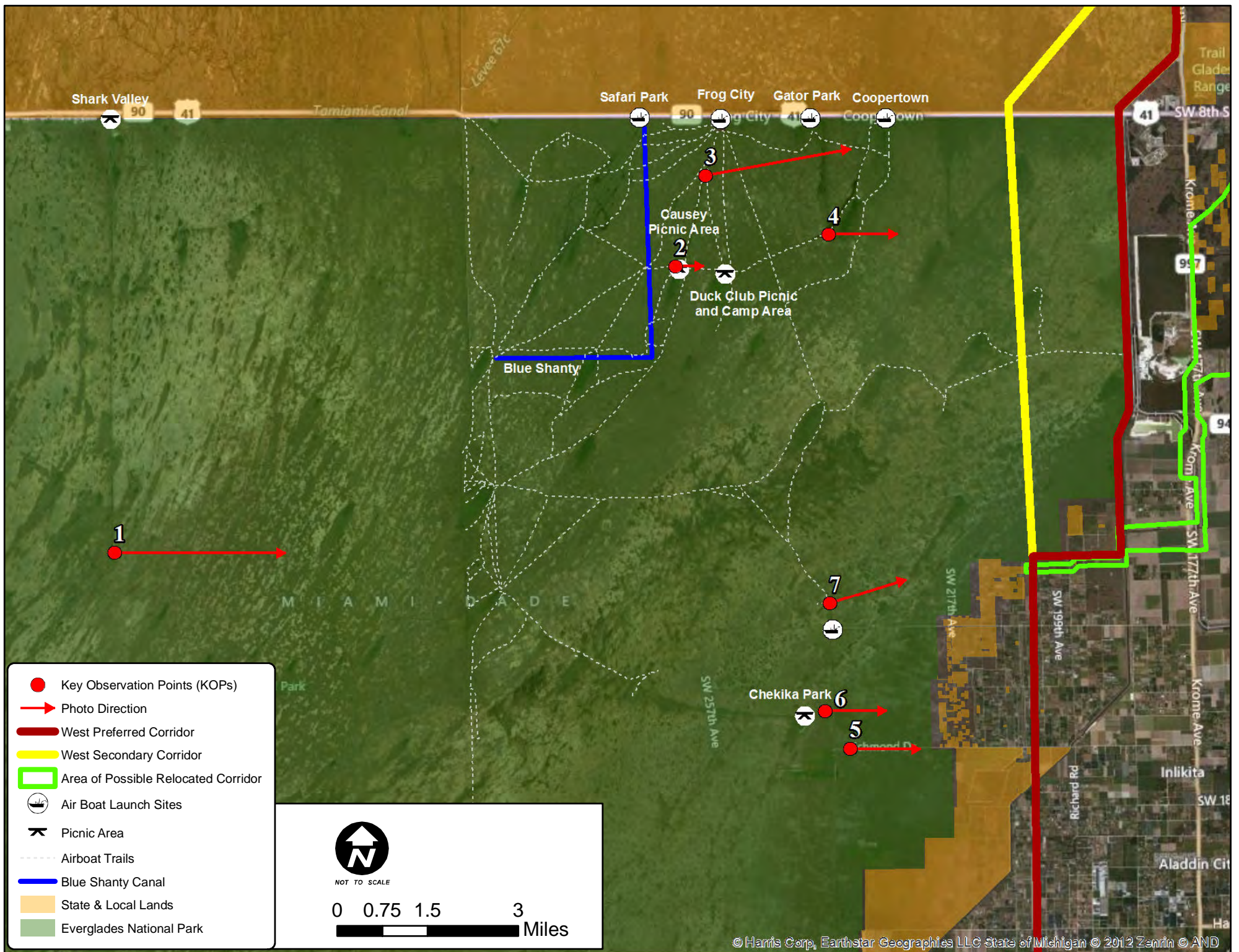
ND = no difference

-- = data not available

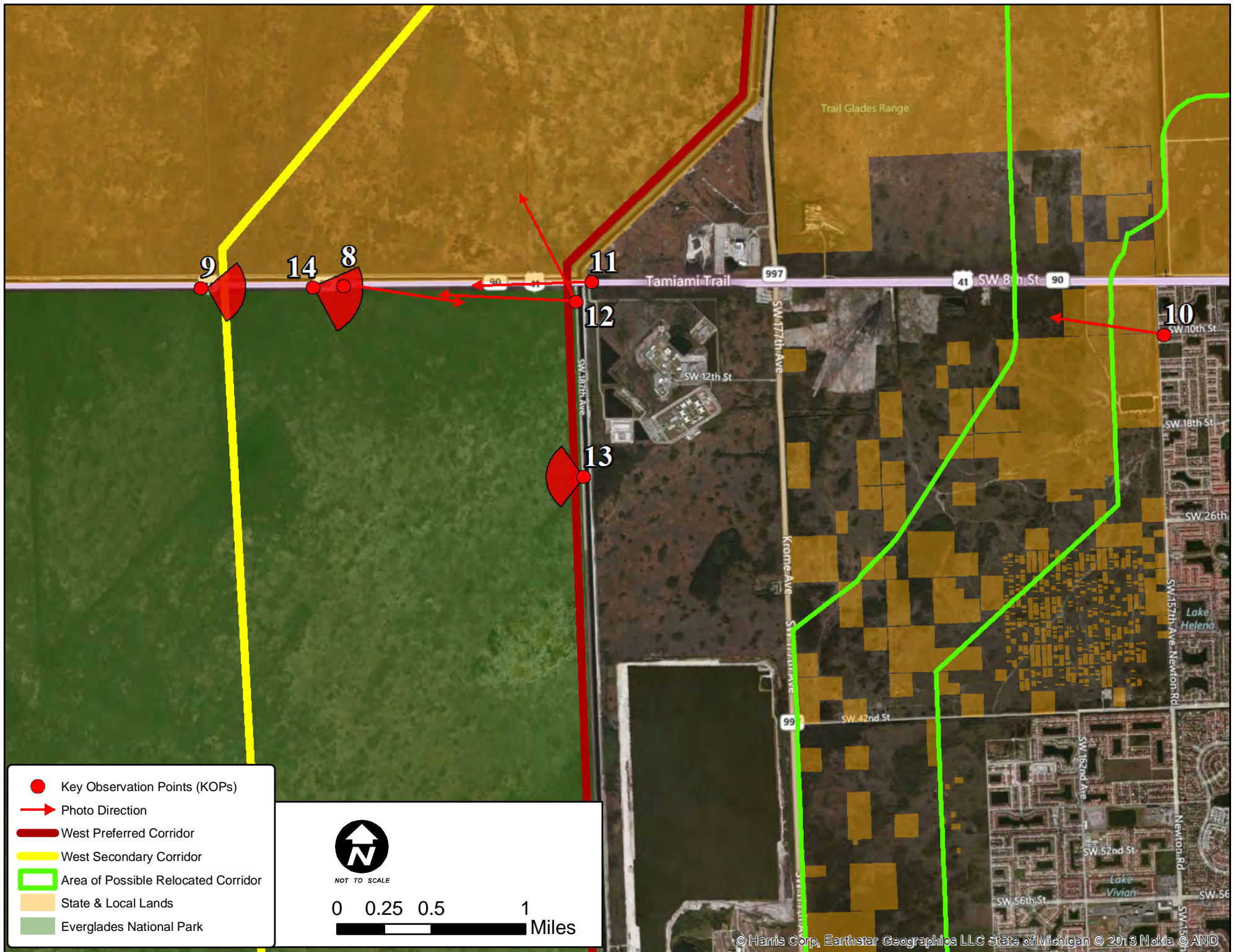


## **APPENDIX K: EVERGLADES NATIONAL PARK PHOTO SIMULATION**













**Distance from closest structure: 15.3 miles**

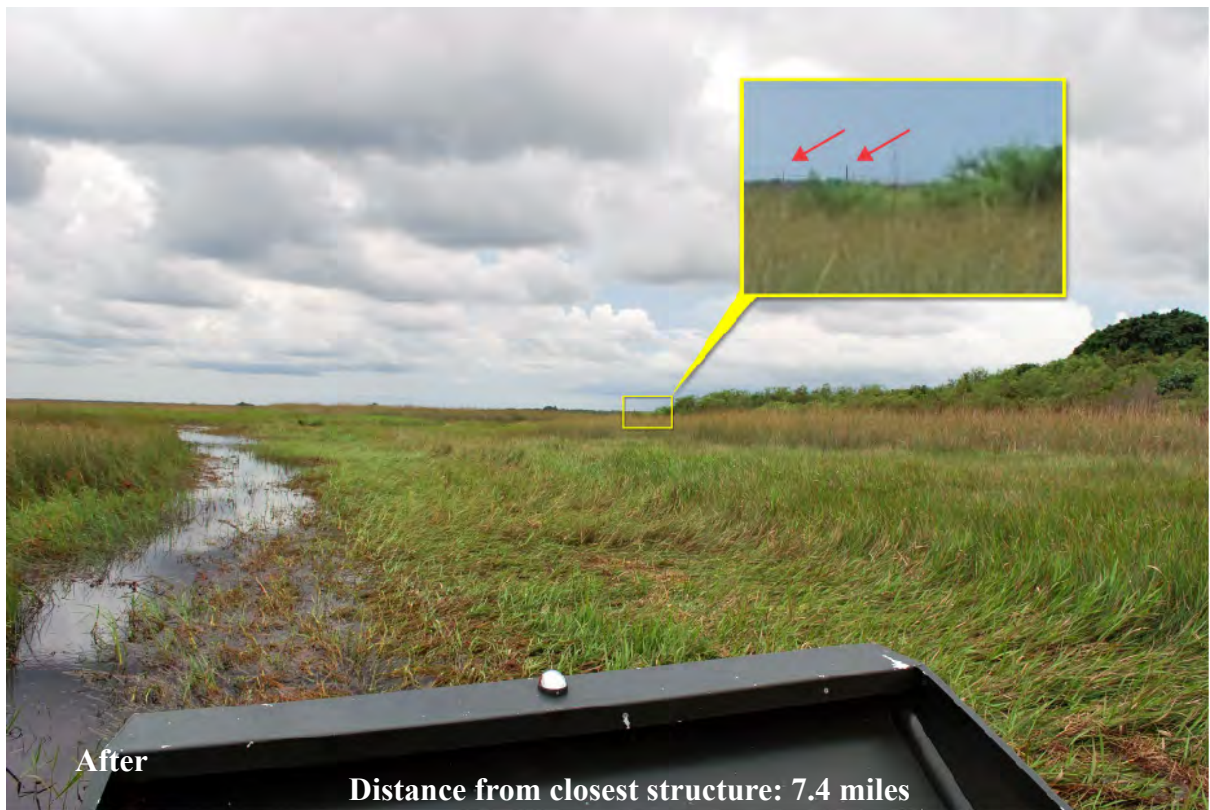
**Alternative: West Preferred and  
Secondary  
KOP: 1 (Shark Valley)  
Direction Taken: East**



Photo taken from the Shark Valley Observation Tower looking East. The closest transmission structure is approximately 15.3 miles away.

Structure placements as shown are for photo simulation purposes only. Actual structure placement will be determined during detailed design and engineering of the route selected and approved.





**Alternative: West Preferred**  
**KOP: 2**  
**Direction Taken: East**



Photo taken near the Causey Picnic Area, a popular destination for visitors. The closest structures on the West Preferred Route are 7.4 miles to the East.

Structure placements as shown are for photo simulation purposes only. Actual structure placement will be determined during detailed design and engineering of the route selected and approved.





**Alternative: West Secondary**  
**KOP: 2**  
**Direction Taken: East**



Photo taken near the Causey Picnic Area, a popular destination for visitors. The closest structures on the West Secondary Route are 5.6 miles to the East.

Structure placements as shown are for photo simulation purposes only. Actual structure placement will be determined during detailed design and engineering of the route selected and approved.





**Alternative: West Preferred**  
**KOP: 3**  
**Direction Taken: East**



Photo taken from an airboat trail associated with the Frog City airboat launch. The closest structures on the West Preferred Route are 7 miles to the East.

Structure placements as shown are for photo simulation purposes only. Actual structure placement will be determined during detailed design and engineering of the route selected and approved.





**Alternative: West Secondary**  
**KOP: 3**  
**Direction Taken: East**



Photo taken from an airboat trail associated with the Frog City airboat launch. The closest structures on the West Secondary Route are 5 miles to the East.

Structure placements as shown are for photo simulation purposes only. Actual structure placement will be determined during detailed design and engineering of the route selected and approved.



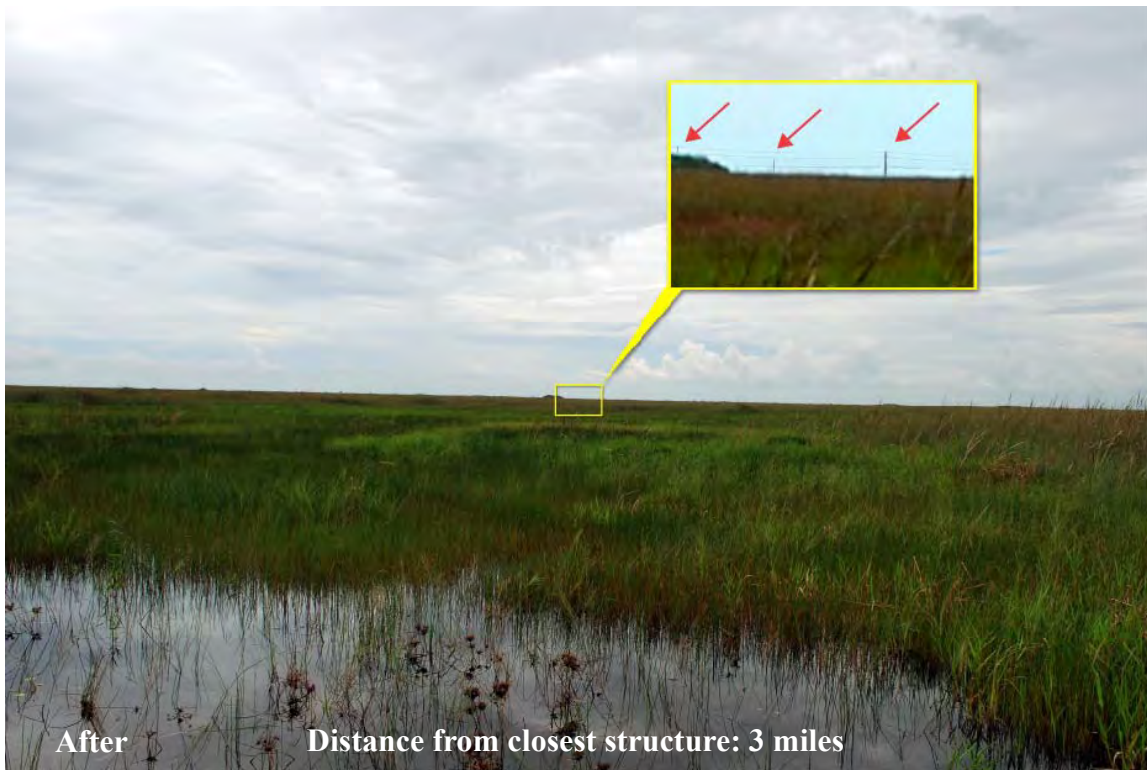


**Alternative: West Preferred**  
**KOP: 4**  
**Direction Taken: East**



Photo taken from an airboat trail associated with the Coopertown airboat launch. The closest structures on the West Preferred Route are 4.8 miles to the East.

Structure placements as shown are for photo simulation purposes only. Actual structure placement will be determined during detailed design and engineering of the route selected and approved.



**Alternative: West Secondary**  
**KOP: 4**  
**Direction Taken: East**



Photo taken from an airboat trail associated with the Coopertown airboat launch. The closest structures on the West Secondary Route are 3 miles to the East.

Structure placements as shown are for photo simulation purposes only. Actual structure placement will be determined during detailed design and engineering of the route selected and approved.





**Alternative: West Preferred/Secondary**  
**KOP: 5**  
**Direction Taken: East**



Photo taken from the Chekika Day Use Area.  
 The closest structures on both the West  
 Secondary and Preferred Routes are 3 miles  
 to the East

Structure placements as shown are for photo simulation purposes only. Actual structure placement will be determined during detailed design and engineering of the route selected and approved.





Before



After

Distance from closest structure: 3.5 miles

**Alternative: West Preferred/Secondary**  
**KOP: 6**  
**Direction Taken: East**



Photo taken from the Chekika Day Use Area.  
 The closest structures on both the West  
 Secondary and Preferred Routes are 3.5 miles  
 to the East

*Structure placements as shown are for photo simulation purposes only. Actual structure placement will be determined during detailed design and engineering of the route selected and approved.*





**Before**



**After**

**Distance from closest structure: 3.4 miles**

**Alternative: West Preferred/Secondary**  
**KOP: 7**  
**Direction Taken: East**



Photo taken from the Chekika Day Use Area. The closest structures on both the West Secondary and Preferred Routes are 3.4 miles to the East.

*Structure placements as shown are for photo simulation purposes only. Actual structure placement will be determined during detailed design and engineering of the route selected and approved.*





**Alternative: West Secondary**  
**KOP: 8**  
**Direction Taken: Southwest**



Photo taken from One-Mile Bridge construction area on the Tamiami Trail. The closest structures on the West Secondary Route is 0.6 miles to the southwest.

Structure placements as shown are for photo simulation purposes only. Actual structure placement will be determined during detailed design and engineering of the route selected and approved.





**Alternative: West Preferred**  
**KOP: 8**  
**Direction Taken: Southeast**



Photo taken from One-Mile Bridge construction area on the Tamiami Trail. The closest structures on the West Preferred Route is 1.2 miles to the southeast.

Structure placements as shown are for photo simulation purposes only. Actual structure placement will be determined during detailed design and engineering of the route selected and approved.





Before



After

Distance from closest structure: 550 feet



**Alternative: Secondary**  
**KOP: 9**  
**Direction Taken: Southeast**

Photo taken from the One-Mile Bridge on the Tamiami Trail. Closest structure is approximately 550 feet to the east.









Before



After

Distance from closest structure: 0.4 mile

**Alternative: Area of Possible Relocated  
Corridor  
KOP: 10  
Direction Taken: West**



Acquisition of FPL Land  
in the East Everglades Expansion  
Area

*Structure placements as shown are for photo simulation purposes only. Actual structure placement will be determined during detailed design and engineering of the route selected and approved.*





Before



After

Distance from closest structure: 555 feet

**Alternative: West Preferred**  
**KOP: 11**  
**Direction Taken: West**



Photo taken from the Tamiami Trail west of the ENP and the L-31 canal. The north side of the Tamiami Trail is state land and the south side of the Tamiami Trail are federal lands. Closest structure is 555 feet away.

Structure placements as shown are for photo simulation purposes only. Actual structure placement will be determined during detailed design and engineering of the route selected and approved.





**Alternative: West Secondary**  
**KOP: 11**  
**Direction Taken: West**



Photo taken from the Tamiami Trail west of the ENP and the L-31 canal. The north side of the Tamiami Trail is state land and the south side of the Tamiami Trail are federal lands. Closest structures are 1.9 miles away.

Structure placements as shown are for photo simulation purposes only. Actual structure placement will be determined during detailed design and engineering of the route selected and approved.





**Before**



**After**

**Distance from closest structure: 223 feet**

**Alternative: West Preferred**  
**KOP: 12**  
**Direction Taken: Northwest**



Photo taken from the L-31 Canal, just south of the Tamiami Trail. The simulations shows the construction pads, access roads, and both 500 kV and 230 kV structures. The closest structure is 223 feet away.

Structure placements as shown are for photo simulation purposes only. Actual structure placement will be determined during detailed design and engineering of the route selected and approved.





**Alternative: West Secondary**  
**KOP: 12**  
**Direction Taken: Northwest**

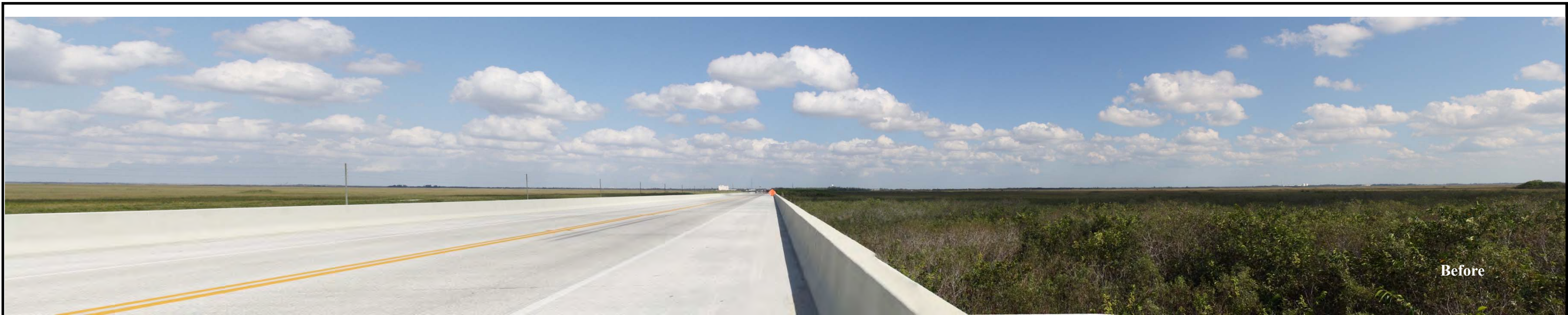


**Acquisition of FPL Land**  
**in the East Everglades Expansion**  
**Area**

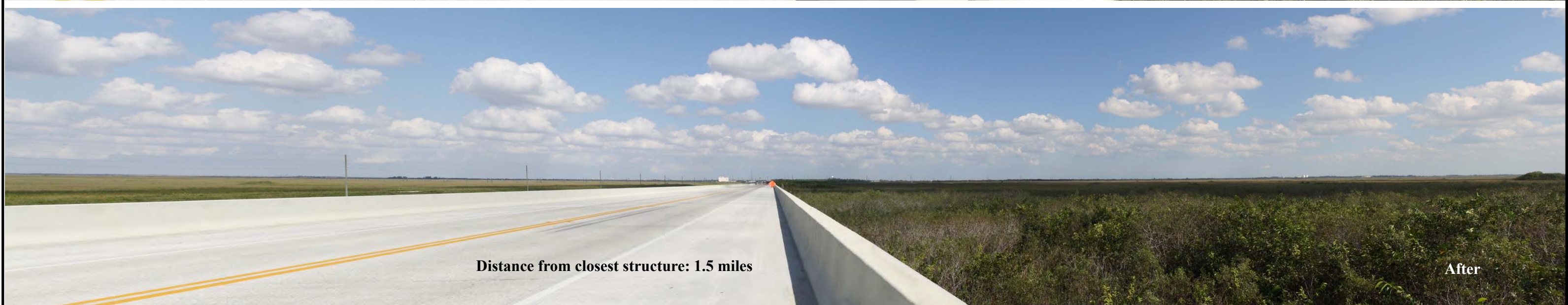
Structure placements as shown are for photo simulation purposes only. Actual structure placement will be determined during detailed design and engineering of the route selected and approved.





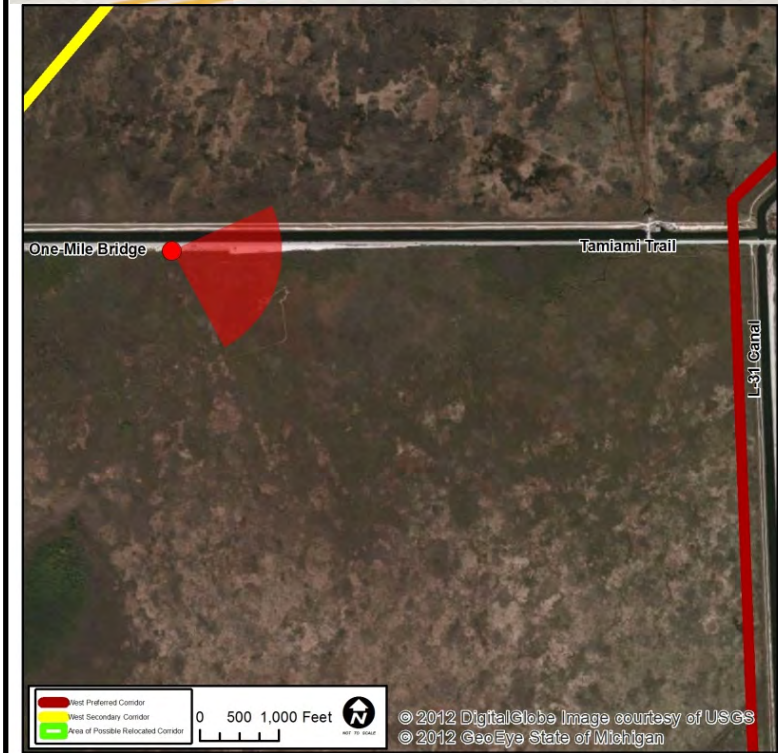


Before



Distance from closest structure: 1.5 miles

After



**Alternative: West Preferred**  
**KOP: 13**  
**Direction Taken: West**

Photo taken from the One-Mile Bridge on the Tamiami Trail.  
 Closest structure is approximately 1.5 miles to the east.



Structure placements as shown are for photo simulation purposes only. Actual structure placement will be determined during detailed design and engineering of the route selected and approved.







Before



Distance from closest structure: 315 feet

After



**Alternative: West Preferred**  
**KOP: 14**  
**Direction Taken: West**

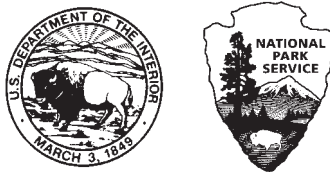
Photo taken from the L-31 Canal looking west into the Everglades Expansion area. Closest structure is approximately 315 feet to the west.



THE Louis Berger Group, INC.







As the nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering sound use of our land and water resources; protecting our fish, wildlife, and biological diversity; preserving the environmental and cultural values of our national parks and historic places; and providing for the enjoyment of life through outdoor recreation. The department assesses our energy and mineral resources and works to ensure that their development is in the best interests of all our people by encouraging stewardship and citizen participation in their care. The department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

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