National Park Service
U.S. Department of the Interior

Everglades National Park
Florida

Acquisition of Florida Power & Light Company Land in the East Everglades Expansion Area Final Environmental Impact Statement

Volume Two

November 2015

Appendices

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. 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 15th 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.

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. In his absence, please contact Mr. Fred Herling at 305-242-7704 or by email at fred_herling@nps.gov.

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

Sincerely,

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.

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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.

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Attn: FPL Project Planning Team
P.O. Box 25287
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Thank you for your continued interest in Everglades National Park. We look forward to hearing from you.

Sincerely,

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 107th 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.

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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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Pass code: 8910744#

Please respond by June 15th 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.

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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:

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Attn: FPL Project Planning Team
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Thank you for your continued interest in Everglades National Park. We look forward to hearing from you.

Sincerely,

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
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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.

Sincerely,

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 20th 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:

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Sincerely,

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Superintendent

United States Department of the Interior

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Everglades & Dry Tortugas National Park
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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. 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 15th 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.

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. In his absence, please contact Mr. Fred Herling at 305-242-7704 or by email at fred_herling@nps.gov.

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

Sincerely,

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.

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 Marco Rubio
United States Senate
8669 NW 36th 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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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.

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 David Rivera
House of Representatives
12851 SW 42nd 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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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.

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 Ileana Ros-Lehtinen
House of Representatives
4960 SW 72nd 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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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.

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 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,

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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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.

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 137th 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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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

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

Dear Mayor ~~Bateman~~: 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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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

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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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.

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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.

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

Sincerely,

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

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,

Sally B. Mann, Director
Office of Intergovernmental Programs

SBM/lm
Enclosures

cc: Laura Kammerer, DOS
Jim Golden, SFWMD

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:

FISH and WILDLIFE COMMISSION - FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION

No comments at this time. Will review again when the draft EIS is made available.

STATE - FLORIDA DEPARTMENT OF STATE

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.

TRANSPORTATION - FLORIDA DEPARTMENT OF TRANSPORTATION

No Comments from FDOT District Six

ENVIRONMENTAL PROTECTION - FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

No comments at this time.

SOUTH FLORIDA WMD - SOUTH FLORIDA WATER MANAGEMENT DISTRICT

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.

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

July 11, 2011

RECEIVED
JUL 14 2011
DEP Office of
Intergovt'l Programs

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

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. Thank you for your continued interest in protecting Florida's historic properties.

Sincerely,

Laura A. Kammerer

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.

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 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.

Sincerely,

Dan B. Kimball
Superintendent

Enclosure

Copy

REC'D
JUL 12 2011

Preserving America's Heritage

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 • 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.

Sincerely,

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

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RECEIVED
JUL 14 2011

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

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. Thank you for your continued interest in protecting Florida's historic properties.

Sincerely,

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

☐ 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. 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 15th 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.

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 or 305-242-7717) or Fred Herling (fred_herling@nps.gov or 305-242-7704) of my staff.

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

Sincerely,

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.

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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. 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 15th 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.

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 or 305-242-7717) or Fred Herling (fred_herling@nps.gov or 305-242-7704) of my staff.

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

Sincerely,

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.

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 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. 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 15th 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.

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 or 305-242-7717) or Fred Herling (fred_herling@nps.gov or 305-242-7704) of my staff.

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

Sincerely,

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.

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 form 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.

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*, or by telephone at 850-245-6333 or 800-847-7278.

Sincerely,

Laura A. Kammerer

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

Florida Power & Light Company, P.O. Box 14000, Juno Beach, FL 33408-0420
Environmental Services Department

FPL

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 if you have any questions about this information.

Sincerely,

Barbara Linkiewicz

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

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
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

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

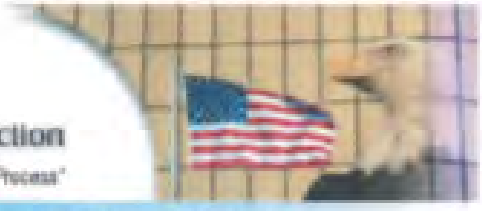
Sally B. Mann, Director
Office of Intergovernmental Programs

SBM/cjs
Enclosures

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

Florida
Department of Environmental Protection

"More Protection, Less Process"



Categories

Project Information	
Project:	FL200906304829C
Comments Due:	08/04/2009
Letter Due:	08/13/2009
Description:	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.
Keywords:	NPS - ACQUIRE FP&L LANDS IN EAST EVERGLADES NATIONAL PARK - MIAMI-DADE CO.
CFDA #:	15.916

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 COLLINS ON 7/8/09.

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 106. 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 1989 the Everglades National Park Protection and Expansion Act expanded ENP to include the East Everglades Addition. Contained within the 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 facilities. The NPS contends that the strip of land will play a vital role in Everglades restoration efforts through the improvement of natural hydrologic conditions and is seeking to acquire the 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 space or restoration projects will not be impacted. The Department sincerely appreciates the opportunity to comment. Should you have any questions on the comments provided, please feel free to contact Ms. Annet Rivera at (850) 245-8017.

SOUTH FLORIDA WMD - SOUTH FLORIDA WATER MANAGEMENT DISTRICT

The SFWMD's Governing Board approved the proposed land swap in August, 2008 (Resolution #2008-0473).

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.

RECEIVED
JUL 30 2009
DEP Office of Intergovt'l Programs

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

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 *swearnest@dos.state.fl.us*, or by phone at 850-245-6333.

Sincerely,

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

☐ 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 20th 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

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® 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, or by phone at (850) 245-6333. We appreciate your continued interest in protecting Florida's historic properties.

Sincerely,

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

☐ 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 20th 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[1] 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.

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1 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.

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.

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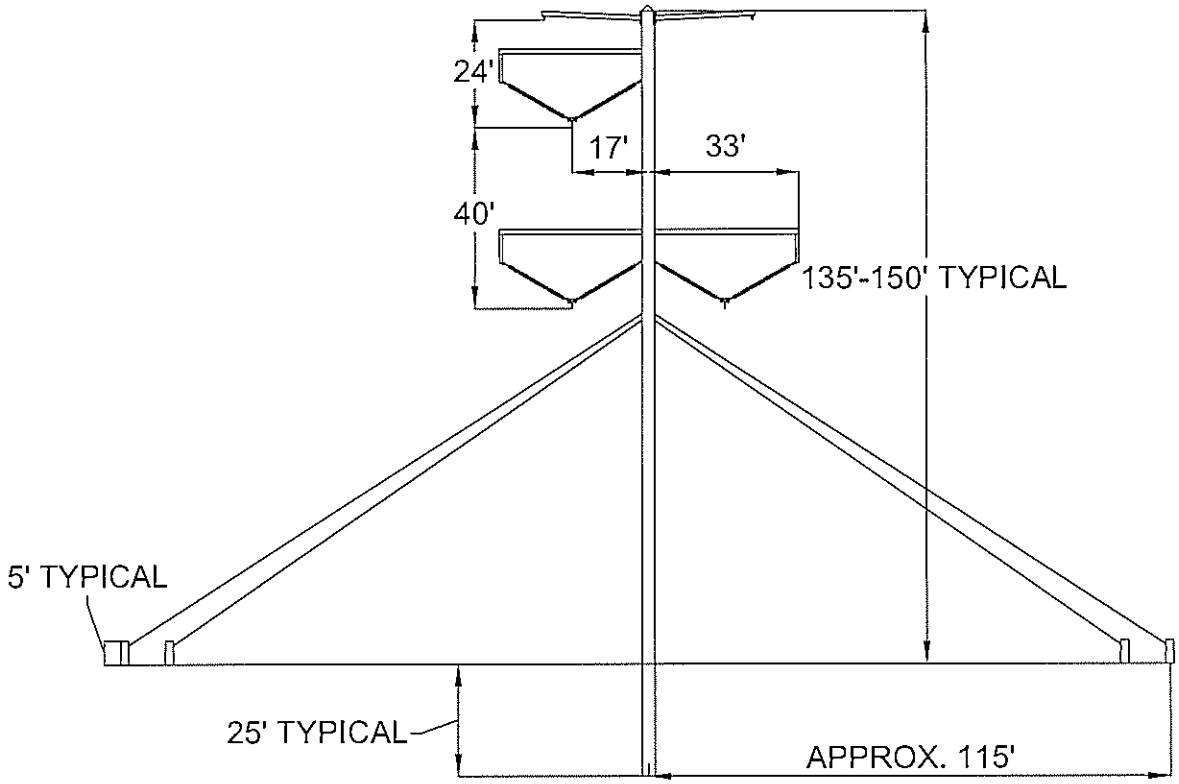
TYPICAL SINGLE-POLE GUYED 500-kV STRUCTURE



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

FPL.

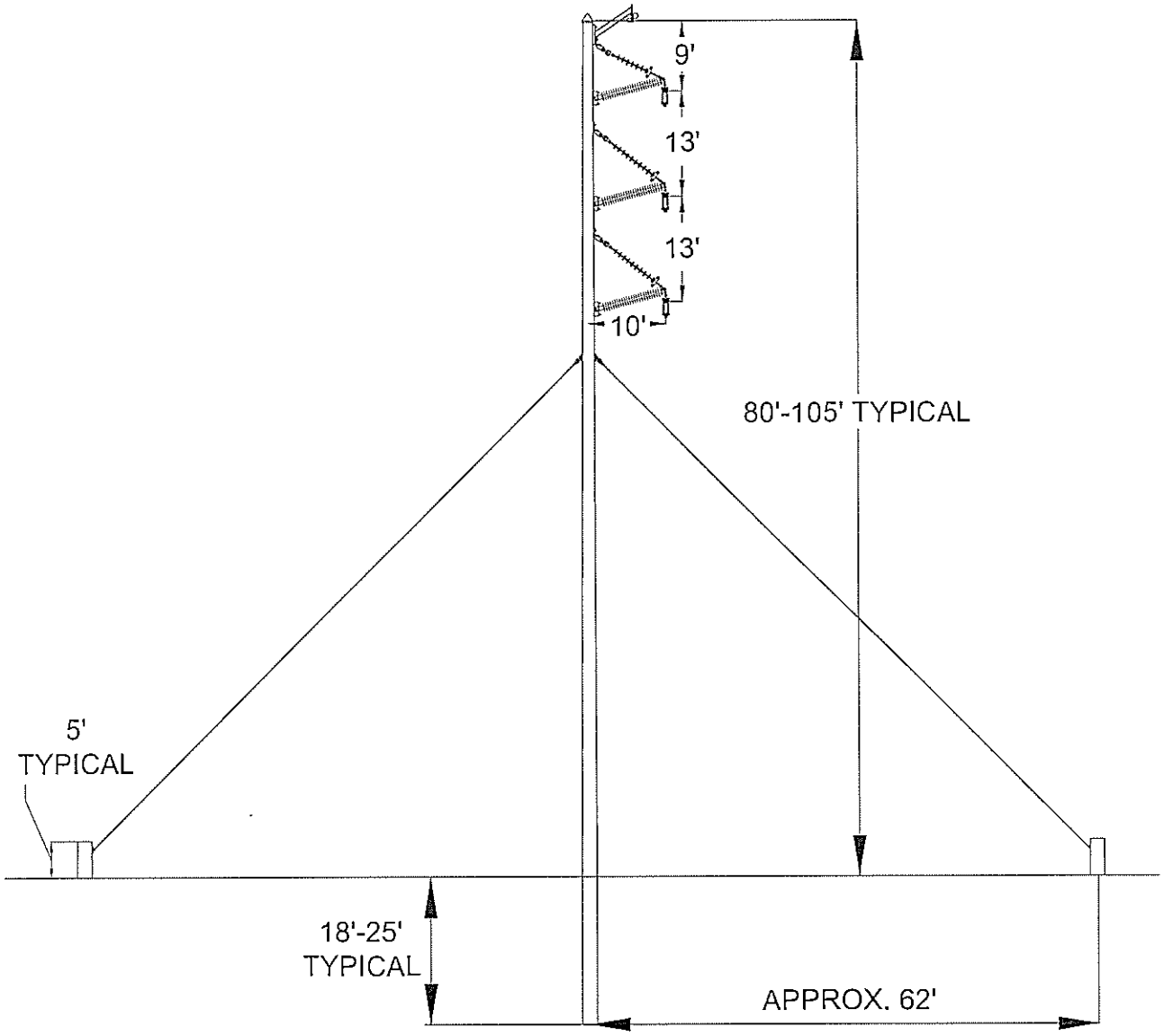
FILE No. 080489-0100

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
0 5 10 20
SCALE IN FEET

PROJECT
TURKEY POINT UNITS 6 & 7 PROJECT: TRANSMISSION LINES

TITLE
TYPICAL SINGLE-CIRCUIT GUYED 230-kV STRUCTURE

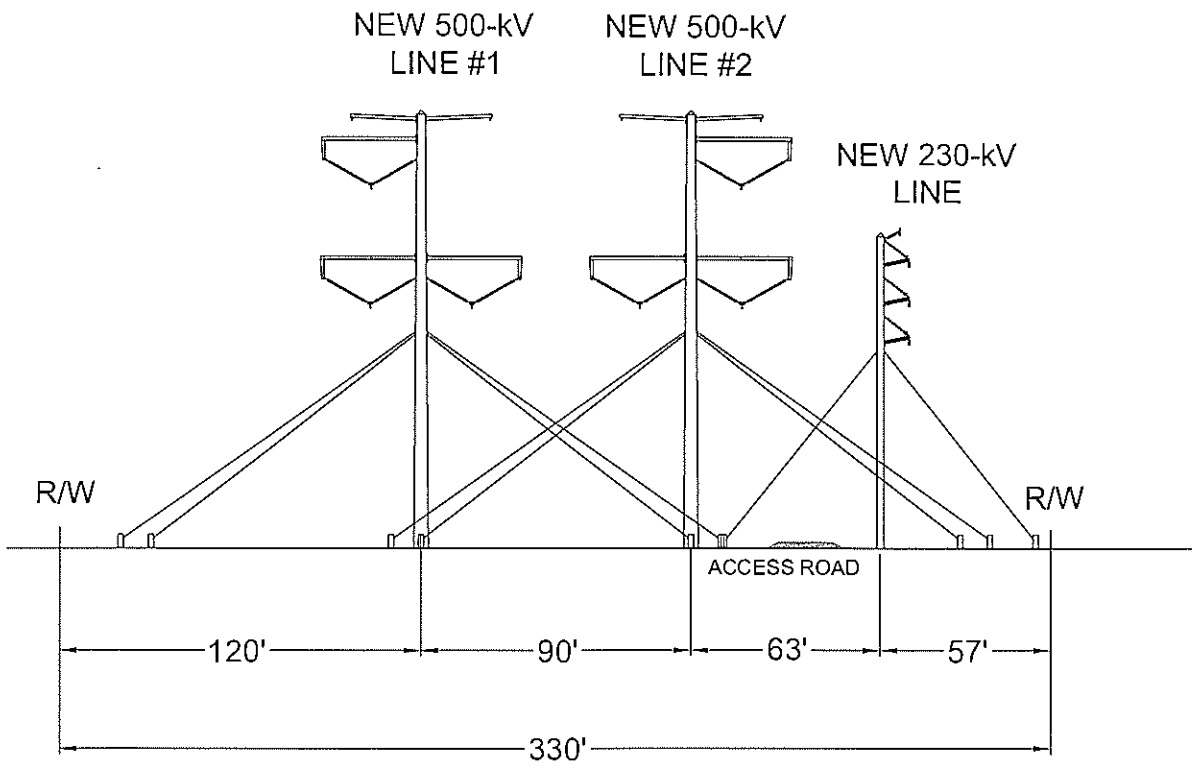
FPL.

FILE No. 080489-0100
REV. 0
PLOT DATE 05/19/2009

FIGURE W9.2.0-3

M:\acad\2434\FCAD From FPL\05043\W4 SFWMD LEVEES WITH 230KV TOT THE WEST.dwg

(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

TITLE
(W4) ALONG SFWMD LEVEES

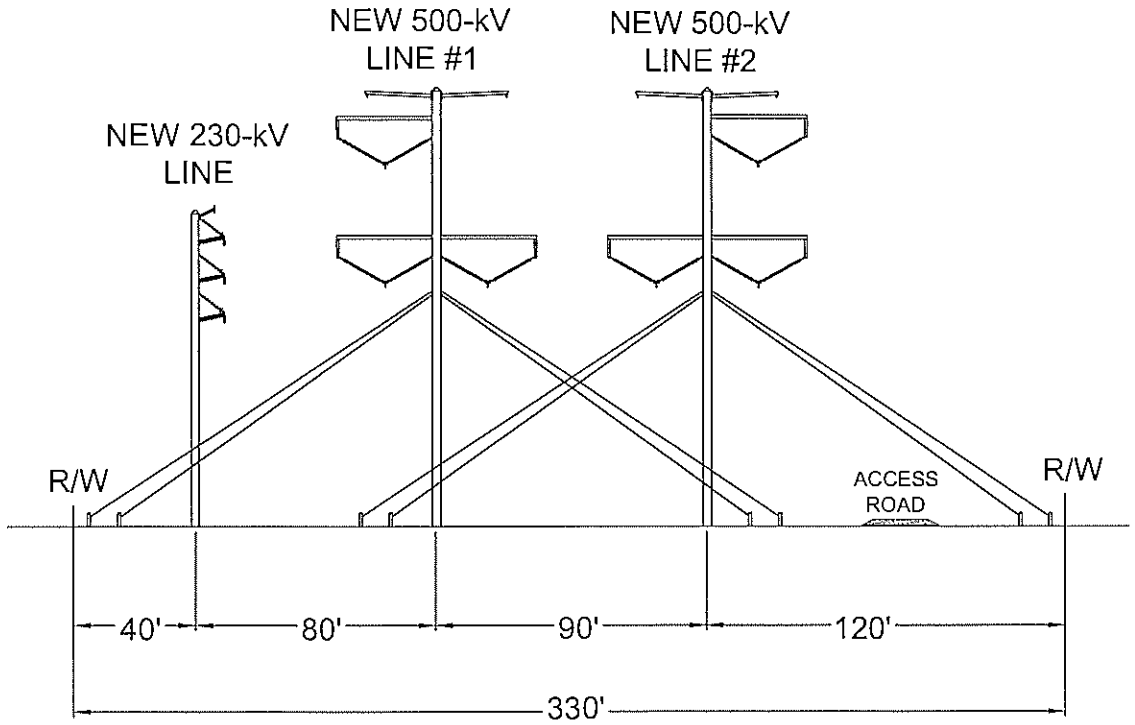
FPL.

FILE No. 080489-0100
REV. 0
PLOT DATE 05/19/2009

FIGURE
W9.2.0-13

M:\xl\080048\CAD From FPL\080409\W4 SFWMD LEVEES WITH 230kV TO THE EAST.dwg

(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.

GRAPHIC SCALE
0 30 60
SCALE IN FEET

PROJECT
TURKEY POINT UNITS 6 & 7 PROJECT:
TRANSMISSION LINES

TITLE
(W5) ALONG SFWMD LEVEES
(ALTERNATIVE CONFIGURATION)

FPL.

FILE No. 080409-0100
REV. 0
PLOT DATE 05/19/2009

FIGURE
W9.2.0-14

Everglades National Park Expansion Area
Threatened & Endangered Species

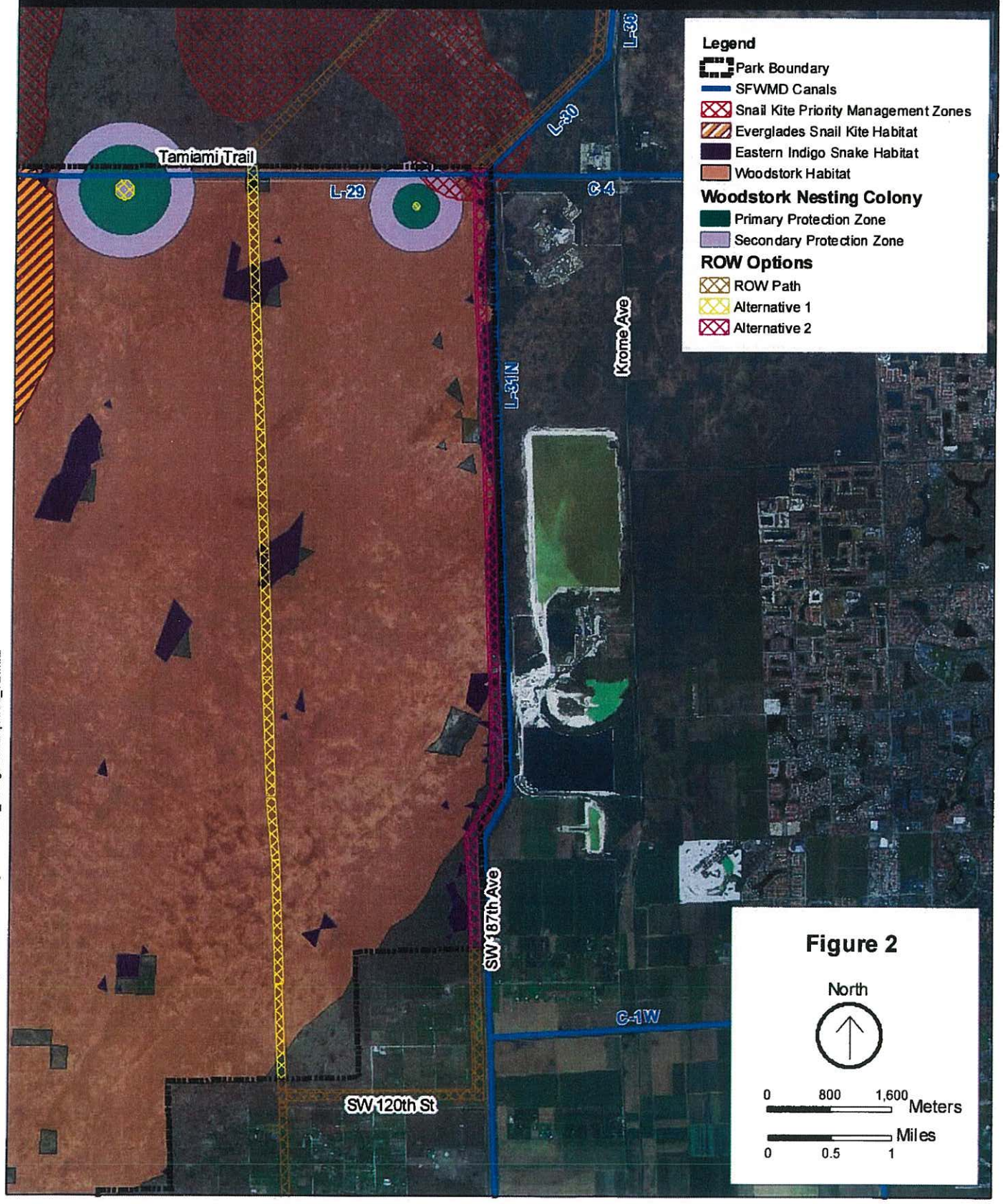


Figure 2

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LEGEND

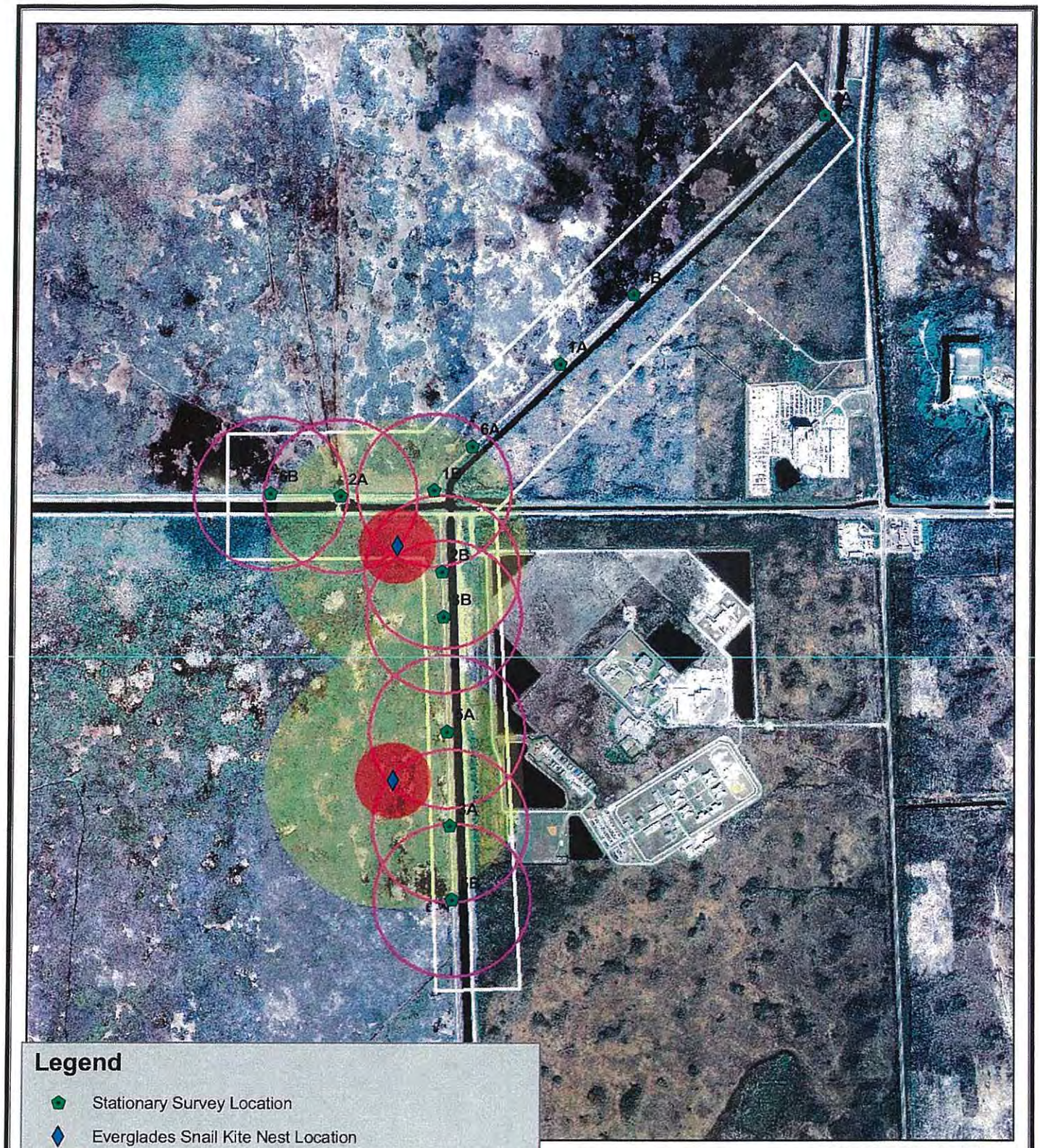
- Wood Stork Colony
- 2500' Secondary Zone
- 1000' Primary Zone
- West Preferred Corridor
- West Secondary Corridor
- Access Corridor

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. 090531-0100	TITLE **LOCATION OF WOOD STORK COLONIES (WITHIN 5 MILES) AND ZONES**	PROJECT **TURKEY POINT UNITS 6 & 7 PROJECT: TRANSMISSION LINES**

FPL



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
DIAL CORDY AND ASSOCIATES INC Environmental Consultants	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-feet-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-feet-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 F-1 through F-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.

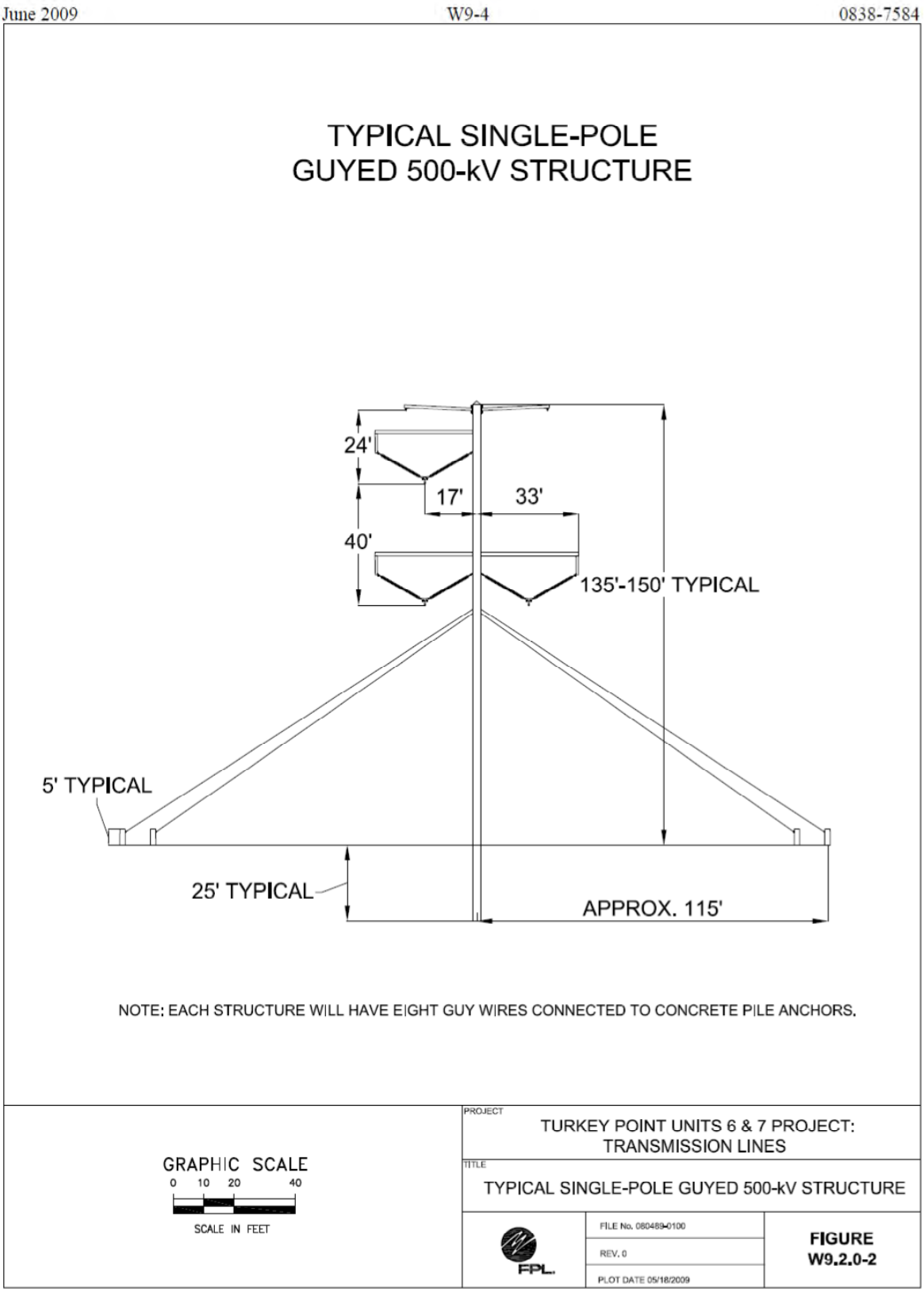


FIGURE F-1: TYPICAL SINGLE-POLE GUYED 500-KV STRUCTURE

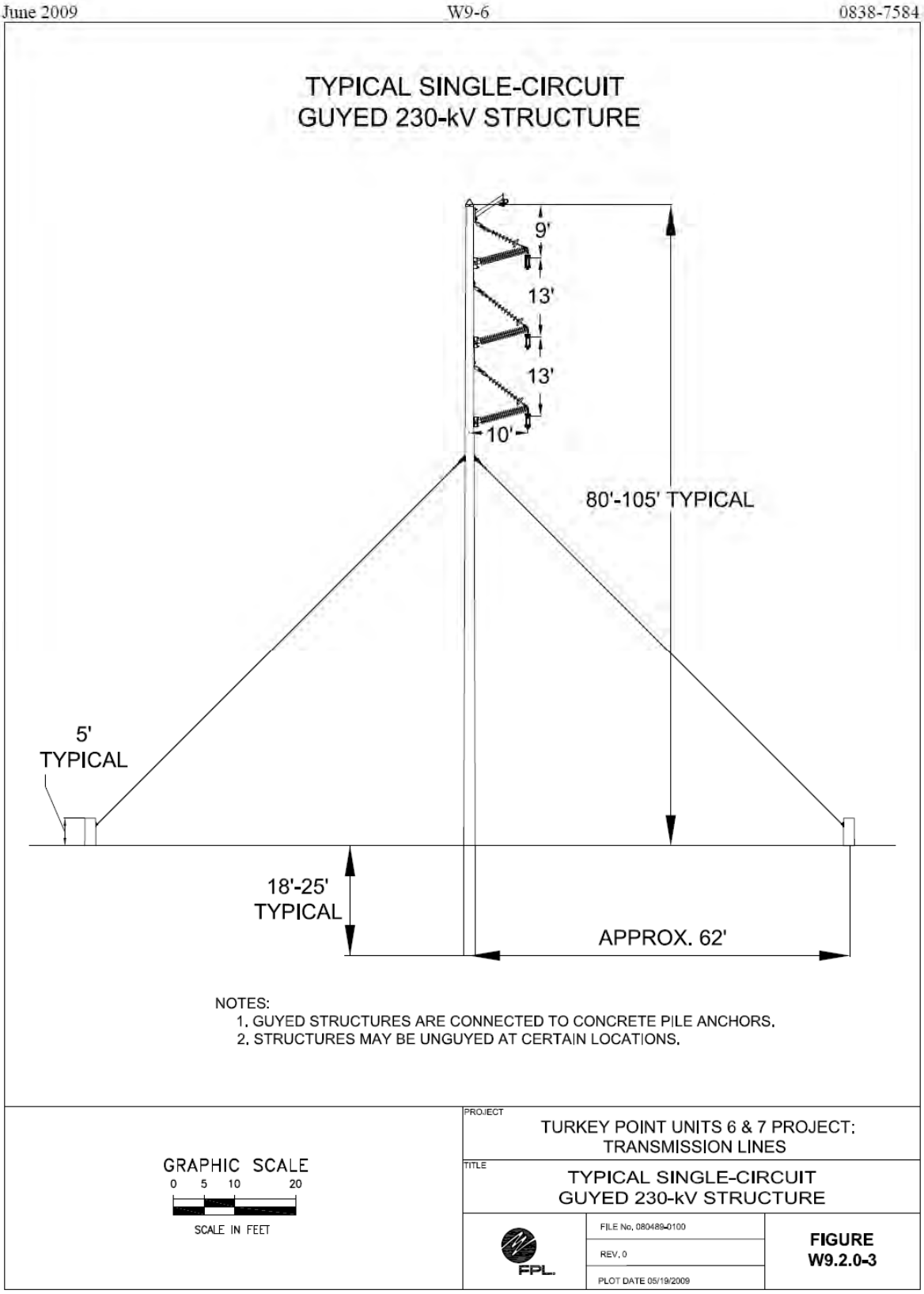


FIGURE F-2: TYPICAL SINGLE-CIRCUIT GUYED 23-KV STRUCTURE

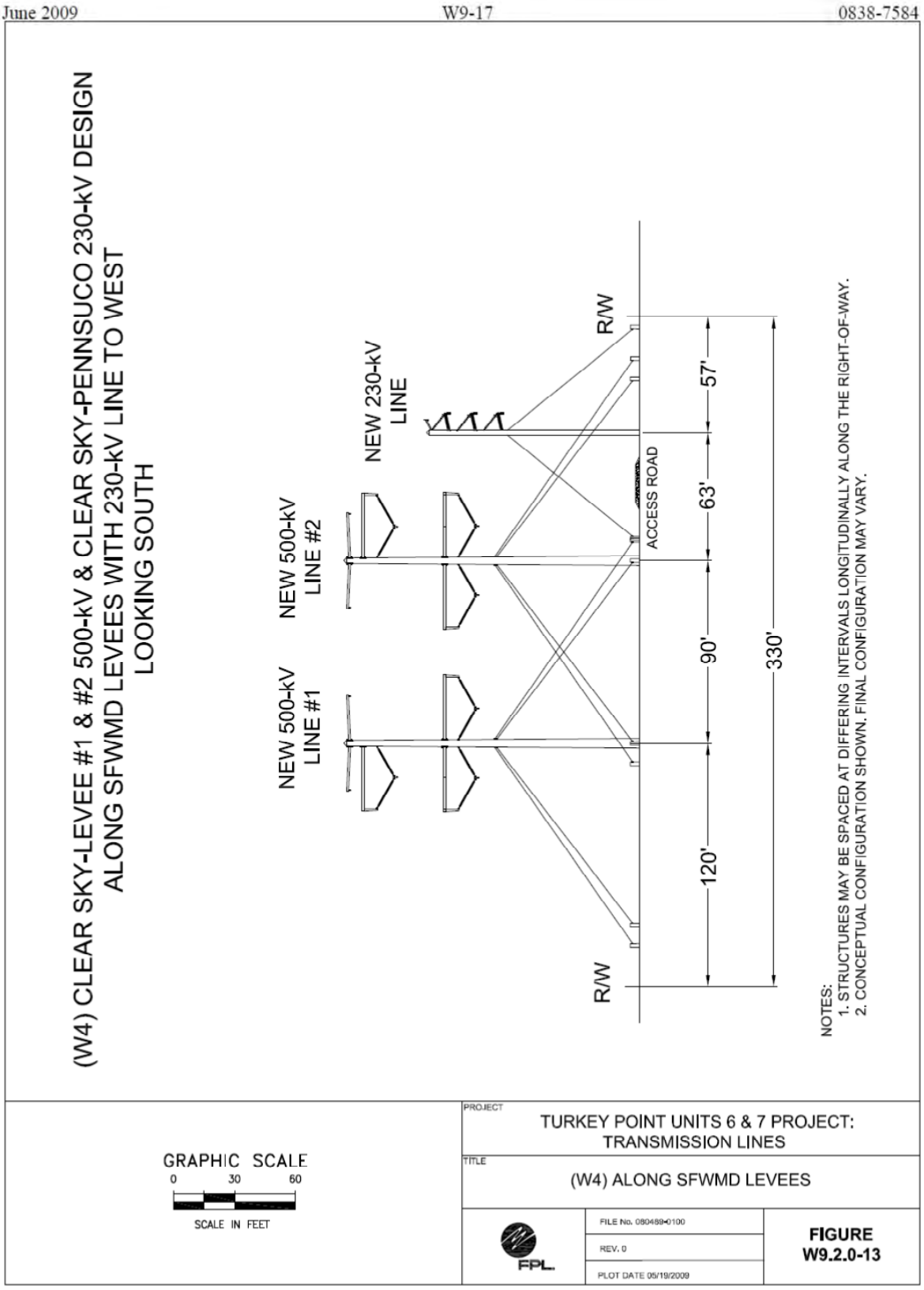


FIGURE F-3: (W4) ALONG SOUTH FLORIDA WATER MANAGEMENT DISTRICT LEVEES

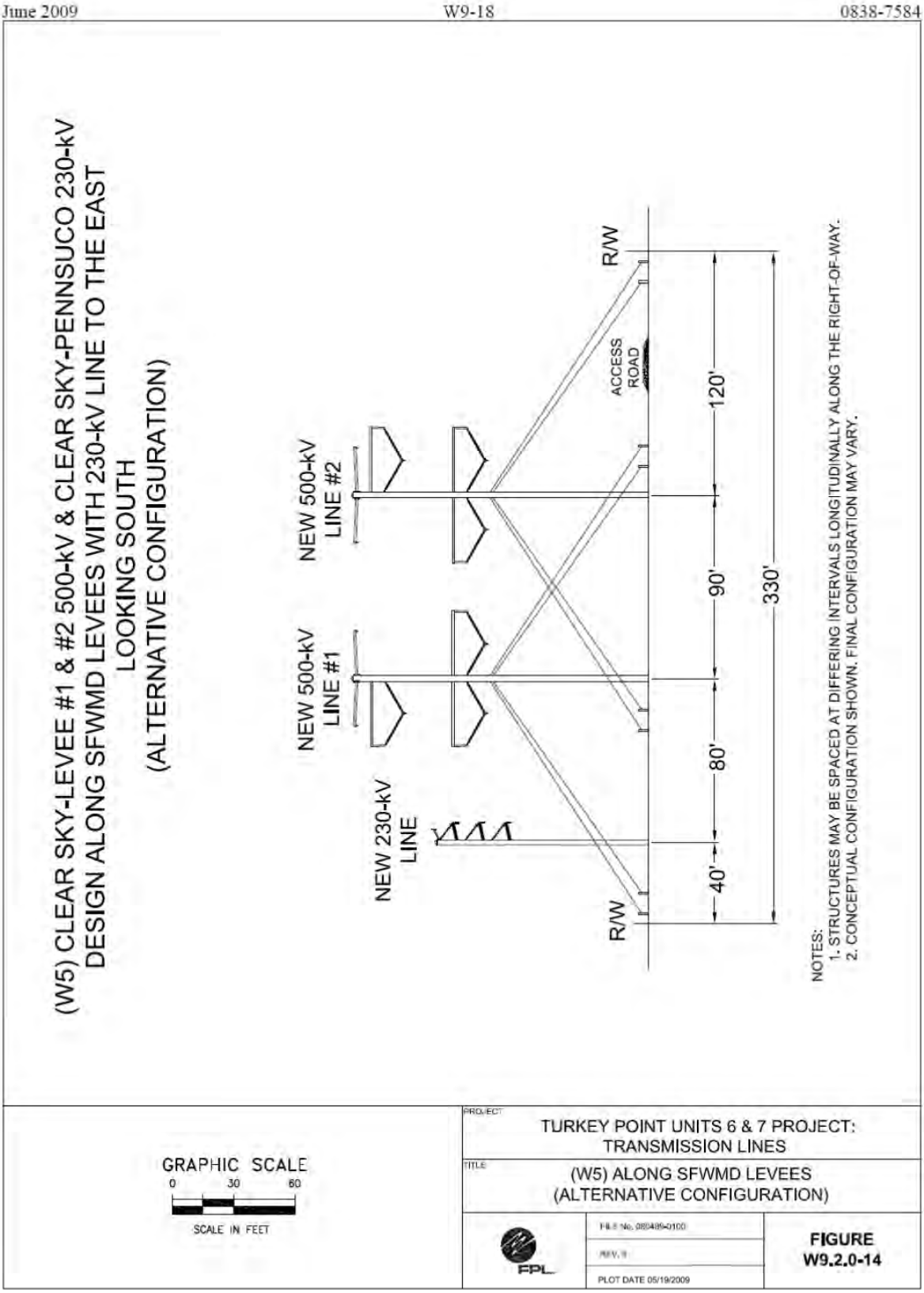


FIGURE F-4: (W5) ALONG SOUTH FLORIDA WATER MANAGEMENT DISTRICT LEVEES (ALTERNATIVE CONFIGURATION)

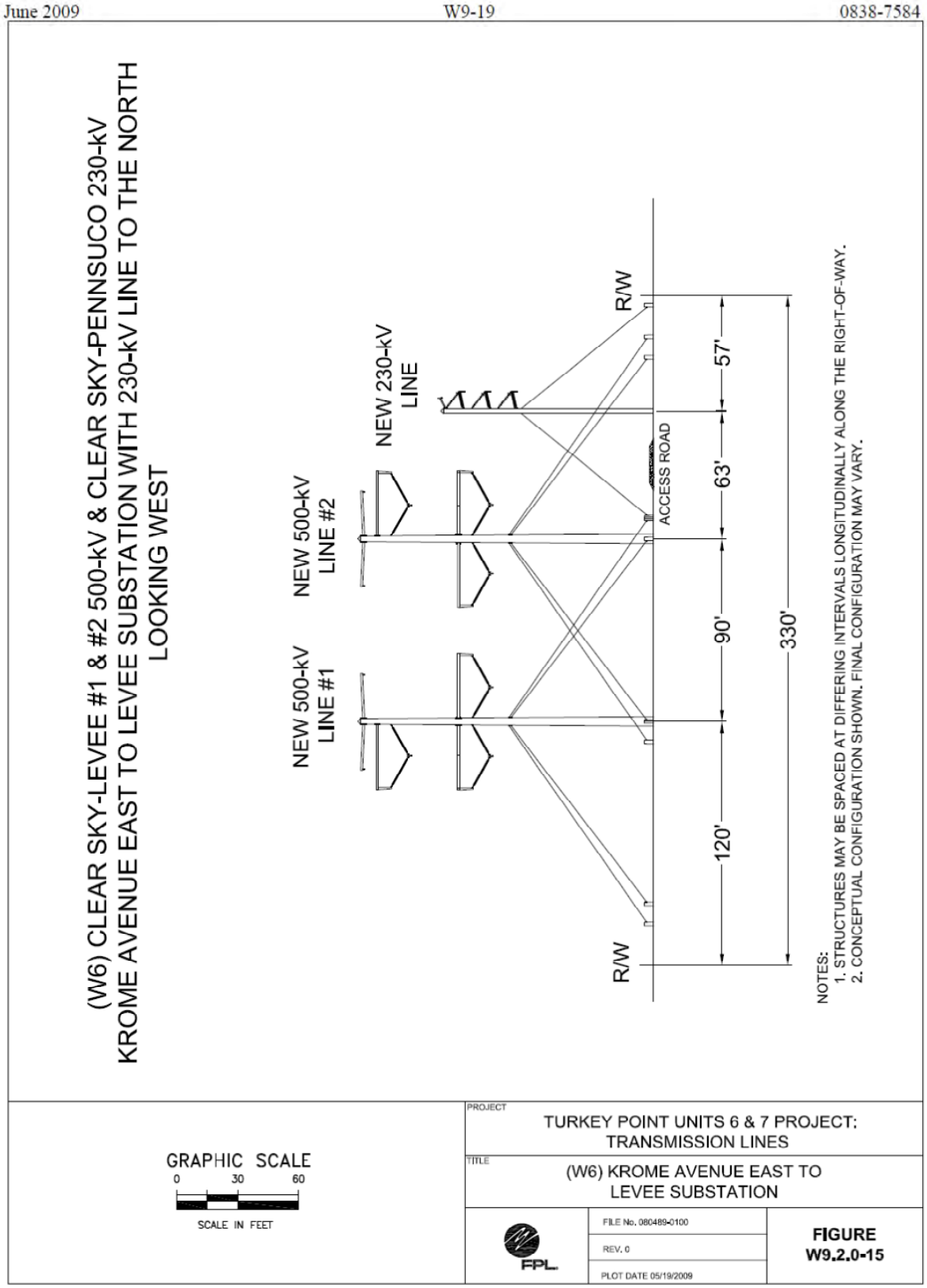


FIGURE F-5: (W6) KROME AVENUE EAST TO LEVEE SUBSTATION

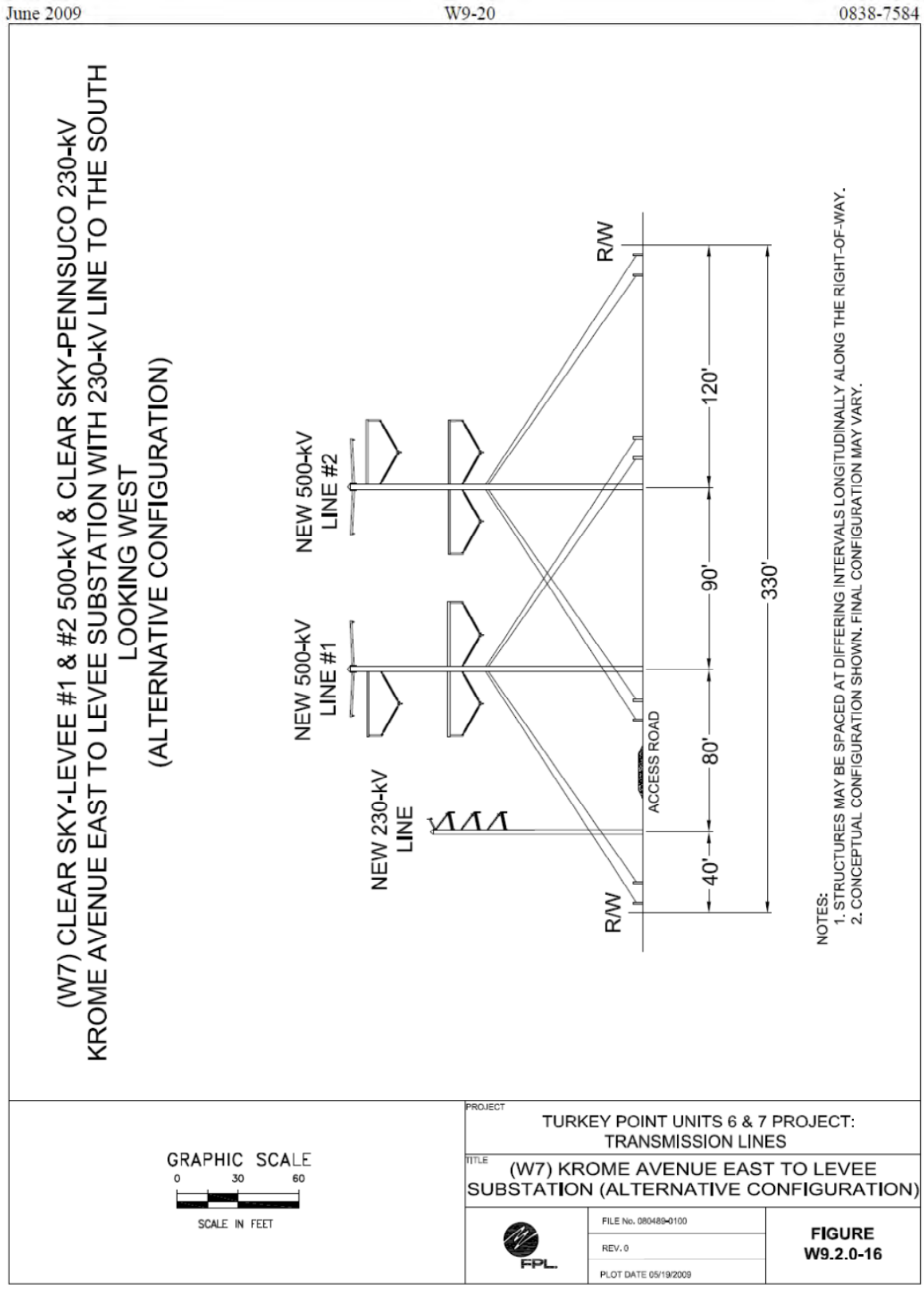


FIGURE F-6: (W7) KROME AVENUE EAST TO LEVEE SUBSTATION (ALTERNATIVE CONFIGURATION)

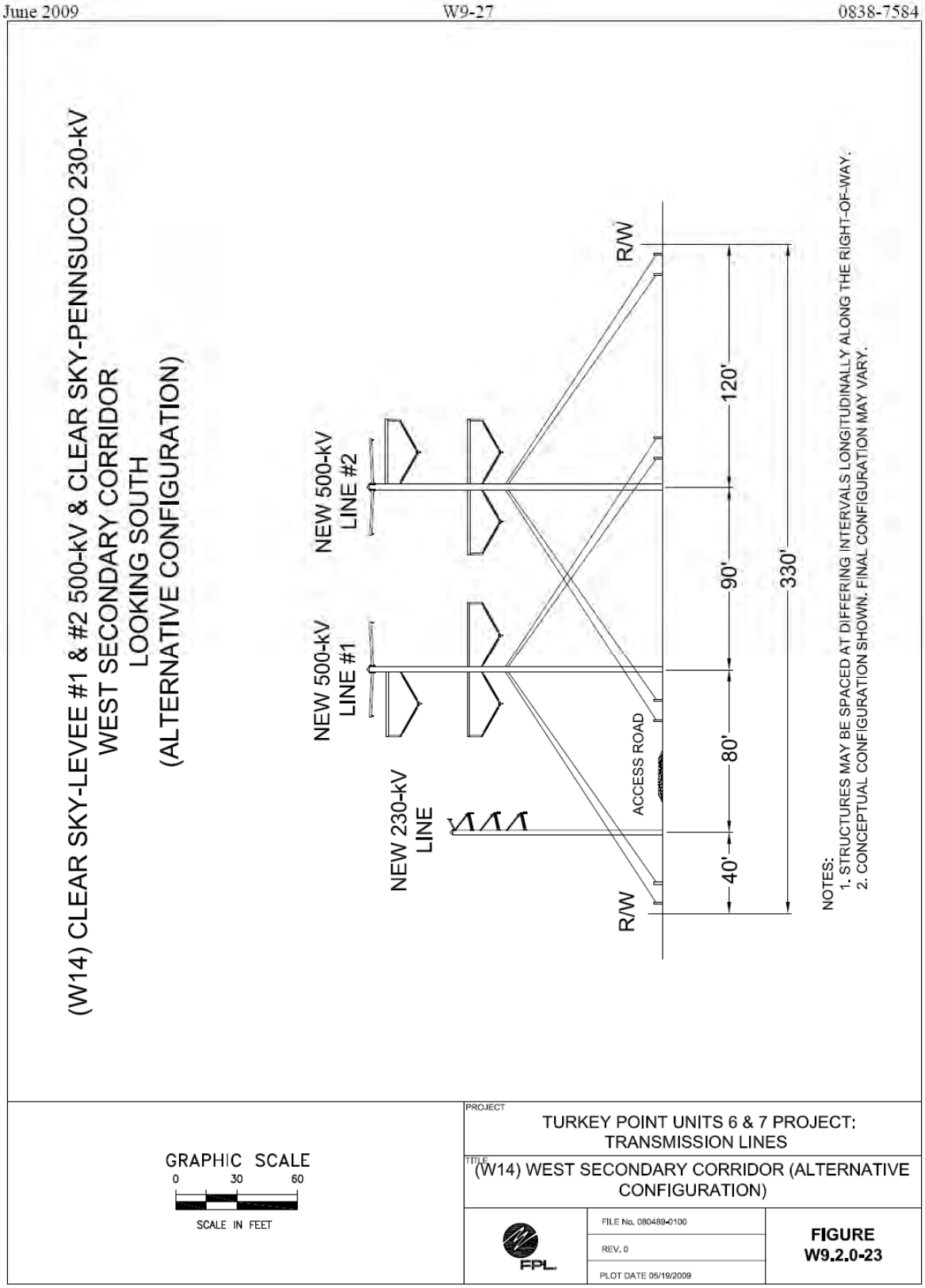


FIGURE F-7: (W14) WEST SECONDARY CORRIDOR (ALTERNATIVE CONFIGURATION)

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 F-8 through F-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 (where there are both 500-kV and 230-kV structures) would be 1 acre in wetland areas (where more fill is needed) and 0.68 acres in non-wetland or upland areas. The smaller 230-kV pads were assumed to be about 0.35 acre 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.

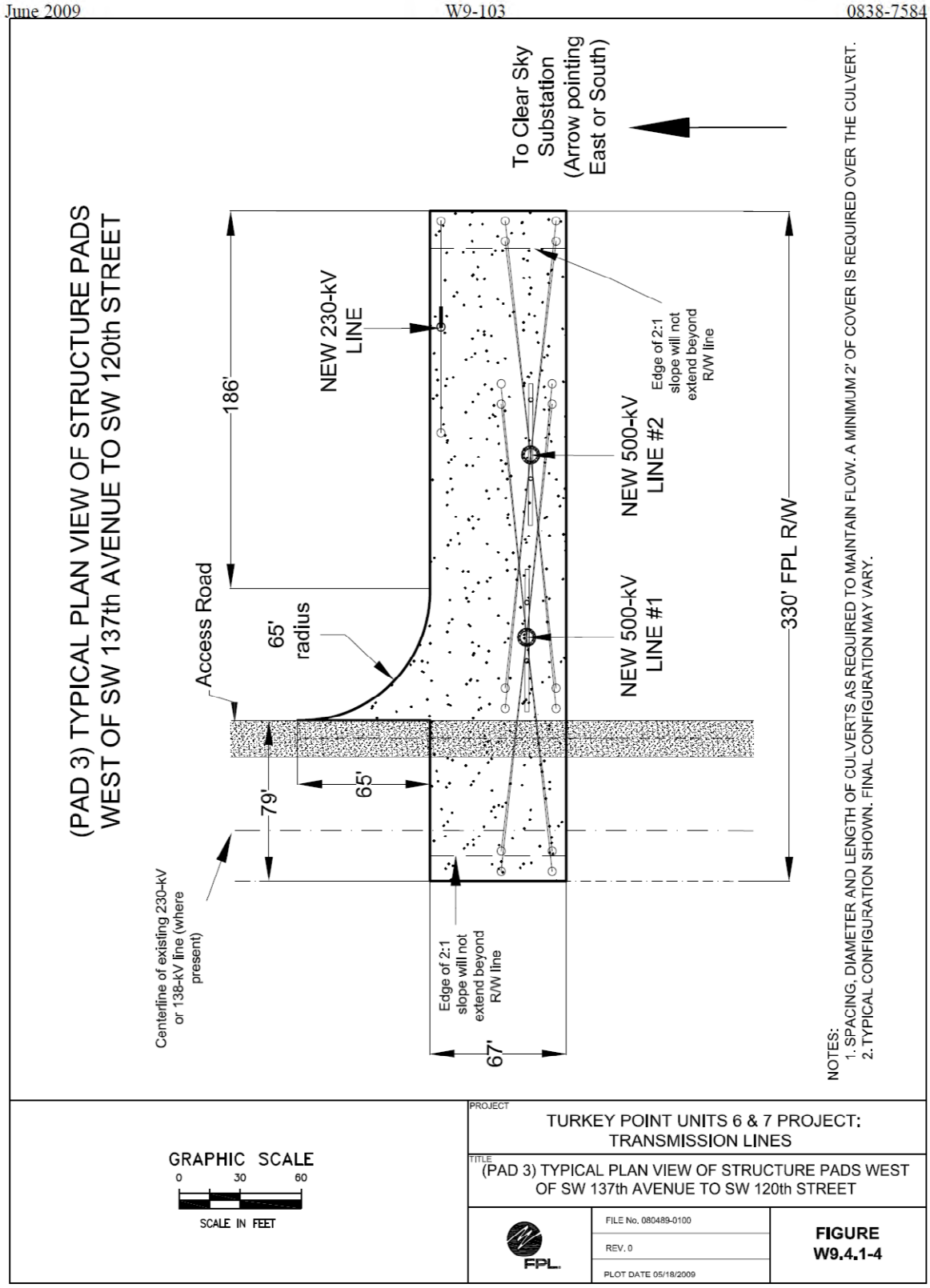


FIGURE F-8: (PAD 3) TYPICAL PLAN VIEW OF STRUCTURE PADS WEST OF SW 137TH AVENUE TO SW 120TH STREET

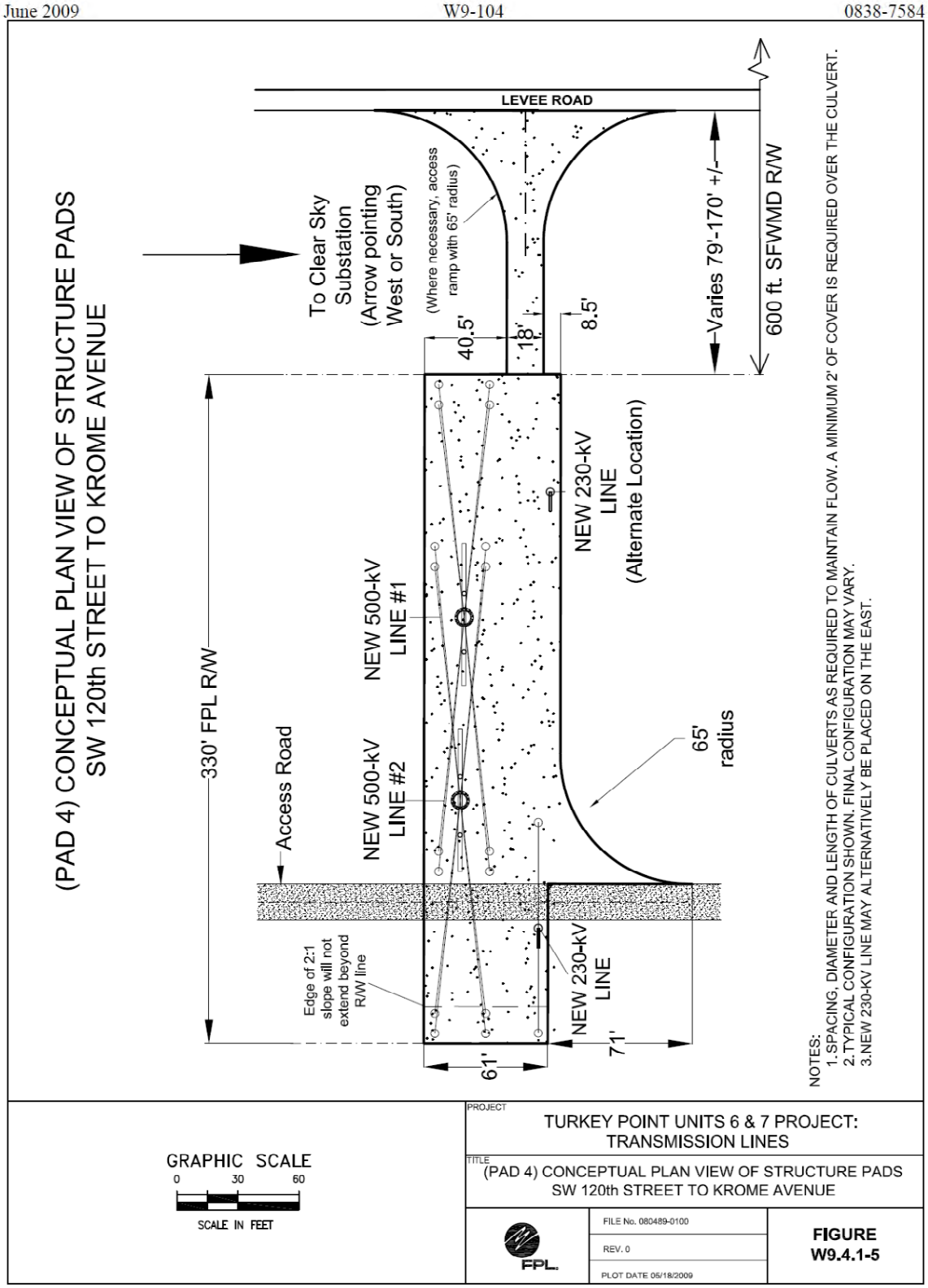


FIGURE F-9: (PAD 4) CONCEPTUAL PLAN VIEW OF STRUCTURE PADS SW 120TH STREET TO KROME AVENUE

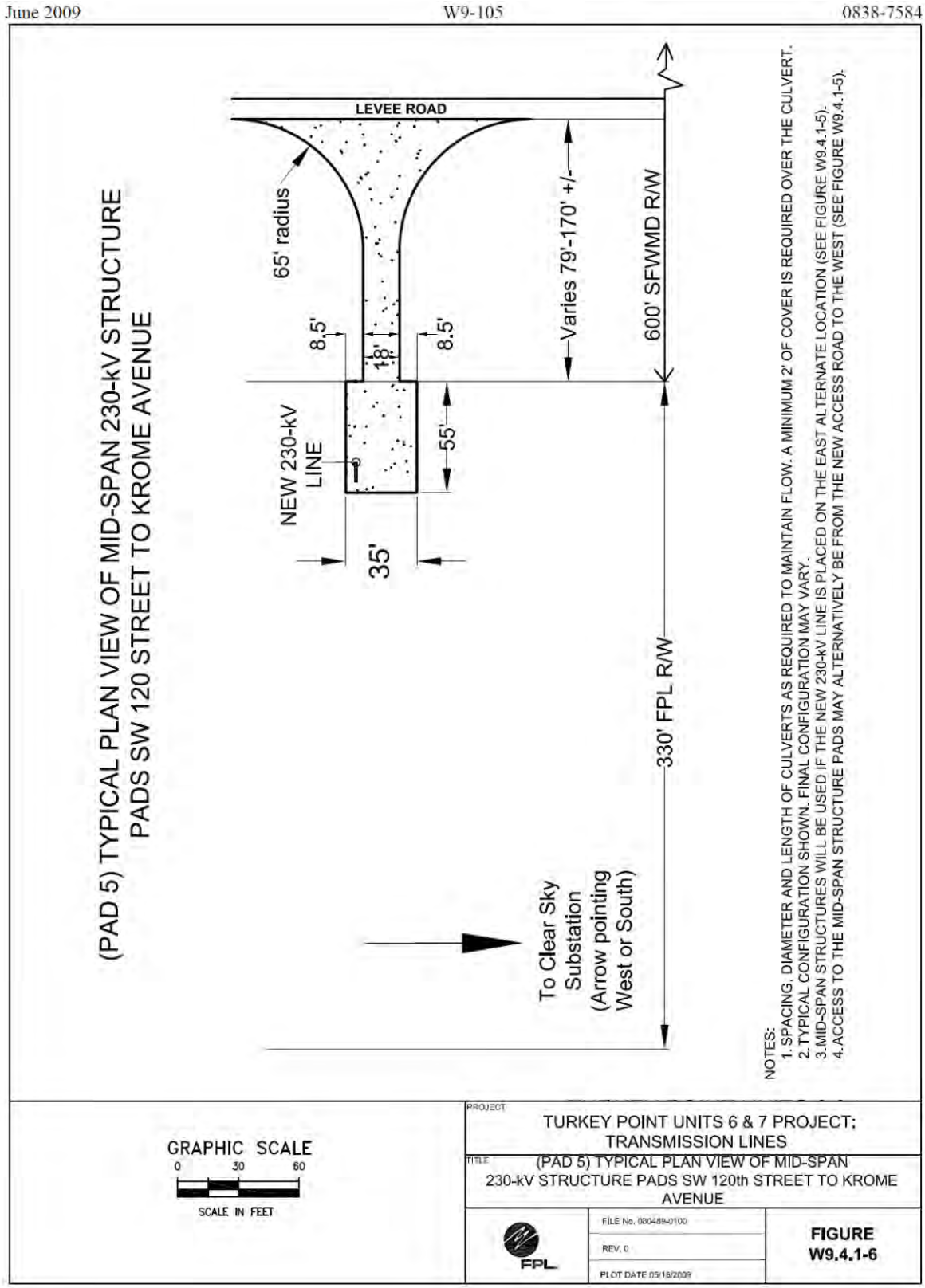


FIGURE F-10: (PAD 5) TYPICAL PLAN VIEW OF MID-SPAN 230-KV STRUCTURE PADS SW 120TH STREET TO KROME AVENUE

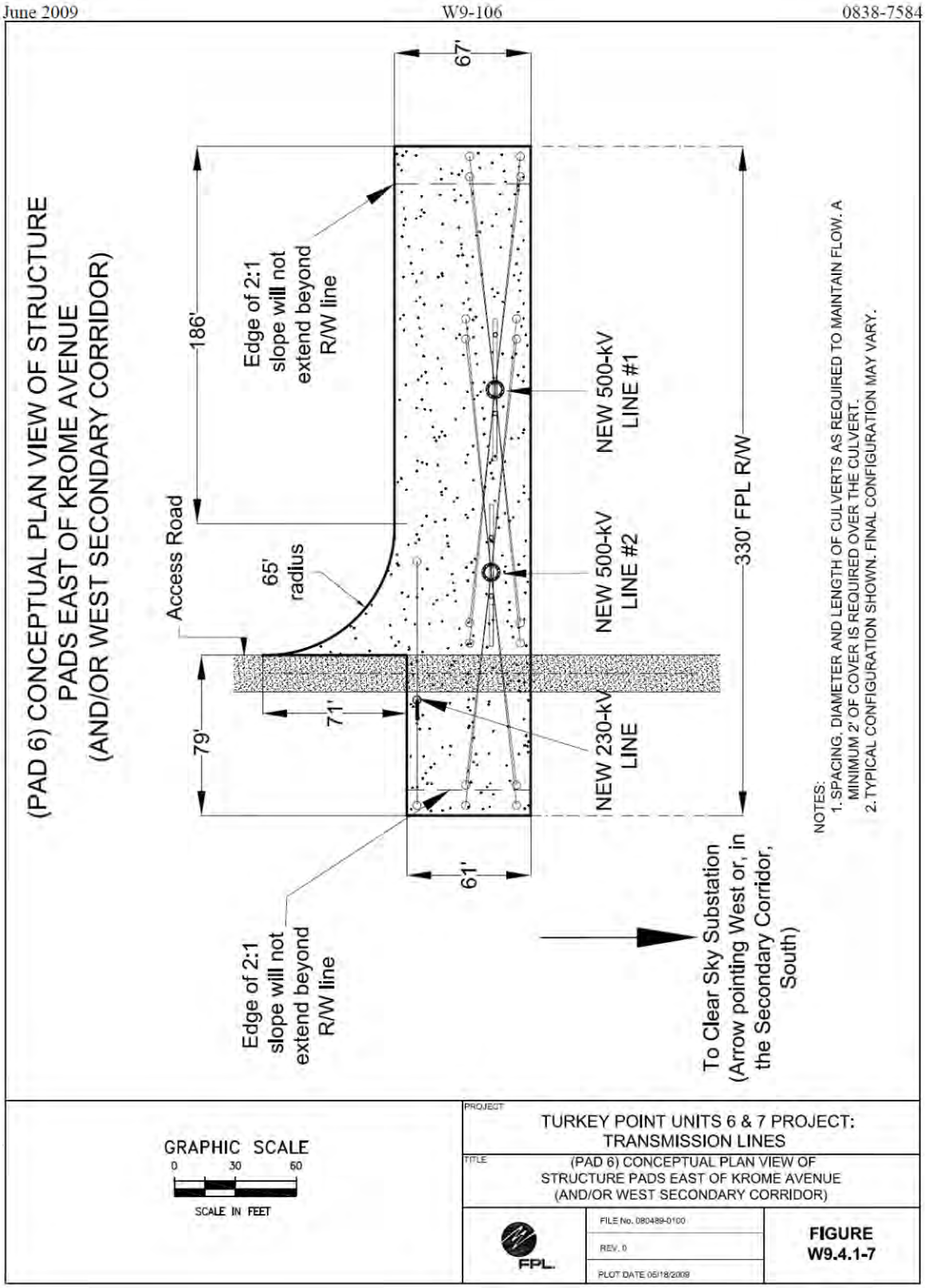


FIGURE F-11: (PAD 6) CONCEPTUAL PLAN VIEW OF STRUCTURE PADS EAST OF KROME AVENUE (AND/OR WEST SECONDARY CORRIDOR)

A cross-section of a typical access road/pad is shown in figure F-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).

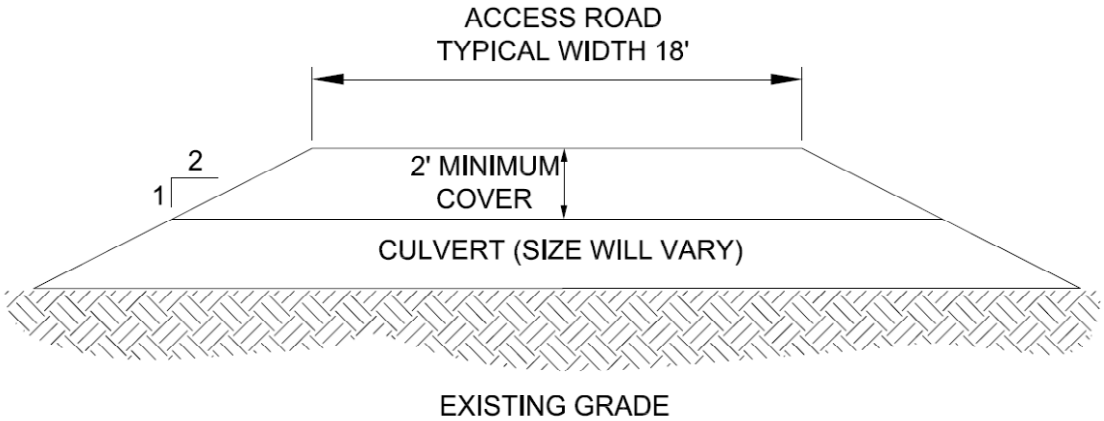
Culverts are included under access roads in wetlands to maintain channel flow and/or overland flow. Typically a minimum of 2 feet of cover is installed over culverts to ensure they are not crushed by vehicle loads. The culverts are installed so that their invert elevations match the wetland floor elevation. 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



NOTES:

1. HEIGHT OF ROAD/PAD VARIES, MINIMUM 12" OVER MEAN OR SEASONAL HIGH WATER.
2. SPACING, DIAMETER AND LENGTH OF CULVERTS AS REQUIRED TO MAINTAIN FLOW. A MINIMUM OF 2' OF COVER IS REQUIRED OVER THE CULVERT.
3. ACCESS ROADS/PADS TO BE BUILT ONLY WHERE EXISTING ACCESS AT THE TIME OF CONSTRUCTION IS UNAVAILABLE.
4. TYPICAL ROAD IS 18' TOP-WIDTH. TOP WIDTH OF STRUCTURE PADS WILL VARY.

NOT TO SCALE

PROJECT: TURKEY POINT UNITS 6 & 7 PROJECT: TRANSMISSION LINES

TITLE: TYPICAL ACCESS ROAD / PAD CROSS-SECTION

FPL

FILE No. 080489-0100

REV. 0

PLOT DATE 05/15/2009

FIGURE W9.3.4-1

FIGURE F-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 inspections would likely take place twice yearly. Vegetation would be maintained on an as-needed basis 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. Accessed online at: http://publicfiles.dep.state.fl.us/Siting/Outgoing/FPL_Turkey_Point/Units_6_7/Application/.

National Electrical Safety Code (NESC)

2007 Accessed online at: 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

Draft Terms and Conditions

Fee for Fee Exchange Alternative

Grantee shall have the full property rights and authority on the Exchange Property, subject only to the following restrictions in favor of the United States of America, which may not be terminated, altered or amended except by a written instrument executed by Grantor and Grantee, or their respective successors and assigns in recordable form:

1) **Property Use:** The Exchange Property shall be used solely for conservation or for the purpose of accessing, constructing, operating, maintaining, replacing, removing, relocating, improving and modifying utility facilities and appurtenant equipment and facilities.

2) **Consistency with Other Regulatory Actions and Legislative Direction**: Grantee shall obtain all required federal, state and local permits, including incidental take permits from the U.S. Fish & Wildlife Service as appropriate, for all facilities constructed on the Exchange Property.

3) **Flowage:** The United States expressly reserves the right to flow water in perpetuity over the entirety of the Exchange Property, up to a design level of -10.5 NGVD 1929.

4) **Best Management Practices**: Grantee shall utilize best management practices for all construction, operations and maintenance activities within the Exchange Property to the maximum extent practicable to avoid, minimize and mitigate adverse impacts to natural and cultural resources of Everglades National Park.

5) Work Plans:

a) **Construction Work Plan**: Prior to construction of any facilities within the Exchange Property, Grantee shall develop a Construction Work Plan for any construction activities within the Exchange Property. This work plan will provide details on proposed activities and steps taken to avoid and minimize impacts to adjacent park resources from construction activities including but not limited to dredging and filling, heavy equipment use, presence of hazardous materials, and sediment and erosion. Park resources to be considered in the plan include but are not limited to cultural resources, soundscapes, wetlands, vegetation, wildlife, sheetflow/hydrology, and special status species. Plan should also include details of how ongoing or planned park projects in the vicinity of the Exchange Property would be impacted by construction activities including consideration of access during construction. Grantee will provide the Grantor with an opportunity to review and comment on the Construction Work Plan prior to finalization. Grantor will provide comments to Grantee within 60 days of receiving plan. If Grantor and Grantee do not concur on the adequacy of the plan, then resolution of the dispute will occur according to section 11 of this appendix.

b) **Operations & Maintenance (O&M) Work Plan**: Following completion of construction of any utility facilities and prior to commencement of O&M activities within the Exchange Property, Grantee shall develop an O&M Work Plan for the O&M activities within the Exchange Property. Grantee will provide the Grantor with an opportunity to review and comment on the O&M Work Plan prior to finalization. Grantor will provide comments to Grantee within 60 days of receiving plan. If grantor and grantee do not concur on the adequacy of the plan, then resolution of the dispute will occur according to section 11 of this appendix.

6) Vegetation Management:

a) Grantee shall manage vegetation, including trimming, pruning or topping of trees, as necessary to maintain the minimum safety and electrical clearances in accordance with the most recent ANSI A-300 Standard Practices of Tree Care Operations.

b) Grantee shall use best management practices within the Exchange Property to control exotic, non-native vegetation species, such as mechanical methods and selective application of herbicides. Control activities for exotic, non-native vegetation will be initiated promptly after FPL receives title to the Exchange Property.

c) Integrated Pest Management: Grantee and Grantor agree to coordinate the development and implementation of an Integrated Pest Management (IPM) Plan for control of exotic vegetation within the Exchange Property. Herbicides applied within the Exchange Property shall only be those registered by the U.S. Environmental Protection Agency and which have state approval. Herbicide application rates and concentrations will be in accordance with label directions and will be carried out by a licensed applicator, meeting all federal, state and local regulations. Herbicide applications shall be selectively applied to targeted vegetation. Broadcast application of herbicide shall not be used within the Exchange Property unless the effects on non-targeted vegetation are minimized consistent with the IPM plan. Grantee understands and agrees that a report must be submitted to the Grantor for each herbicide application.

7) Fire Management: Grantee and Grantor agree to coordinate fire management within and adjacent to the Exchange Property. Recognizing that the Grantor periodically uses prescribed burns to maintain its lands adjacent to the Exchange Property, Grantee shall coordinate times for Grantor to initiate and manage such prescribed burns within the Exchange Property on no less than a 5-year cycle so that the prescribed burns will not interfere with the reliable delivery of utility service to Grantee's customers.

8) Rights of Access:

a) Neither Grantee nor Grantor shall create any new public access to the Everglades National Park through the Exchange Property.

b) Grantee's access points to the Exchange Property shall be secured with locks designed to exclude members of the public from the Exchange Property while maintaining access to adjacent government lands by appropriate government officials and individuals conducting National Park Service business.

c) Grantee may provide to Grantor or other federal or state agencies access to the Exchange Property to the extent such access is not incompatible with Grantee's existing and future use of the Exchange Property.

9) **Avian Species Protection:**

a) In the northernmost five (5) miles of the Exchange Property, nearest to where wood storks and other wading birds integral to the character, purpose, and ecological health of Everglades National Park are known to utilize habitat in the park, the Exchange Corridor, and habitats east of the Corridor, Grantee agrees that all infrastructure shall be constructed, operated, and maintained utilizing state-of-the-art practices to eliminate or reduce injury/mortality of avian species to the maximum extent practicable, to include, inter alia:
   i) construction without guy wires to the maximum extent practicable;
   ii) varied transmission structure spacing and sizing to minimize risk of avian impacts; and
   iii) maximizing use and effectiveness of flight diverters and powerline marking.

b) Powerline design will be submitted to Grantor for review and comment. Other design alternatives may also be available in certain locales and Grantee may submit alternatives to Grantor for review and comment. Grantee is encouraged to consider constructing the line underground to avoid above-ground impacts to avian resources. If grantor and grantee do not concur on the adequacy of the design, then resolution of the dispute will occur according to section 11 of this appendix.

c) If Grantee seeks to reduce the area where maximum avian protection is required, it may conduct a pre-construction avian risk study over the entire Exchange Property for a minimum of 3 full years prior to finalizing powerline design to identify the locations where powerlines pose a threat to the avian resources (primarily wading birds). The multi-year duration is needed to address inter-annual variation in avian use of the landscape in response to varying quality of avian habitat, food resources, and climatic variability. The study shall be subject to peer review by NPS and other scientists. The results of the study will be agreed in advance by the Parties to determine the locations where the design must maximize protection of avian resources.

10) Right of First Refusal: If FPL, or any of its successors or assigns, should seek to sell, transfer or assign its interests in the Exchange Property or Vegetation and Fire Easement 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 facility built by FPL on the Exchange Property, the United States shall have the right of first refusal of any bona fide offer for sale of any of FPL's interests in said Exchange Property or Vegetation and

Fire Easement Property. This right of first refusal shall survive closing, and such rights shall be exercised within 120 days of FPL's receipt of notice of the bona fide offer for sale.

11) Dispute Resolution: The parties desire and agree to use their best efforts to work cooperatively and to settle disagreements through good faith negotiations between themselves. The parties agree to make every attempt to settle any disputes regarding this agreement at the lowest organizational level within 30 days with the Grantor being represented by the Superintendent of Everglades National Park and the Grantee being represented by the Vice President Transmission and Substation of Florida Power & Light Company. If the dispute is not resolved within 30 days upon elevation, the parties will elevate the matter to the next organizational level with the Grantor being represented by the Southeast Regional Director, National Park Service and the Grantee being represented by the Senior Vice President Power Delivery of Florida Power & Light Company. If the matter is not resolved within 14 days upon elevation, the parties agree that the matter shall be elevated to the Director of National Park Service and the President of Florida Power and Light Company for prompt resolution.

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:

<u>Proposed Terms and Conditions</u>

1. <u>Land Purposes:</u> 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. <u>Perpetual Flowage Easement:</u> 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
Acrostichum danaeifolium	Giant leather fern		N		X	X
Agalinis fasciculata	Beach false foxglove		N			X
Aeschynomene pratensis	Sensitive joint-vetch, Meadow joint-vetch	E	N		X	
Amaranthus australis	Southern water-hemp, Southern amaranth		N			X
Ampelopsis arborea	Peppervine		N		X	X
Andropogon glomeratus var. pumilis	Common bushy bluestem		N		X	X
Andropogon virginicus	Broomsedge bluestem		N		X	X
Anemia adiantifolia	Pine fern, Maidenhair pineland fern		N		X	X
Angadenia berteroi	Pineland-allamanda, Pineland golden trumpet	T	N			X
Annona glabra	Pond-apple		N		X	X
Ardisia elliptica	Shoe-button ardisia		E	I		X
Ardisia escallonioides	Marlberry		N			X
Aristida purpurascens	Arrowfeather threeawn		N		X	X
Aster bracei	Brace's aster		N			X
Baccharis glomeruliflora	Silverling		N			X
Bacopa caroliniana	Lemon hyssop, Lemon bacopa, Blue waterhyssop		N		X	X
Bidens alba var. radiata	Spanish-needles		N			X
Blechnum serrulatum	Swamp fern, Toothed midsorus fern		N		X	
Boehmeria cylindrica	Button-hemp, False nettle, Bog hemp		N		X	X
Carica papaya	Papaya		E	NL		X
Casuarina equisetifolia	Australian-pine, Horsetail casuarina		E	I	X	X
Centella asiatica	Coinwort, Spadeleaf		N		X	
Cephalanthus occidentalis	Common buttonbush		N		X	X
Chamaesyce conferta	Everglades key sandmat		N			X
Chamaesyce hirta	Hairy spurge, Pillpod sandmat		N			X
Chamaesyce hyssopifolia	Eyebane, Hyssopleaf sandmat		N			X
Chiococca parvifolia	Pineland snowberry		N			X
Chromolaena odorata	Jack-in-the-bush		N			X
Cirsium horridulum	Purple thistle		N			X
Chrysobalanus icaco	Coco-plum		N		X	
Cladium jamaicensis	Saw-grass, Jamaica swamp sawgrass		N		X	X
Coelorachis rugosa	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
Conoclinium coelestinum	Blue mistflower		N		X	X
Conyza canadensis var. pusilla	Dwarf Canadian horseweed		N		X	X
Crinum americanum	Swamp-lily, Seven-sisters, String-lily		N		X	X
Cuphea strigulosa	Stiffhair waxweed		E	NL		X
Cyperus haspan	Haspan flatsedge		N			X
Dichanthelium aciculare	Needleleaf witchgrass		N		X	X
Dichanthelium dichotomum	Cypress witchgrass		N			X
Dichanthelium erectifolium	Erectleaf witchgrass		N		X	X
Echites umbellata	Devil's-potato, Rubbervine		N			X
Eleocharis cellulosa	Gulf Coast spikerush		N		X	X
Eragrostis elliottii	Elliott's love grass		N		X	
Erigeron quercifolius	Southern-fleabane, Oakleaf fleabane		N			X
Eugenia axillaris	White stopper		N			X
Eupatorium leptophyllum	Falsefennel		N		X	X
Eustachys glauca	Prairie fingergrass, Saltmarsh fingergrass		N			X
Eustachys petraea	Common fingergrass, Pinewoods fingergrass		N			X
Ficus aurea	Strangler fig, Golden fig		N		X	X
Ficus citrifolia	Short-leaf fig, Wild banyan tree		N			X
Fimbristylis cymosa	Hurricane sedge, Hurricanegrass		N			X
Flaveria linearis	Narrowleaf yellowtops		N			X
Fuirena breviseta	Saltmarsh umbrellasedge		N		X	X
Heliotropium polyphyllum	Pineland heliotrope		N			X
Hibiscus grandiflora	Swamp hibiscus, Swamp rosemallow		N		X	
Hypericum brachyphyllum	Coastalplain St. John's-wort		N			X
Hypericum hypericoides	St. Andrew's-cross		N			X
Hyptis alata	Musky mint, Clustered bushmint		N		X	X
Ilex cassine	Dahoon holly, Dahoon		N		X	X
Imperata cylindrica	Congongrass, Cogongrass		E	I		X
Ipomoea alba	Common moonflowers, Moonflowers		N			X
Ipomoea sagittata	Everglades morningglory		N		X	
Iva microcephala	Piedmont marshelder		N		X	X
Lantana camara	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
Justicia angusta	Narrow-leaved waterwillow		N		X	
Kosteletzkya virginica	Virginia saltmarsh mallow		N		X	
Leersia hexandra	Southern cutgrass		N		X	
Linum medium var. texanum	Stiff yellow flax		N		X	
Ludwigia curtissii	Curtiss's primrosewillow		N			X
Ludwigia microcarpa	Smallfruit primrosewillow		N		X	X
Ludwigia octovalvis	Mexican primrosewillow		N		X	
Magnolia virginiana	Sweet-bay		N			X
Mecardonia acuminata ssp. peninsularis	Axilflower		N			X
Melaleuca quinquenervia	Punktree		E	I	X	X
Mikania scandens	Climbing hempweed, Climbing hempvine		N		X	X
Mitreola sessilifolia	Mitrewort, Swamp hornpod		N		X	X
Muhlenbergia capillaris	Muhlygrass, Hairawnmuhly		N		X	X
Myrica cerifera	Wax myrtle, Southern Bayberry		N		X	X
Neyraudia reynaudiana	Burmareed, Silkreed		E	I		X
Nuphar lutea	Spatterdock, Yellow Pondlily		N			X
Nymphaea odorata	American white waterlily		N		X	
Nymphoides aquatica	Big floatingheart		N		X	
Oxypolis filiformis	Water dropwort, Water cowbane		N		X	
Panicum hemitomon	Maidencane		N		X	X
Panicum rigidulum	Redtop panicum		N		X	X
Panicum tenerum	Bluejoint panicum		N		X	
Parthenocissus quinquefolia	Virginia-creeper, Woodbine		N		X	
Paspalidium geminatum	Egyptian paspalidium		N			X
Paspalum caespitosum	Blue paspalum, Blue crowngrass		N			X
Paspalum monostachyum	Gulfdune paspalum		N			X
Passiflora suberosa	Corkystem passionflower		N		X	X
Persea palustris	Swamp bay		N		X	X
Phyla nodiflora	Frogfruit, Turkey tangle fogfruit, Capeweed		N		X	X
Phyla stoechadifolia	Southern fogfruit	E	N		X	X
Phyllanthus caroliniensis ssp. saxicola	Rock Carolina leafflower		N			X
Physalis walteri	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
Pluchea caroliniana	Cure-for-all		N		X	X
Pluchea rosea	Rosy camphorweed		N			X
Poinsettia cyathophora	Paintedleaf, Fire-on-the-mountain		N			X
Polygala grandiflora	Bigleafed Milkwort		N		X	X
Polygonum hydropiperoides	Mild water-pepper, Swamp smartweed		N		X	X
Pontederia cordata	Pickerelweed		N		X	
Proserpinnaca palustris	Mermaid weed, Marsh mermaidweed		N			X
Psychotria nervosa	Shiny-leaved wild coffee		N			X
Psychotria sulzerni	Shortleaf wild coffee		N			X
Pteris bahamensis	Bahama ladder brake	T	N			X
Pteris vittata	China brake		E	II		X
Rapanea punctata	myrsine		N			X
Rhynchelytrum repens	natal grass		E	I		X
Rhynchospora colorata	Starrush whitetop		N			X
Rhynchospora divergens	Spreading beaksedge		N		X	X
Rhynchospora inundata	Narrowfruit horned beaksedge		N		X	
Rhynchospora microcarpa	Southern beaksedge		N		X	X
Rhynchospora odorata	Fragrant beaksedge		N			X
Rhynchospora tracyi	Tracy's beaksedge		N		X	X
Sabal palmetto	Cabbage palm		N		X	X
Saccharum giganteum	Sugarcane plumegrass		N		X	X
Sagittaria lancifolia	Bulltongue arrowhead, lance-leaved arrowhead		N		X	X
Salix caroliniana	Coastal Plain willow		N		X	X
Samolus ebracteatus	Water pimpernel, Limewater brookweed		N		X	X
Sarcostemma clausa	Whitevine, White twinevine		N		X	X
Schinus terebinthifolius	Brazilian-pepper		E	I	X	X
Schizachyrium rhizomatum	Rhizomatous bluestem		N		X	X
Scleria verticillata	Low nutrush		N			X
Setaria magna	Giant bristlegrass		N		X	
Setaria parviflora	Knotroot foxtail, Yellow bristlegrass		N		X	X
Sida acuta	Common wireweed, Common fanpetals		N			X
Smilax bona-nox	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
Smilax laurifolia	Catbrier, Laurel greenbrier, Bamboo vine		N		X	
Solidago sp. (not stricta; e.g. gigantea)	Giant goldenrod		N		X	X
Solidago stricta	Narrow-leaved goldenrod, Wand goldenrod		N		X	X
Spartina bakeri	Sand cordgrass		N		X	
Spermacoce assurgens	Woodland false buttonweed		N			X
Spermacoce verticellata	Shrubby false buttonweed		E	NL		X
Spigelia anthelmia	West Indian pinkroot		N			X
Sporobolus indicus var. pyramidalis	West Indian dropseed		E	NL		X
Stachytarpheta jamaicensis	Blue porterweed, Joee		N			X
Teucrium canadense	Wood sage, Canadian germander		N			X
Thelypteris kunthii	Southern shield fern		N		X	X
Trema micrantha	Florida trema, Nettletree		N			X
Typha domingensis	Southern cat-tail		N		X	X
Utricularia purpurea	Eastern purple bladderwort		N			X
Vernonia blodgettii	Florida ironweed		N			X
Vitis rotundifolia	Muscadine, Muscadine grape		N			X
Waltheria indica	Sleepy morning		N			X
Total native					**76**	**109**
Total exotic					**3**	**13**
Total species					**79**	**122**
Total state listed threatened					**0**	**2**
Total state listed endangered					**2**	**1**

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

Exponent®

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

Prepared for

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Executive Summary

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

Everglades National Park encompasses approximately 6000 km^2 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 Progamme 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 Wiegers (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

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). 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 nest or nesting colony to a particular line segment for each species. The risk of colliding with transmission lines declines with distance. Relative risk for each transmission line alternative can be expressed with the following formula:

$$P_{\mathrm{a}}(S_{\mathrm{i}}) = \sum_{j}^{n} \frac{1}{(D_{\mathrm{aj}})\text{^}2} \times S_{\mathrm{ij}}$$

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 *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. The assumption is that birds fly out from colony *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 100 birds located 1 mile away from a transmission corridor, versus a colony of 1000 birds located 10 miles away from a transmission corridor, the difference in relative risk would be 100 (100 birds x [$1/1^2$]; or 100 x 1) versus 10 (1000 birds x [$1/10^2$]; or 1000 x 0.01). The higher risk would be attributed to the colony of 100 birds located 1 mile away from the transmission corridor.

This exercise was completed for each species for which available GIS and number-of-bird data were accessible. The per-species relative risks calculated for each transmission corridor were then summed 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

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 nests and nesting colonies associated with each location within the 30-mile boundary of the study area. 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 Secondary Corridor, intermediate for the FPL West Preferred Corridor, and least for Route A (Figure 3-1) (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, intermediate for the FPL West Preferred Corridor, and least for Route A (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, intermediate for the FPL West Preferred Corridor, and least for Route A (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 glossy ibis (Figure 3-1), but for both white ibis and roseate spoonbill, 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, intermediate for the FPL West Preferred Corridor, and least for Route A (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 Aramidae

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.

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 FPLWest 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 Columbid 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. It should be noted that the corridor widths vary. In particular, the West Preferred Corridor expands to about 900 feet in width in some places, and so the acres figures for this corridor reflect that greater area, and a direct comparison cannot be made to the other corridors that are not of the same width.

4 Discussion

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, as previously noted, the West Preferred Corridor expands to about 900 feet in width in some places, and so the acres figures for this corridor reflect that greater area, and a direct comparison cannot be made to the other corridors that are not of the same width. It is not yet known where the transmission lines would be located within the corridor. 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, assuming full corridor width. However, wet prairies and mixed shrublands are more likely to be 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

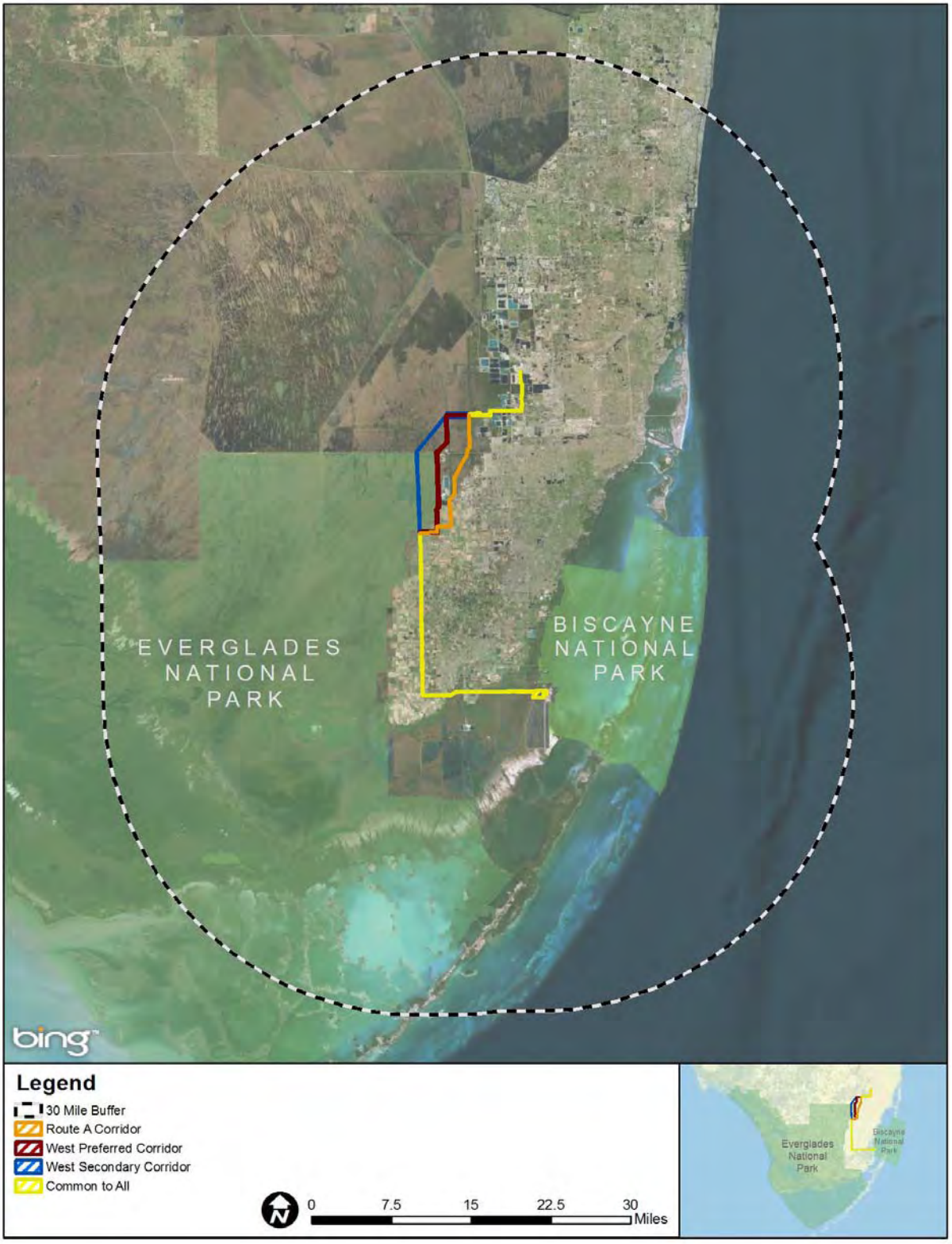


Figure 1-1. Everglades and Biscayne National Park locations, with 30-mile boundary around the study area that surrounds the three potential transmission corridors

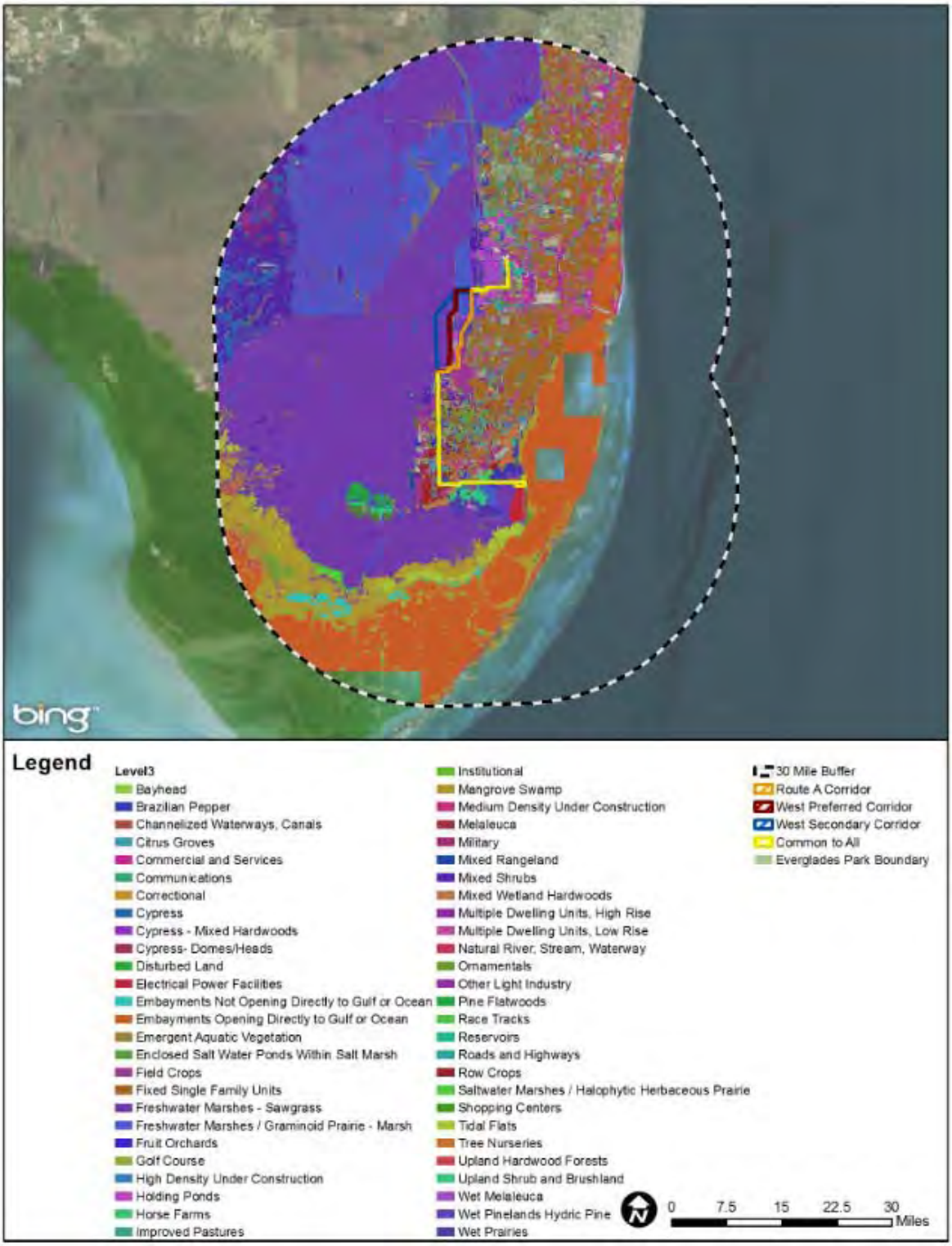


Figure 2-1. Level 3 land use land cover in the 30-mile boundary of the study area.

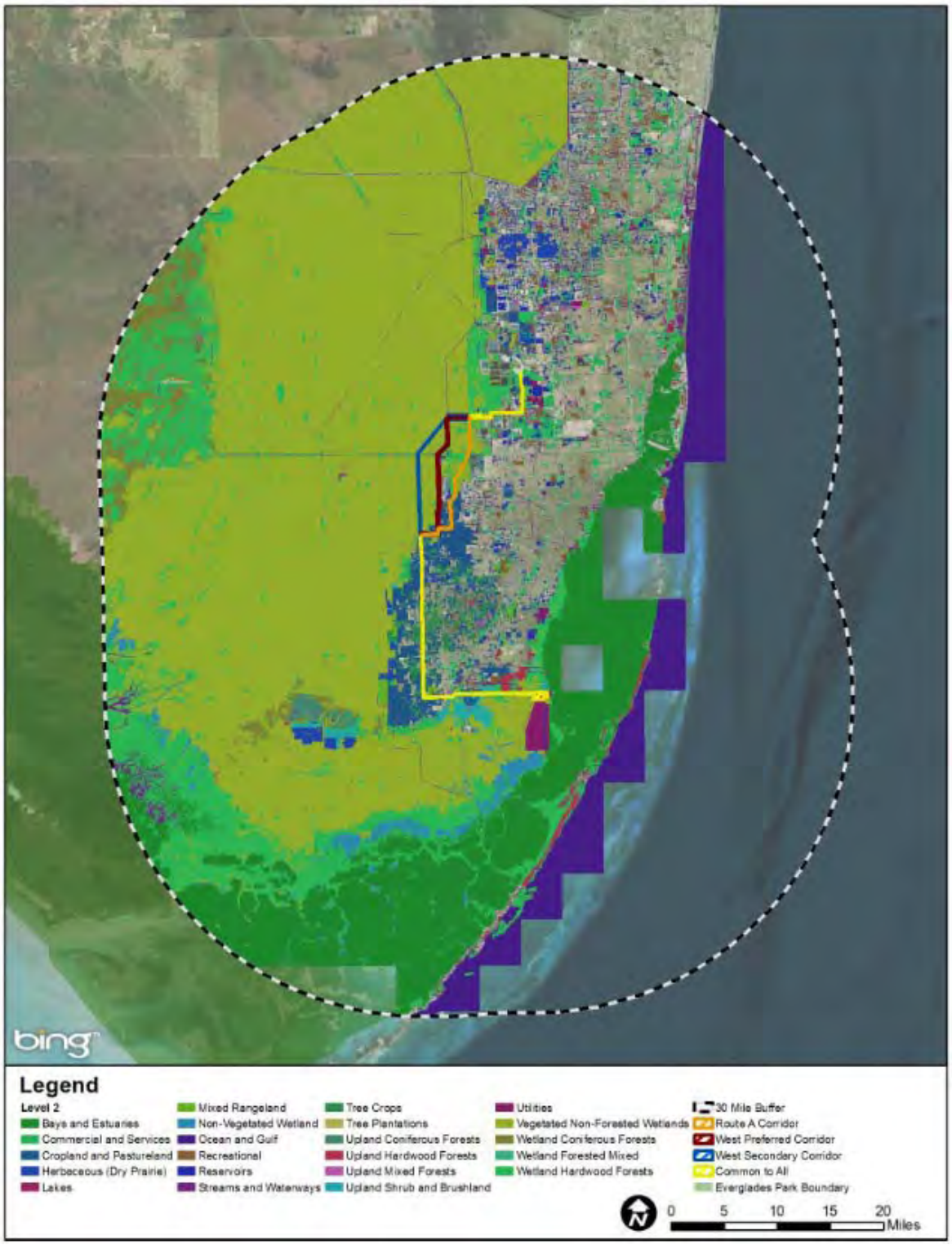


Figure 2-2. Level 2 land use land cover in the 30-mile boundary of the study area.

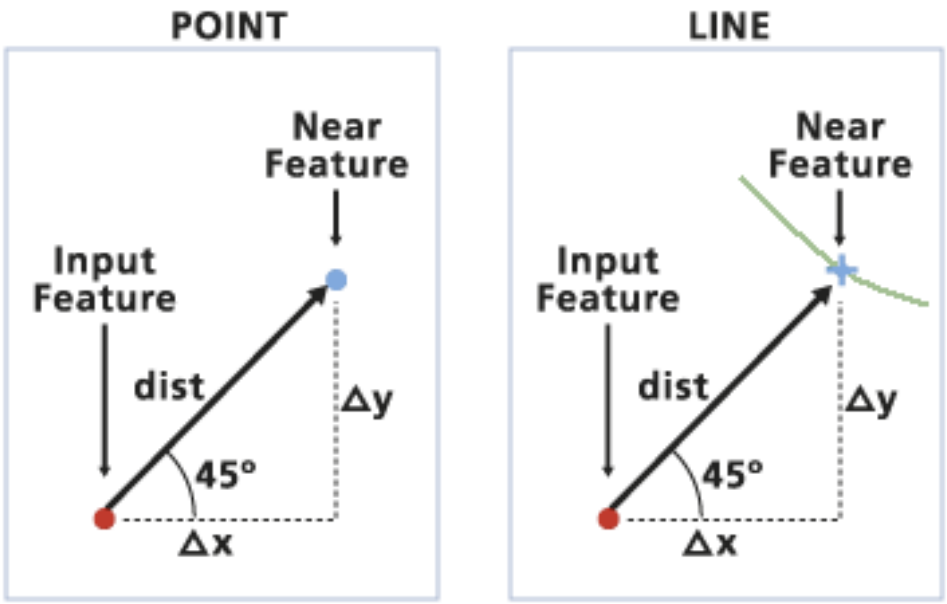


Figure 2-3. NEAR (Analysis) tool outputs a distance from an input feature such as a foraging individual or nesting colony to a point or to the nearest point on a line.

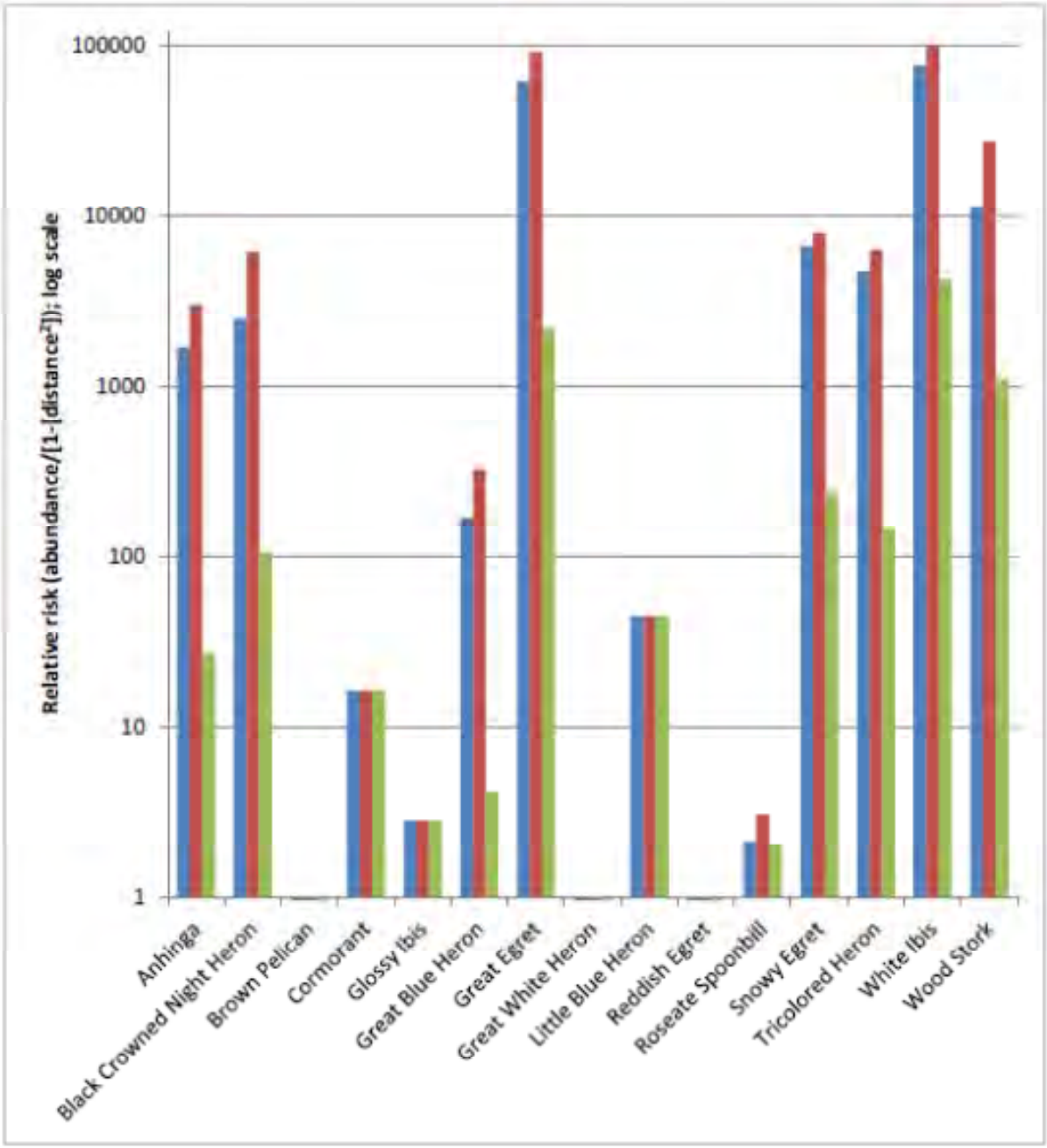


Figure 3-1. Relative risk of number of birds located at distances from the three potential transmission corridors, based on location and co-located abundance data provided in historical surveys for the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

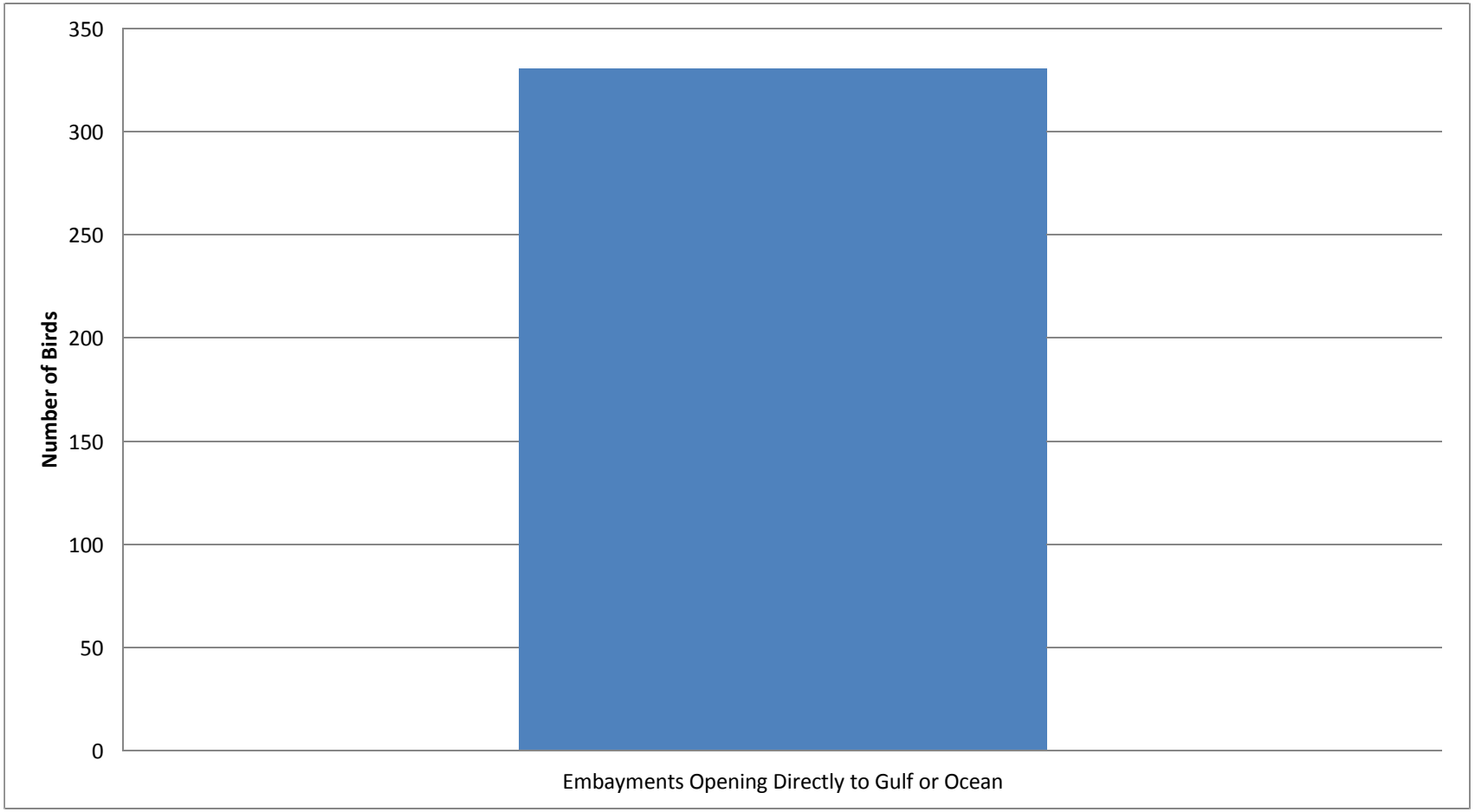


Figure 3-2. Number of brown pelicans associated with each Level 3 Land Use Land Cover category in the GIS database within the 30 mile boundary that surrounds the study area.

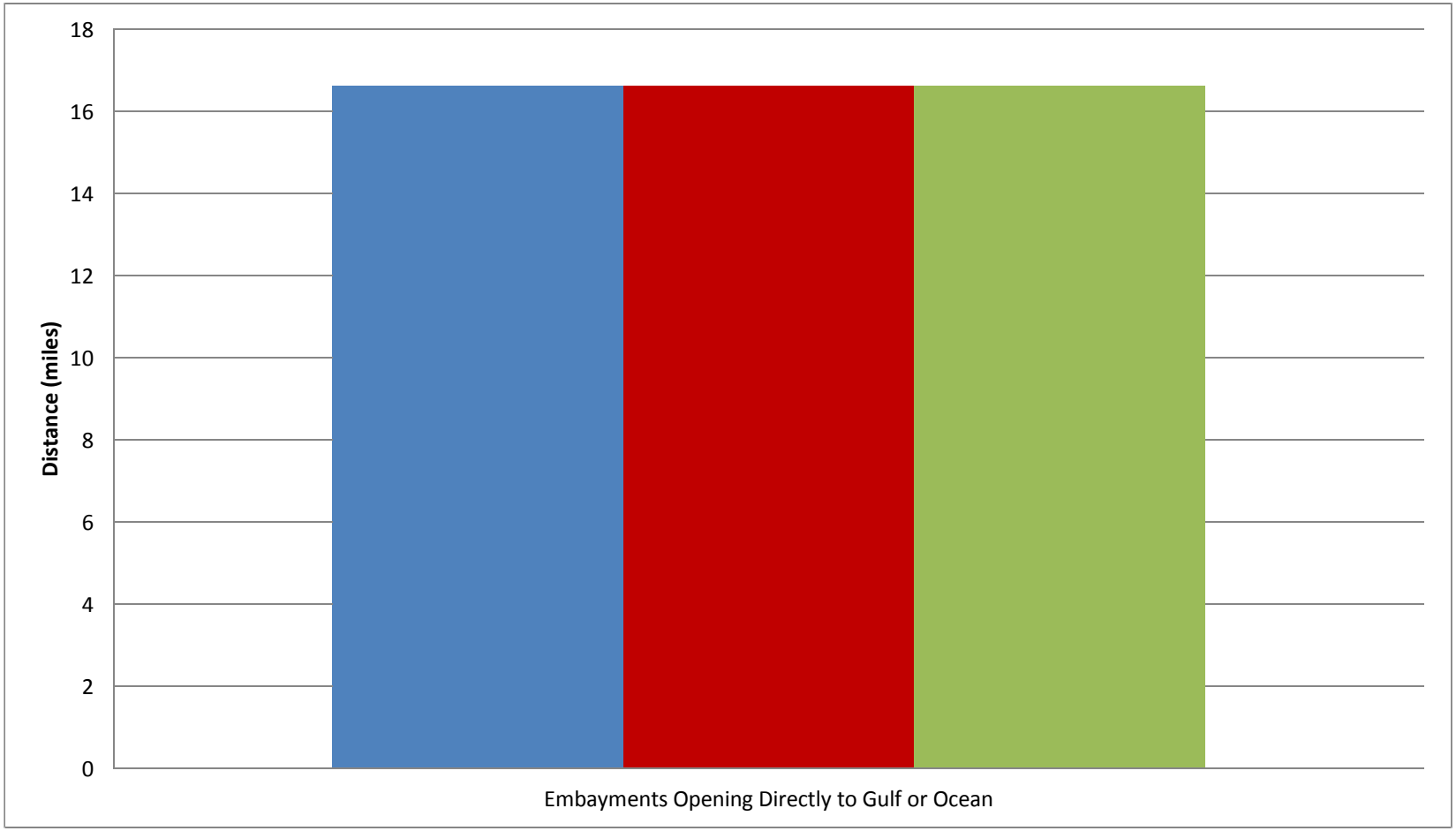


Figure 3-3. Relative risk in terms of distance of brown pelican preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

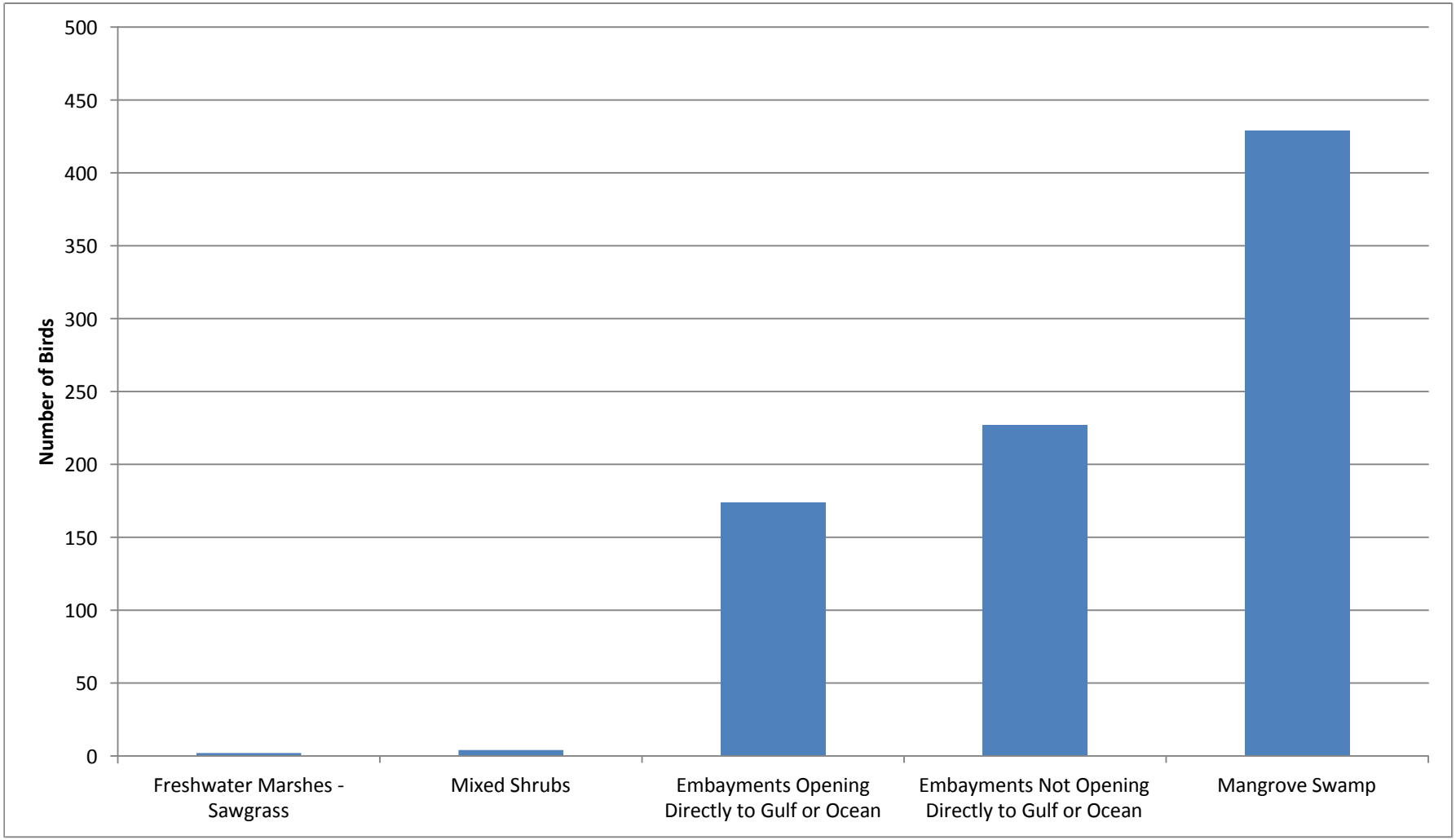


Figure 3-4. Number of double crested cormorants associated with each Level 3 Land Use Land Cover category in the GIS database within the 30 mile boundary that surrounds the study area.

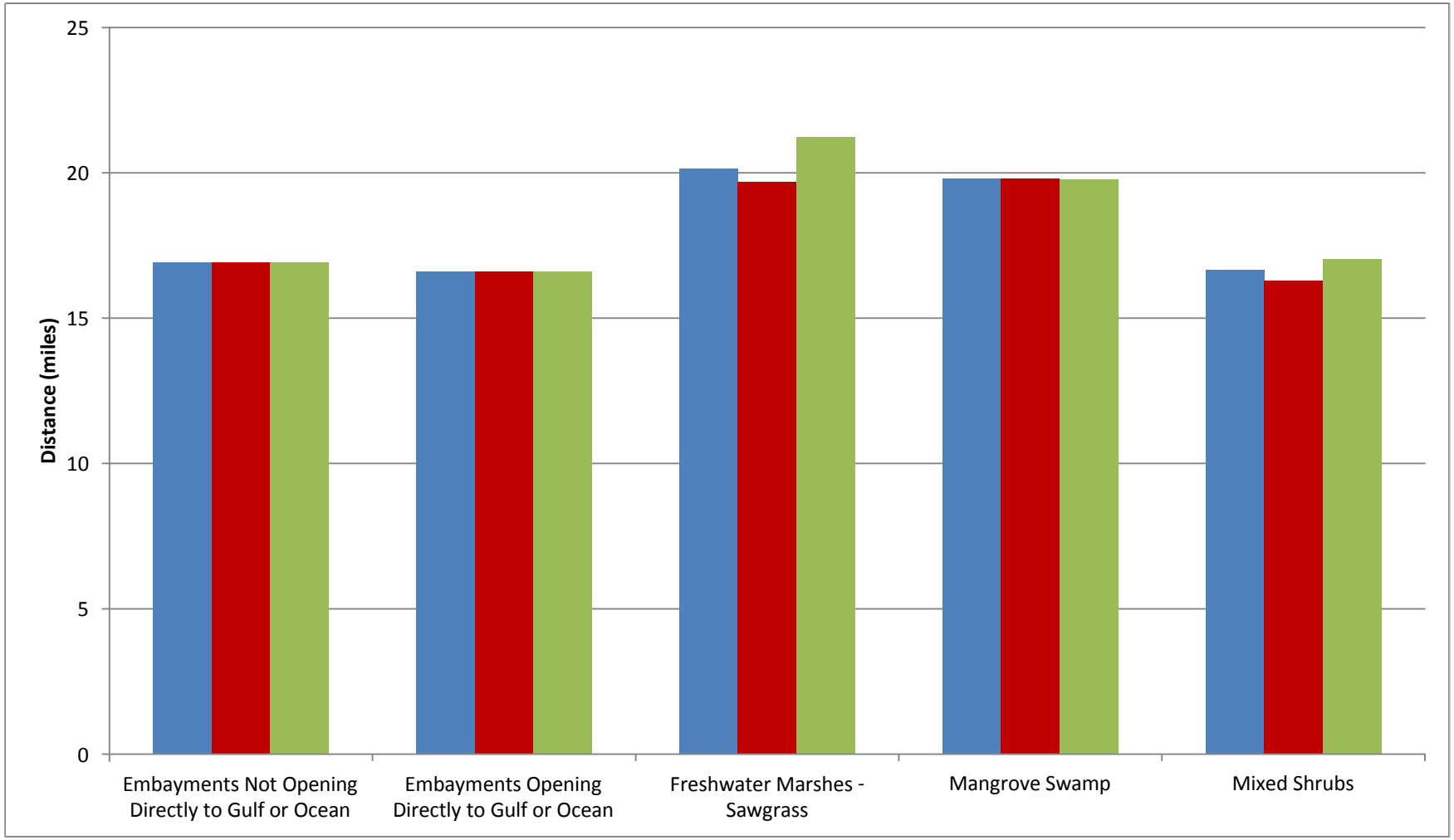


Figure 3-5. Relative risk in terms of distance of double crested cormorant preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

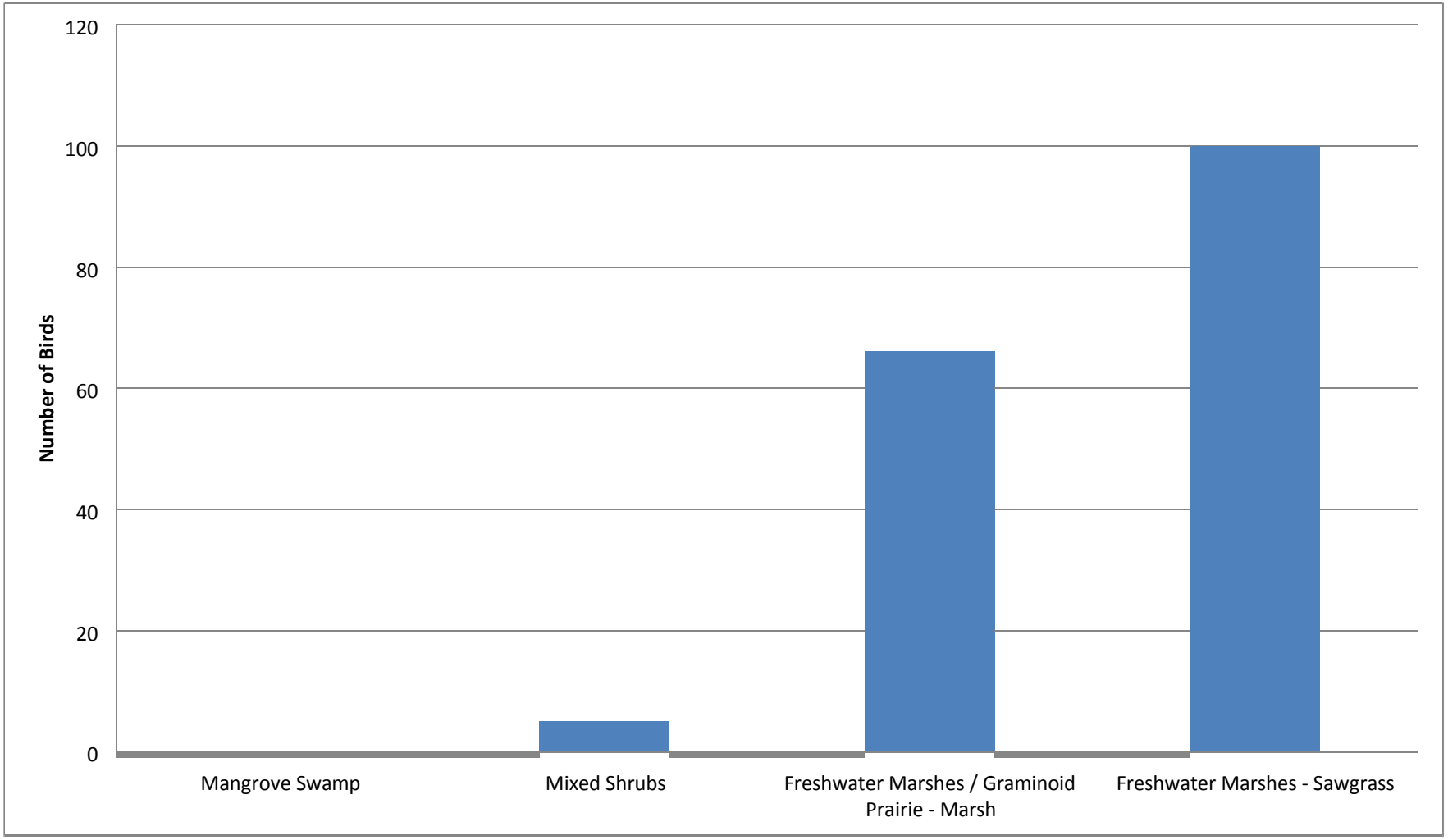


Figure 3-6. Number of anhinga associated with each Level 3 Land Use Land Cover category in the GIS database within the 30 mile boundary that surrounds the study area.

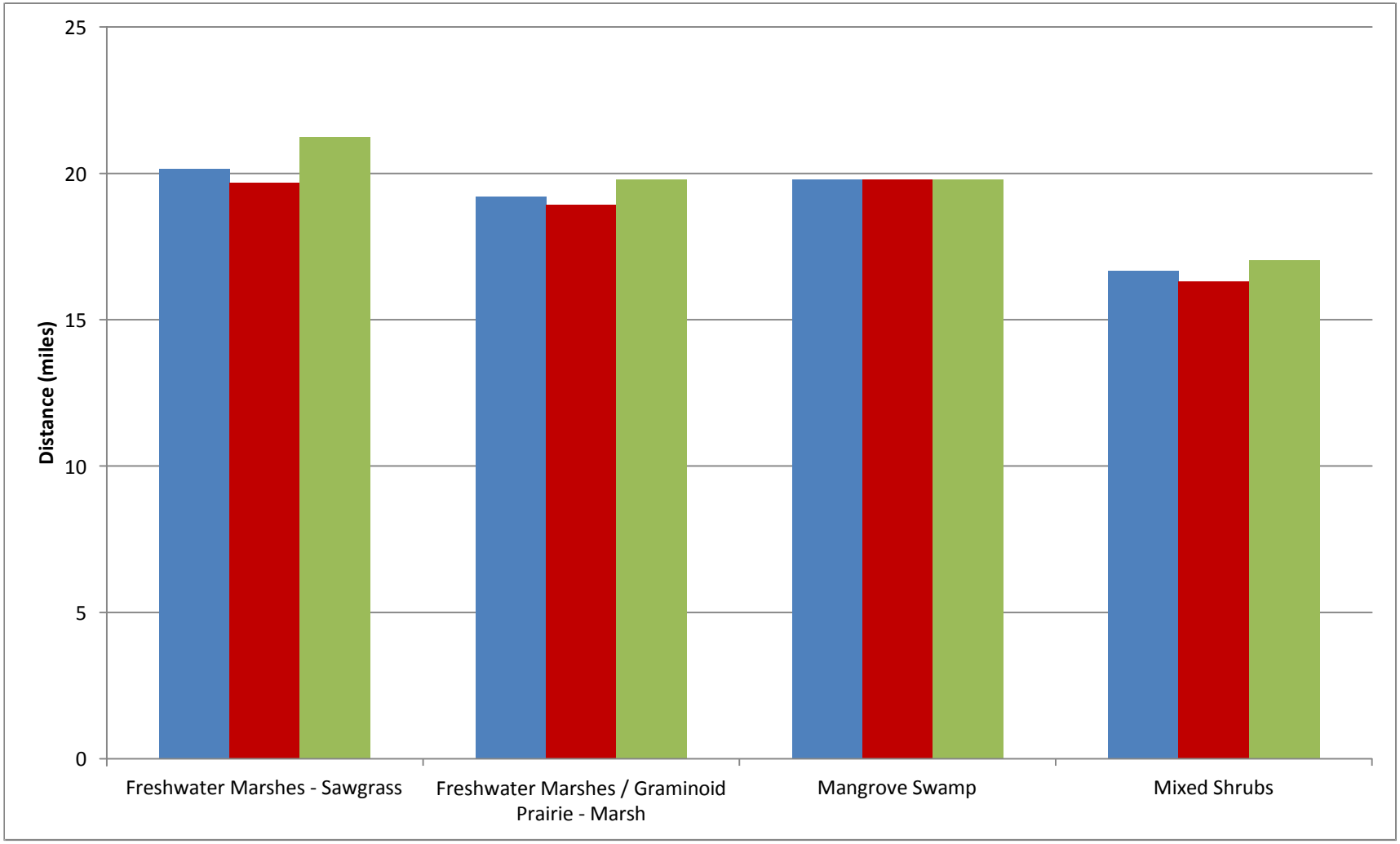


Figure 3-7. Relative risk in terms of distance of anhinga preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

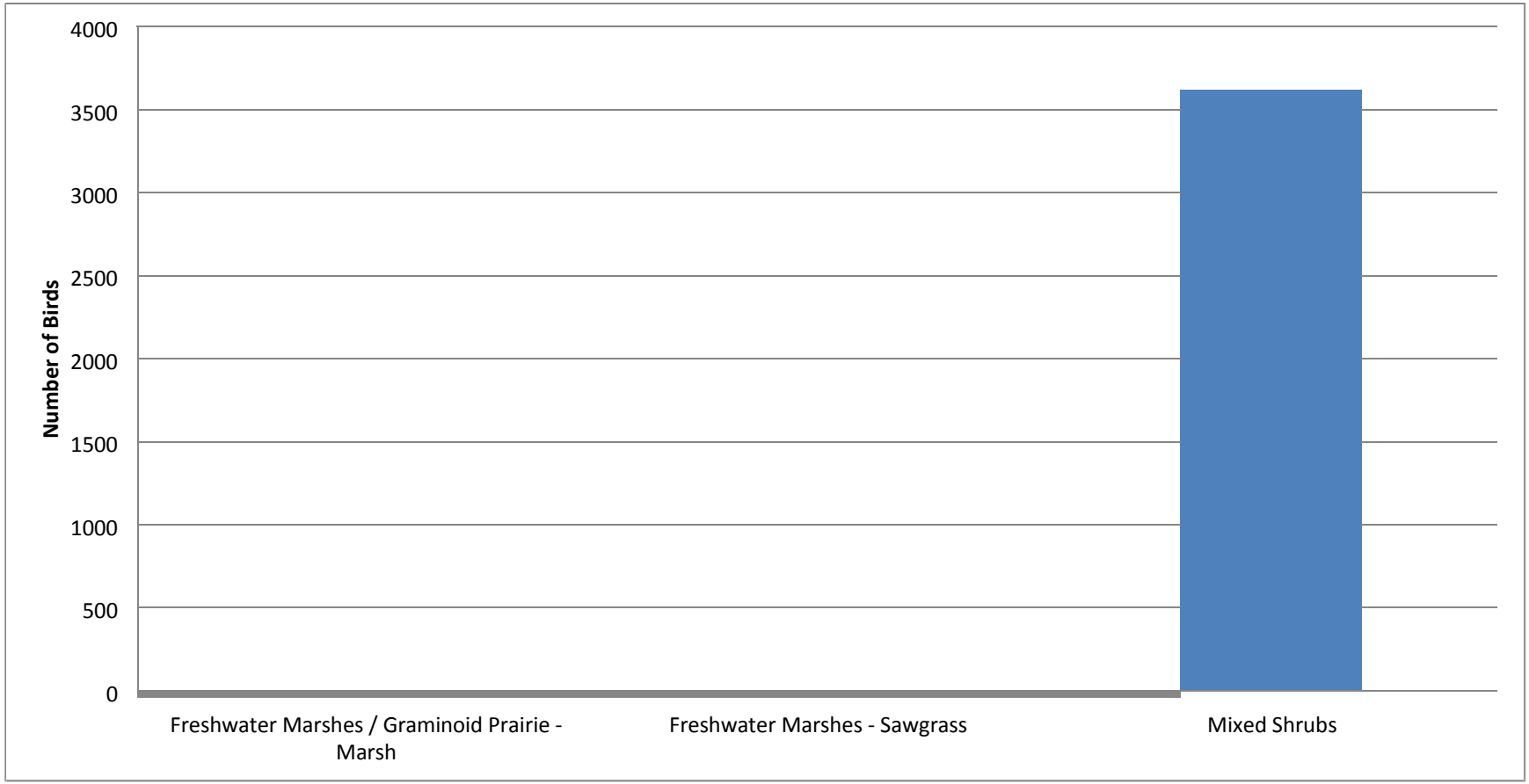


Figure 3-8. Number of black-crowned night herons associated with each Level 3 Land Use Land Cover category in the GIS database within the 30 mile boundary that surrounds the study area.

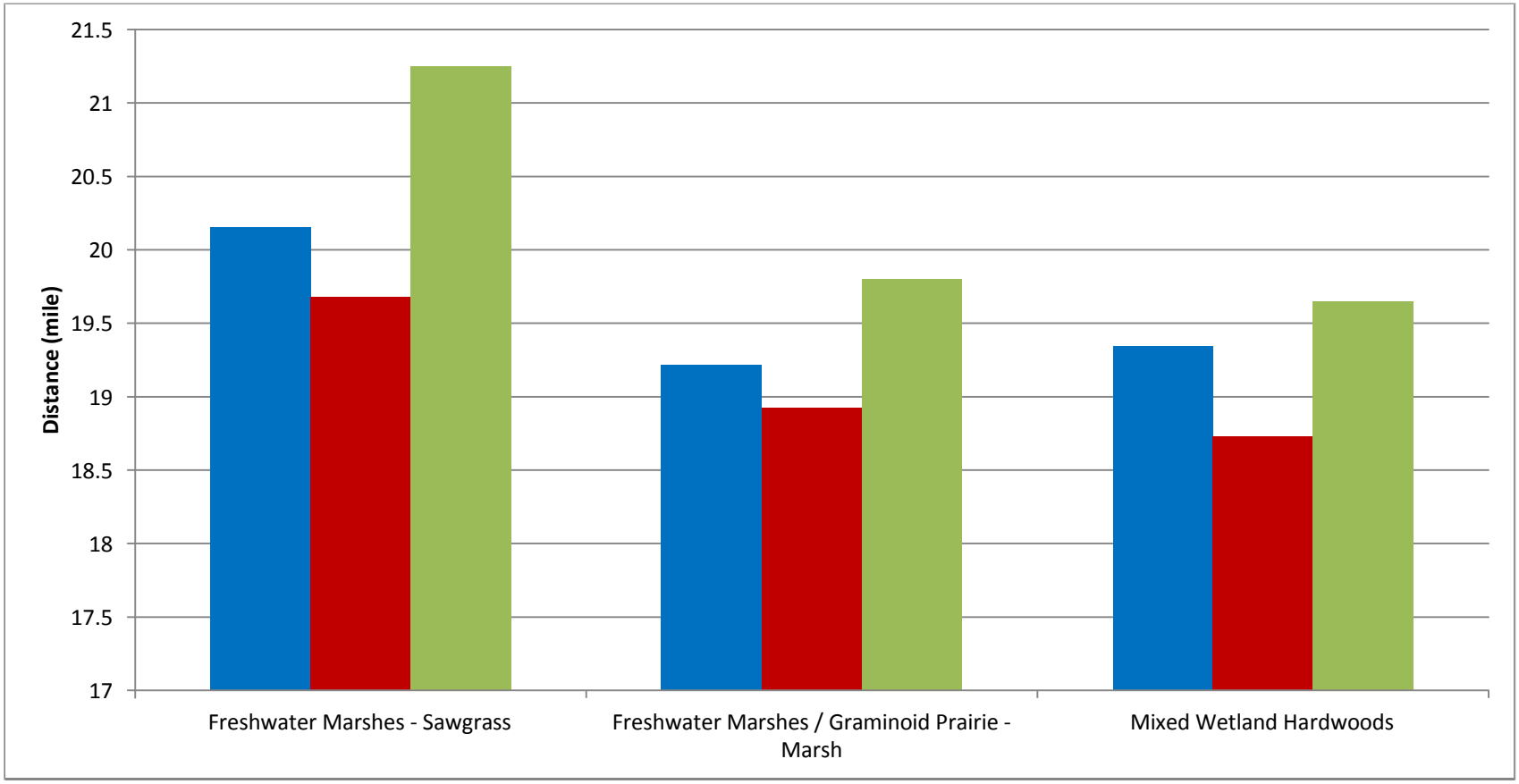


Figure 3-9. Relative risk in terms of distance of black-crowned night heron preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

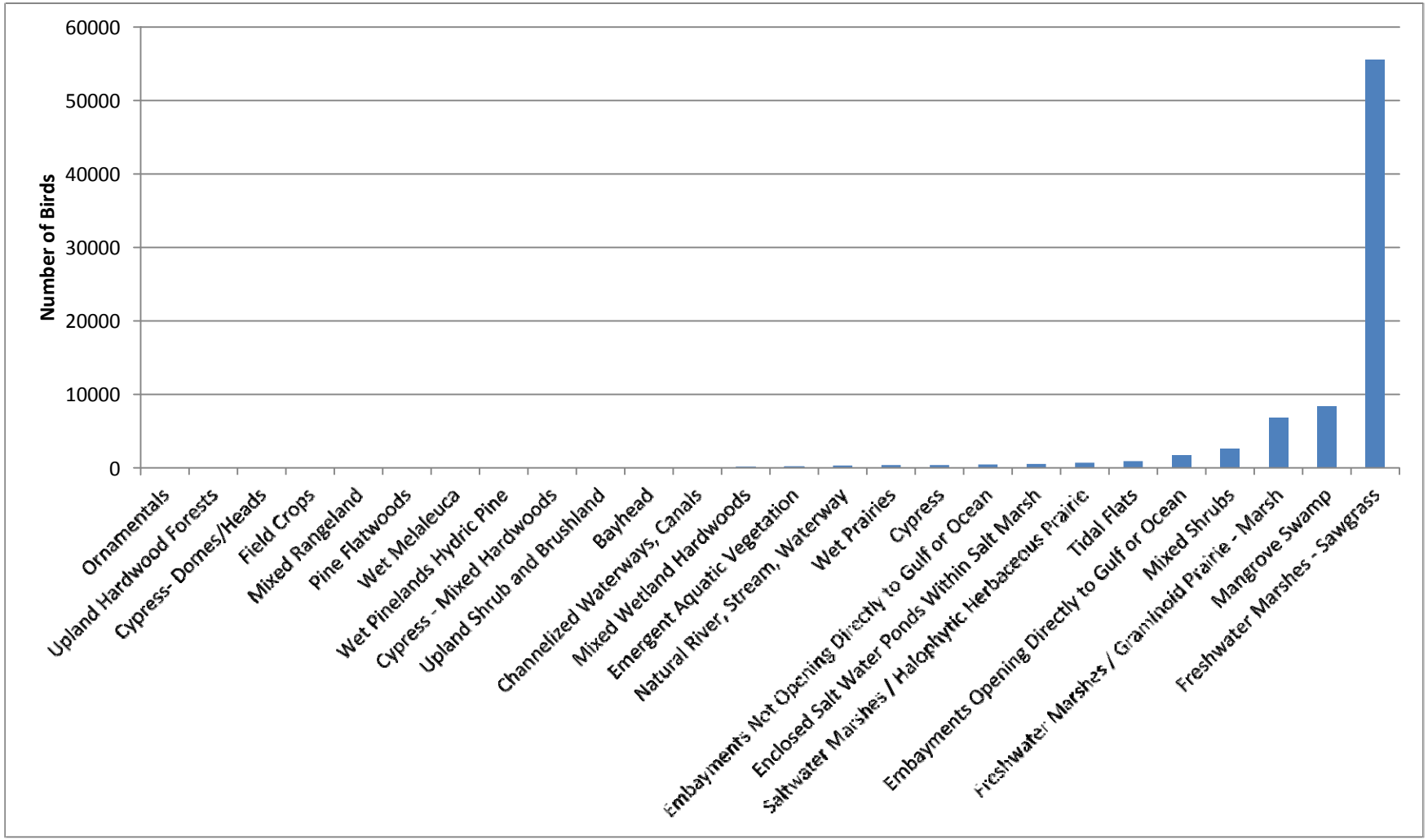


Figure 3-10. Number of great blue herons associated with each Level 3 Land Use Land Cover category in the GIS database within the 30 mile boundary that surrounds the study area.

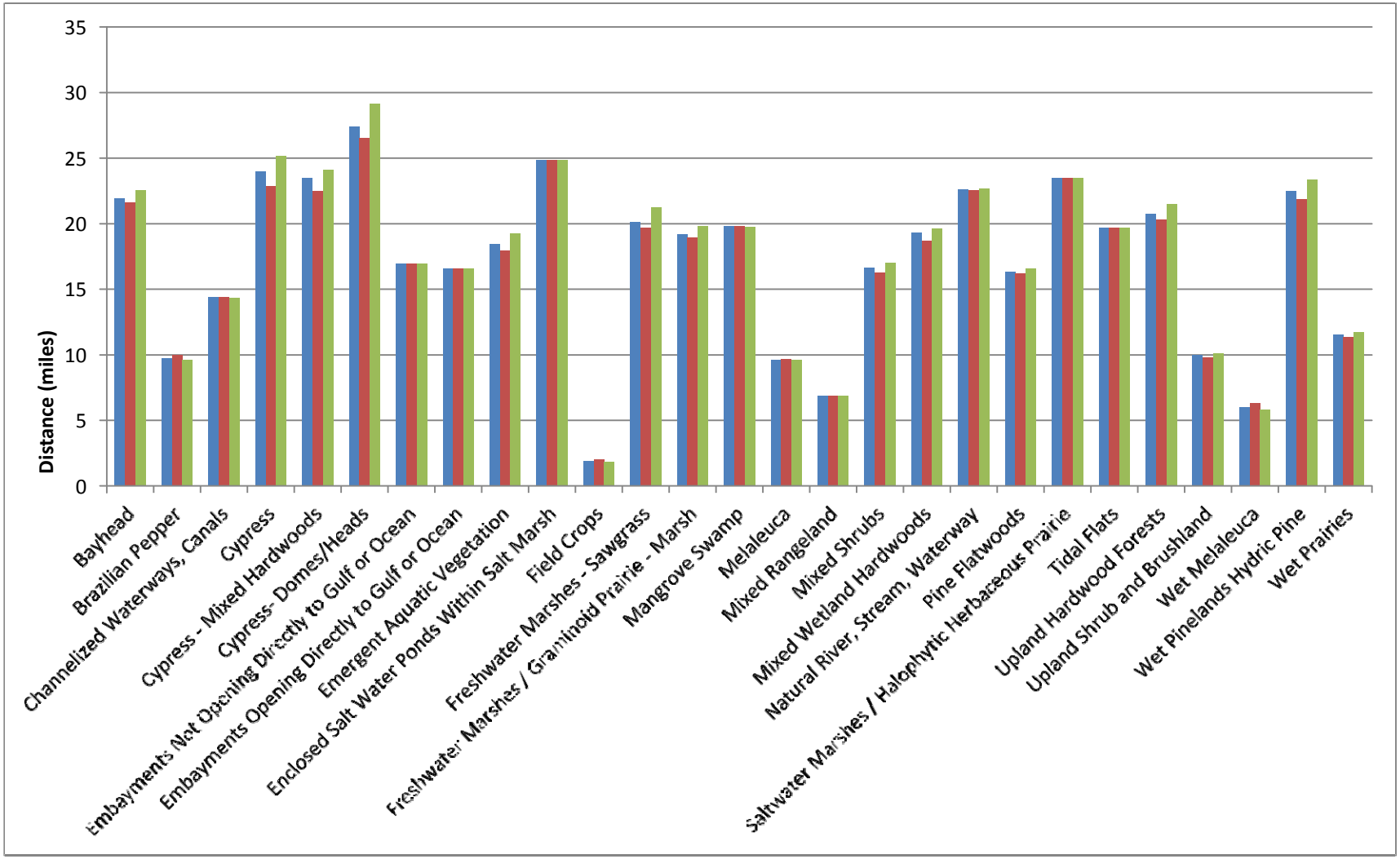


Figure 3-11. Relative risk in terms of distance of great blue heron preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

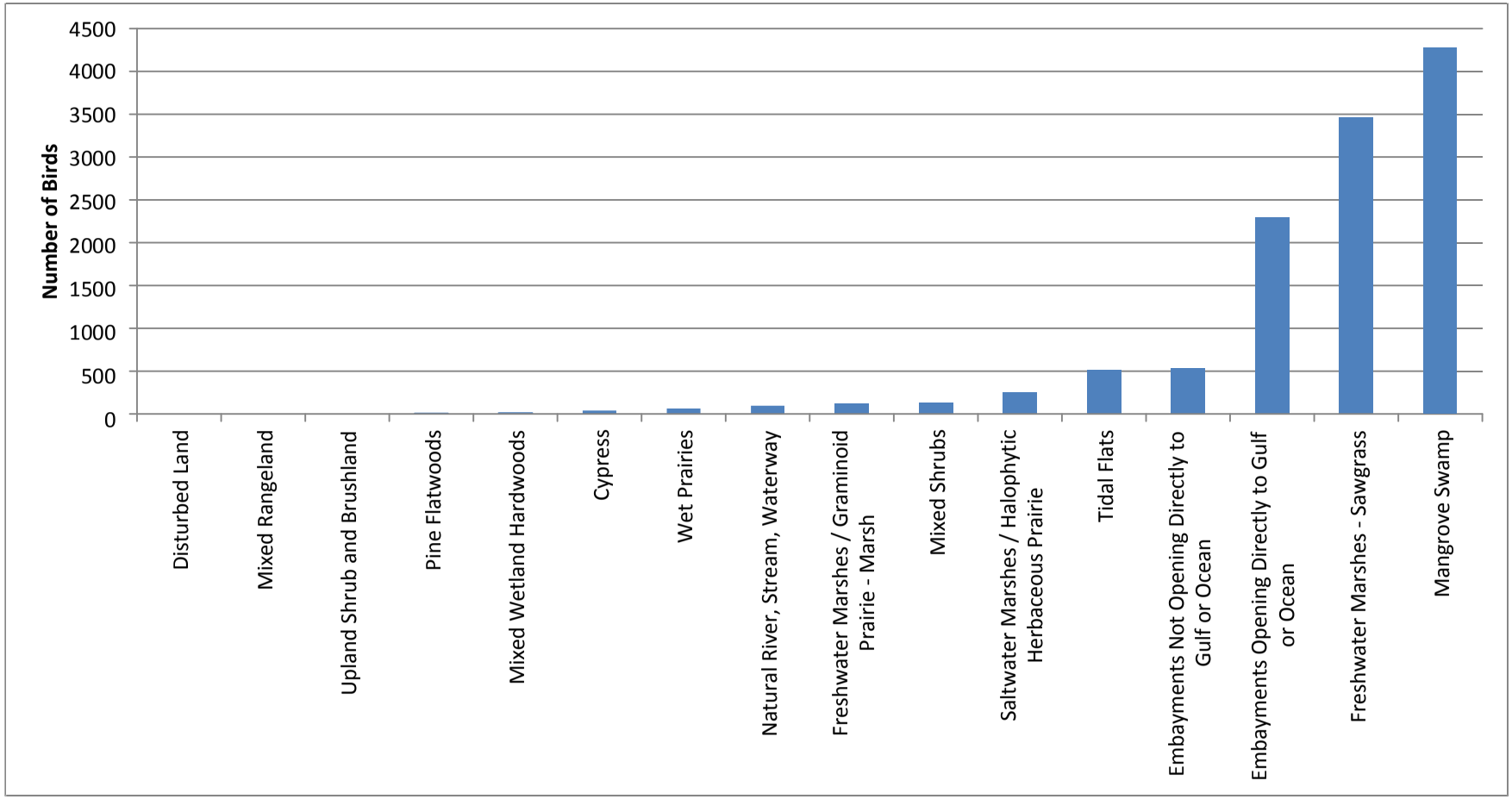


Figure 3-12. Number of great white herons associated with each Level 3 Land Use Land Cover category in the GIS database within the 30 mile boundary that surrounds the study area.

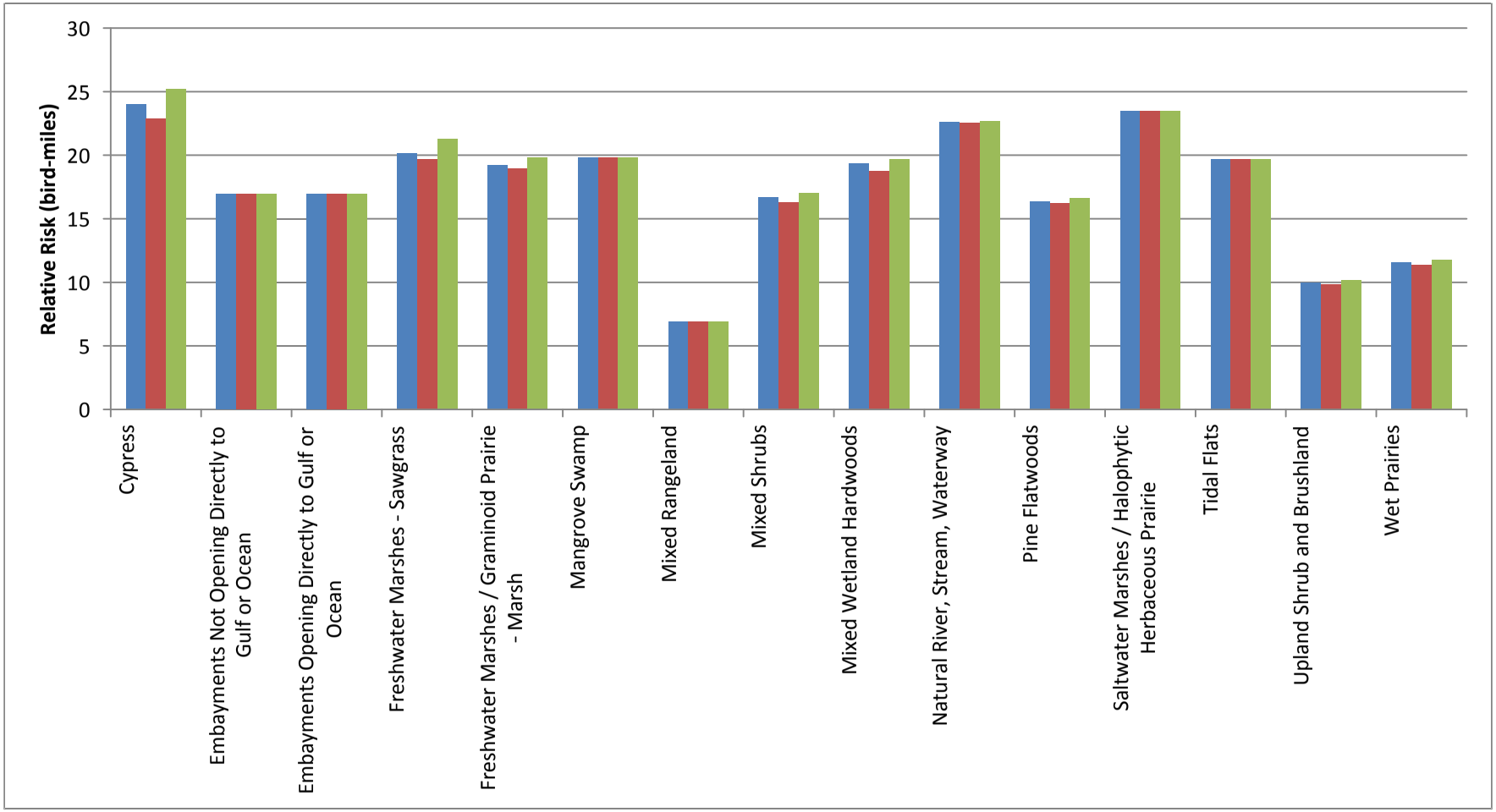


Figure 3-13. Relative risk in terms of distance of great white heron preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

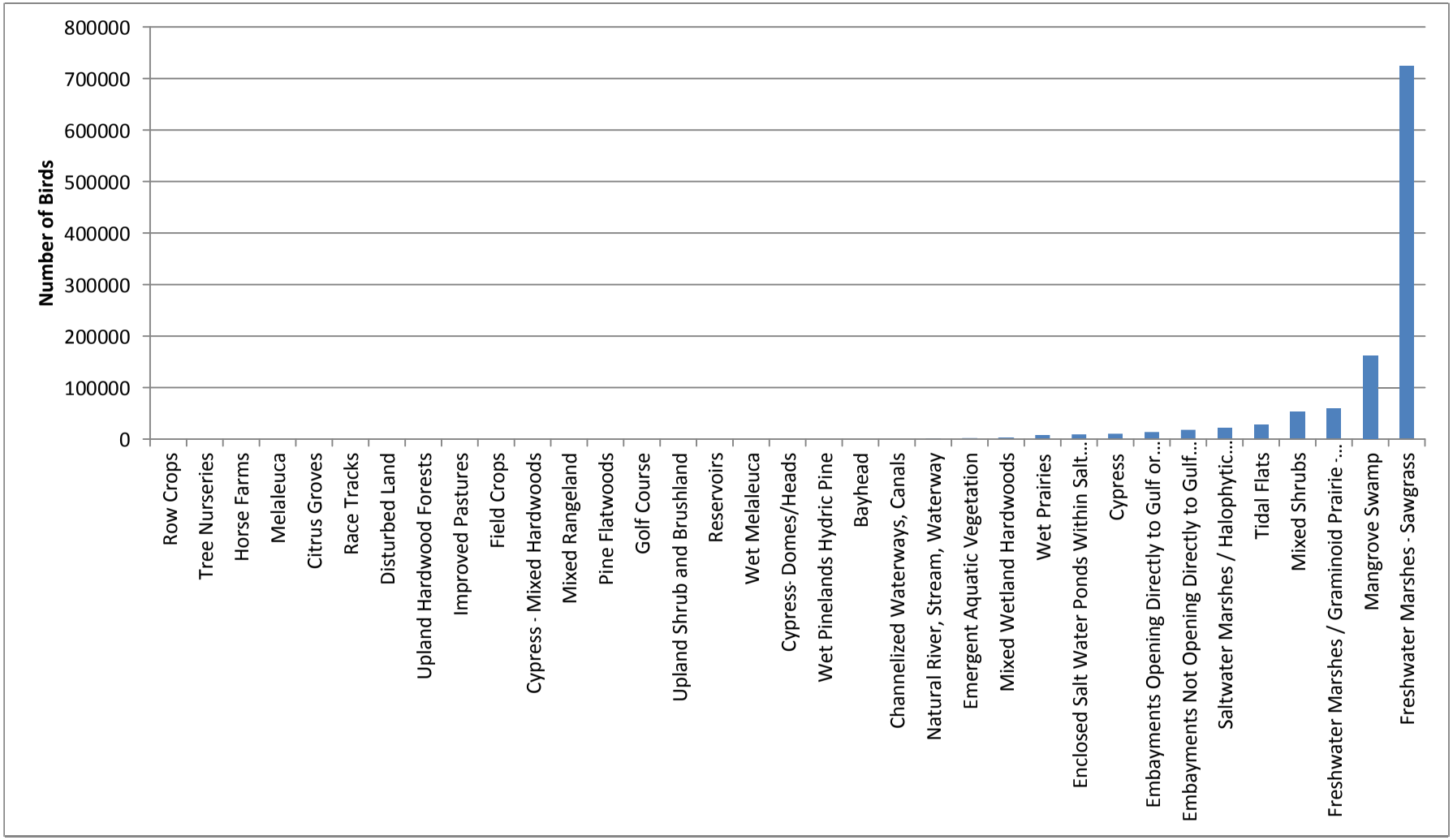


Figure 3-14. Number of great egrets associated with each Level 3 Land Use Land Cover category in the GIS database within the 30 mile boundary that surrounds the study area.

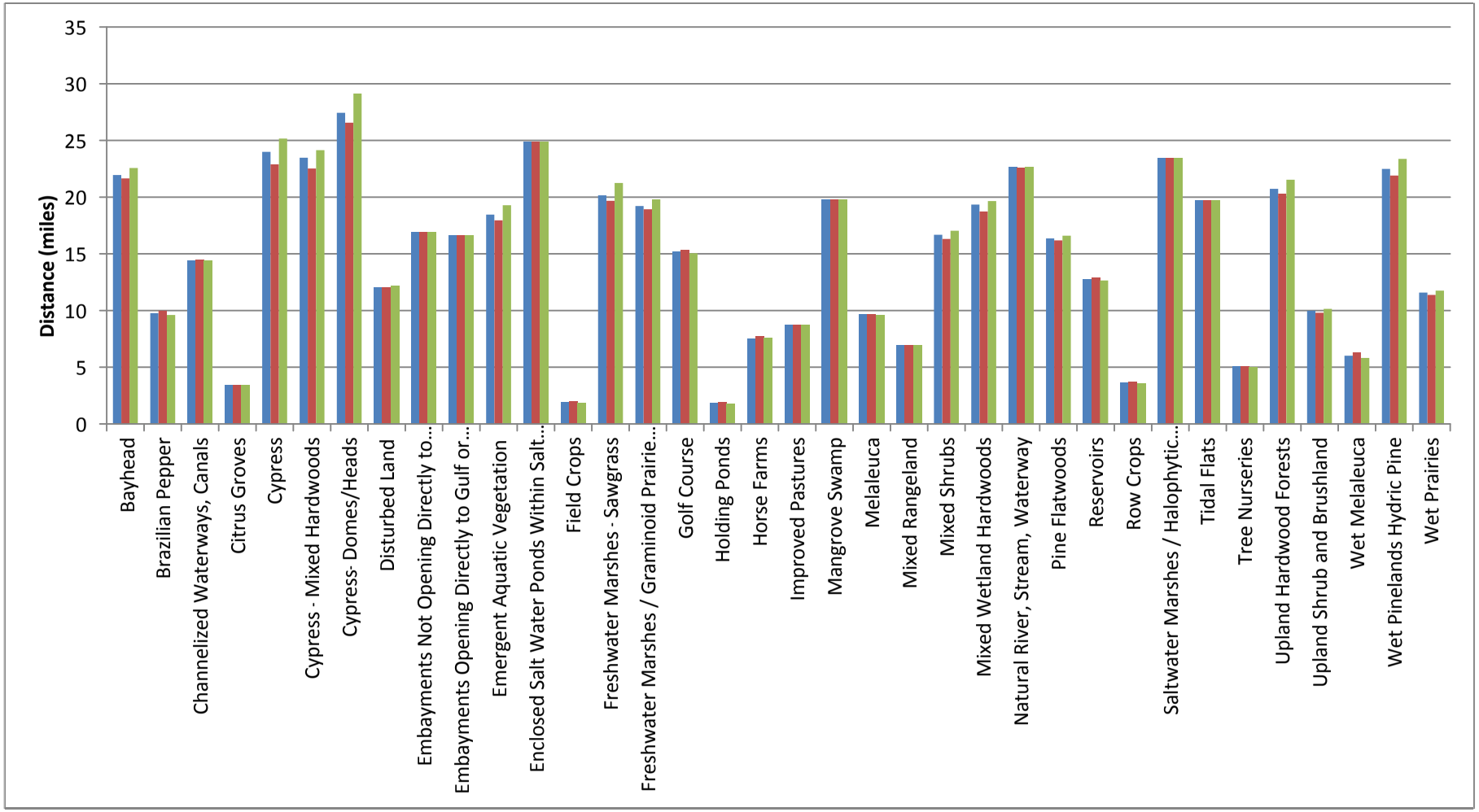


Figure 3-15. Relative risk in terms of distance of great egret preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

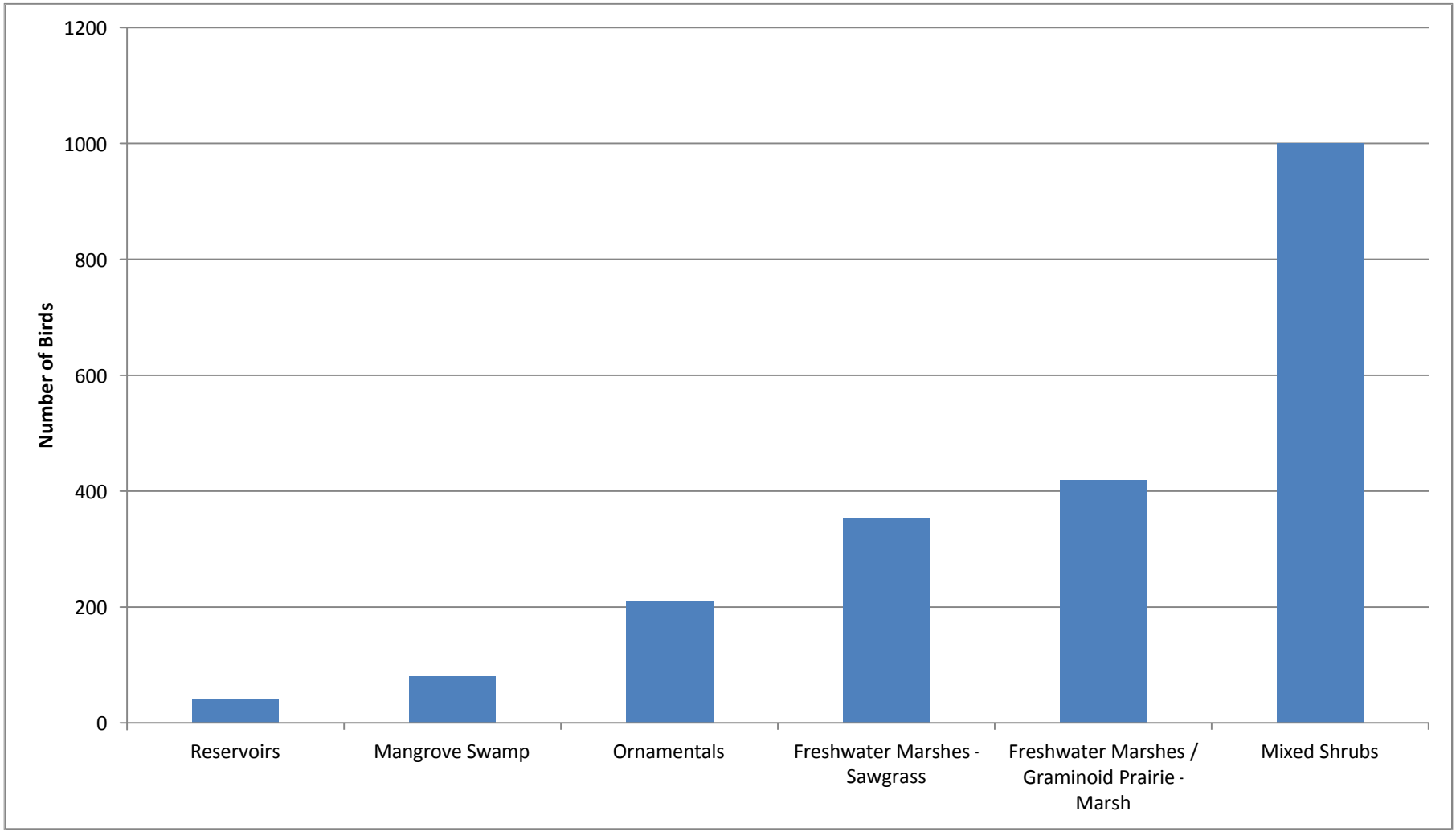


Figure 3-16. Number of little blue herons associated with each Level 3 Land Use Land Cover category in the GIS database within the 30 mile boundary that surrounds the study area.

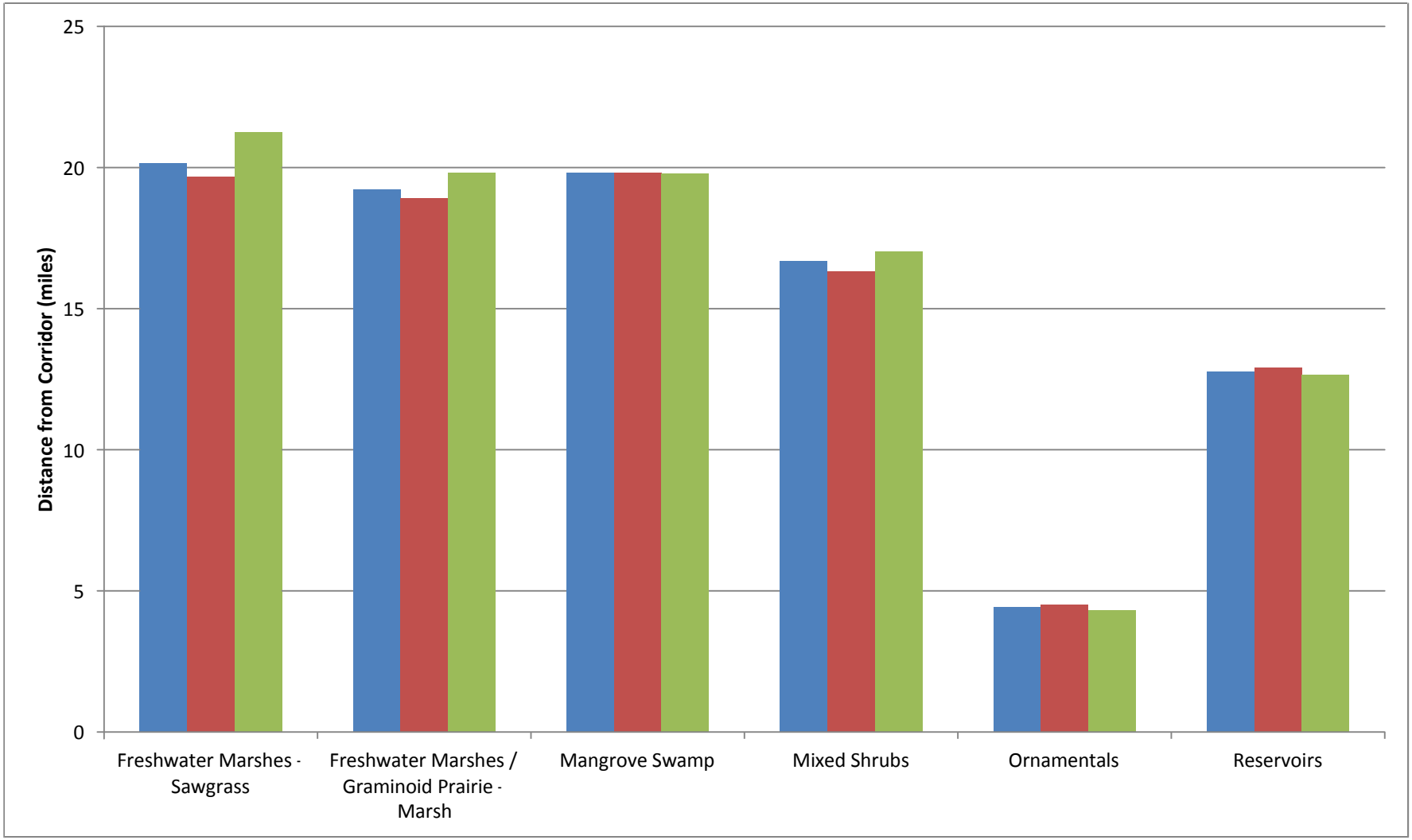


Figure 3-17. Relative risk in terms of distance of little blue heron preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

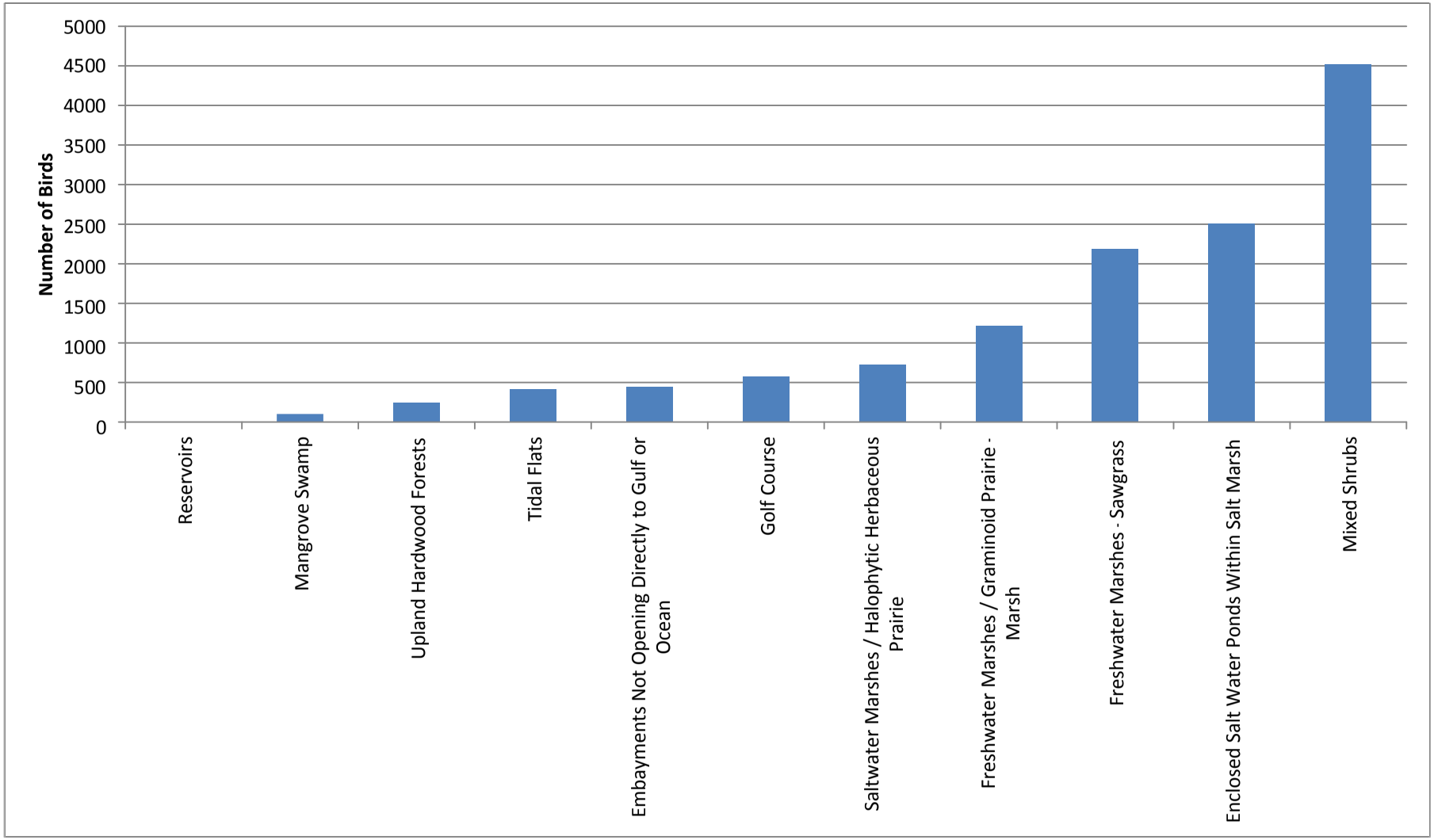


Figure 3-18. Number of snowy egrets associated with each Level 3 Land Use Land Cover category in the GIS database within the 30 mile boundary that surrounds the study area.

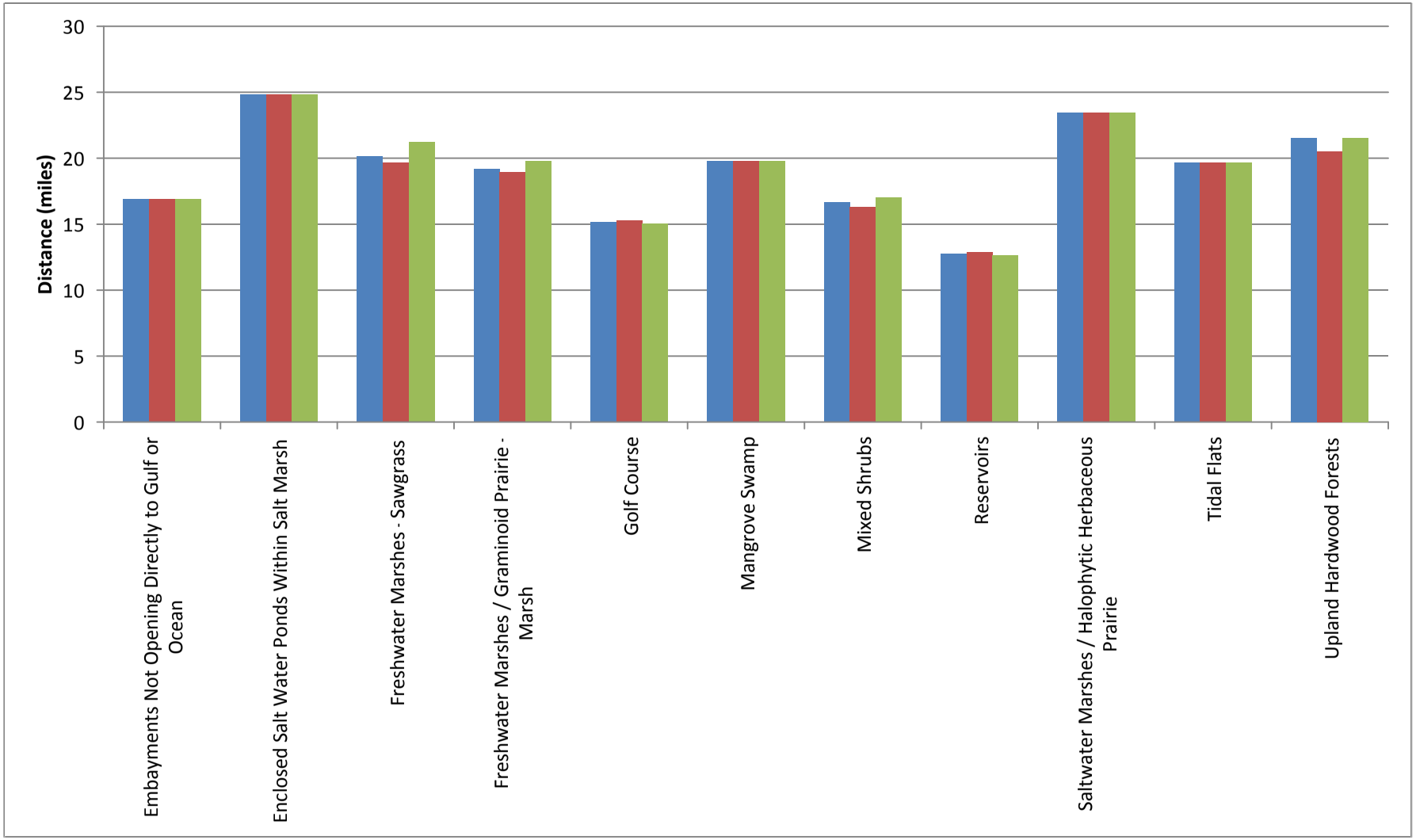


Figure 3-19. Relative risk in terms of distance of snowy egret preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

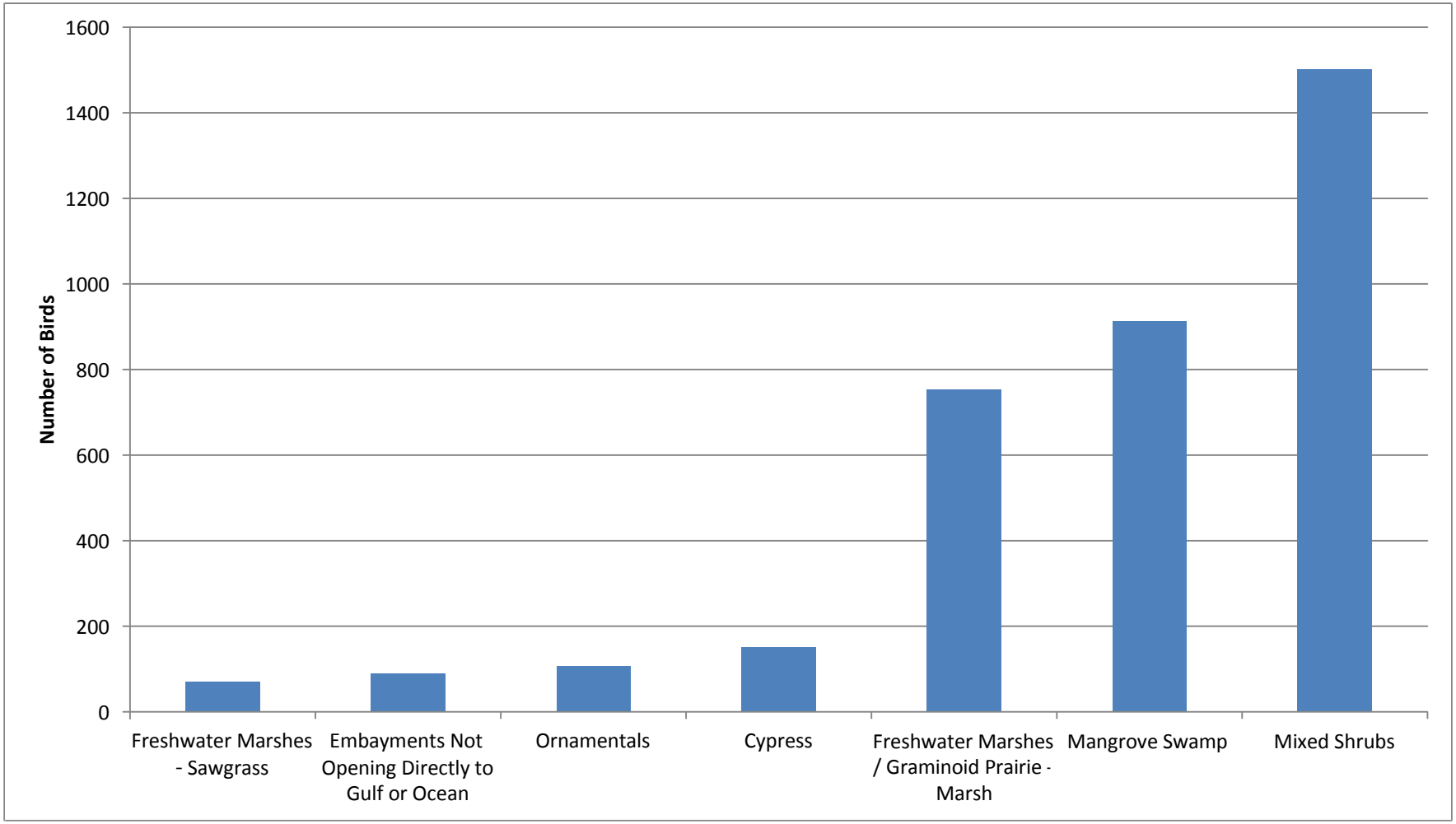


Figure 3-20. Number of tricolored herons associated with each Level 3 Land Use Land Cover category in the GIS database within the 30 mile boundary that surrounds the study area.

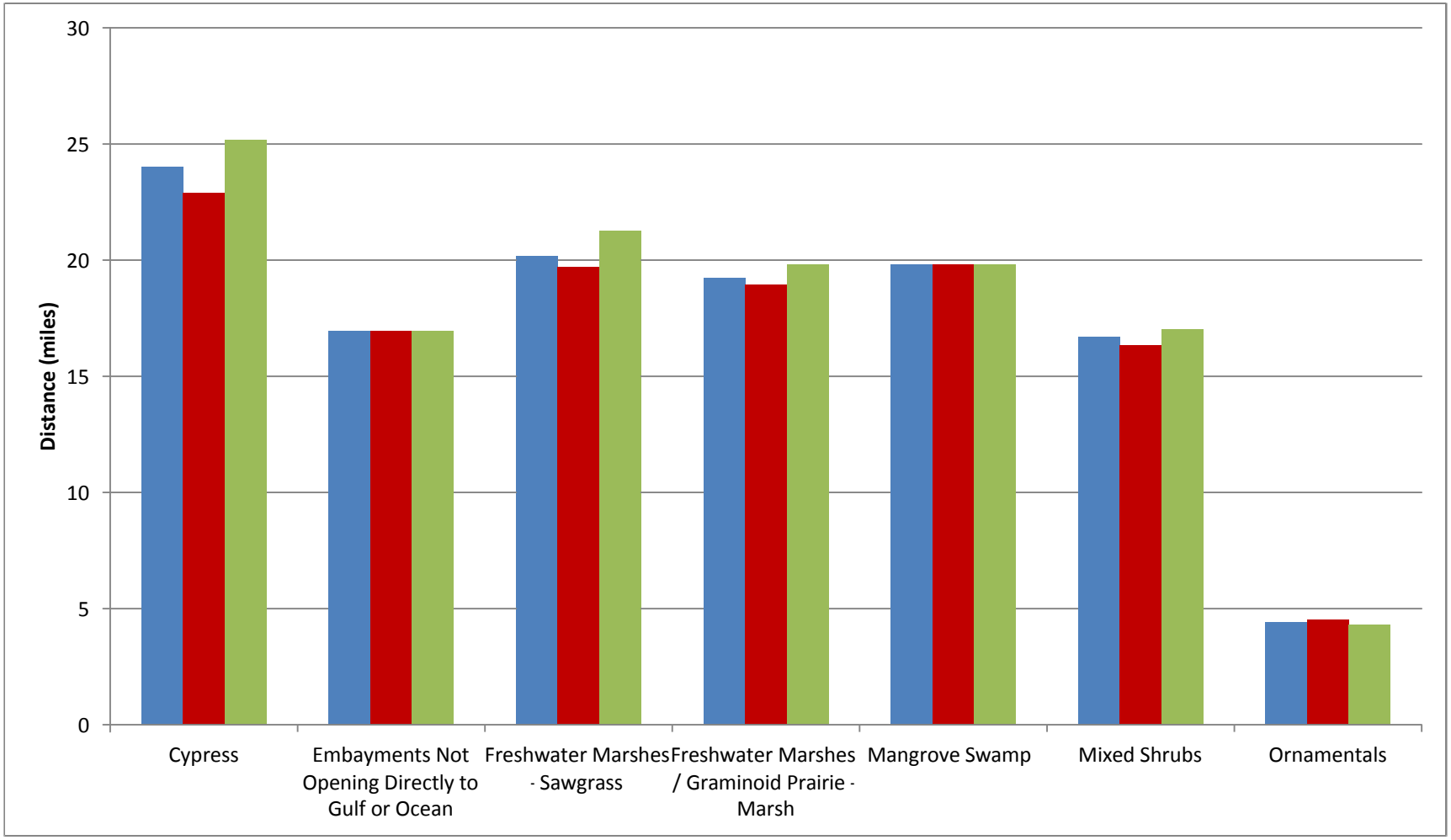


Figure 3-21. Relative risk in terms of distance of tricolored heron preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

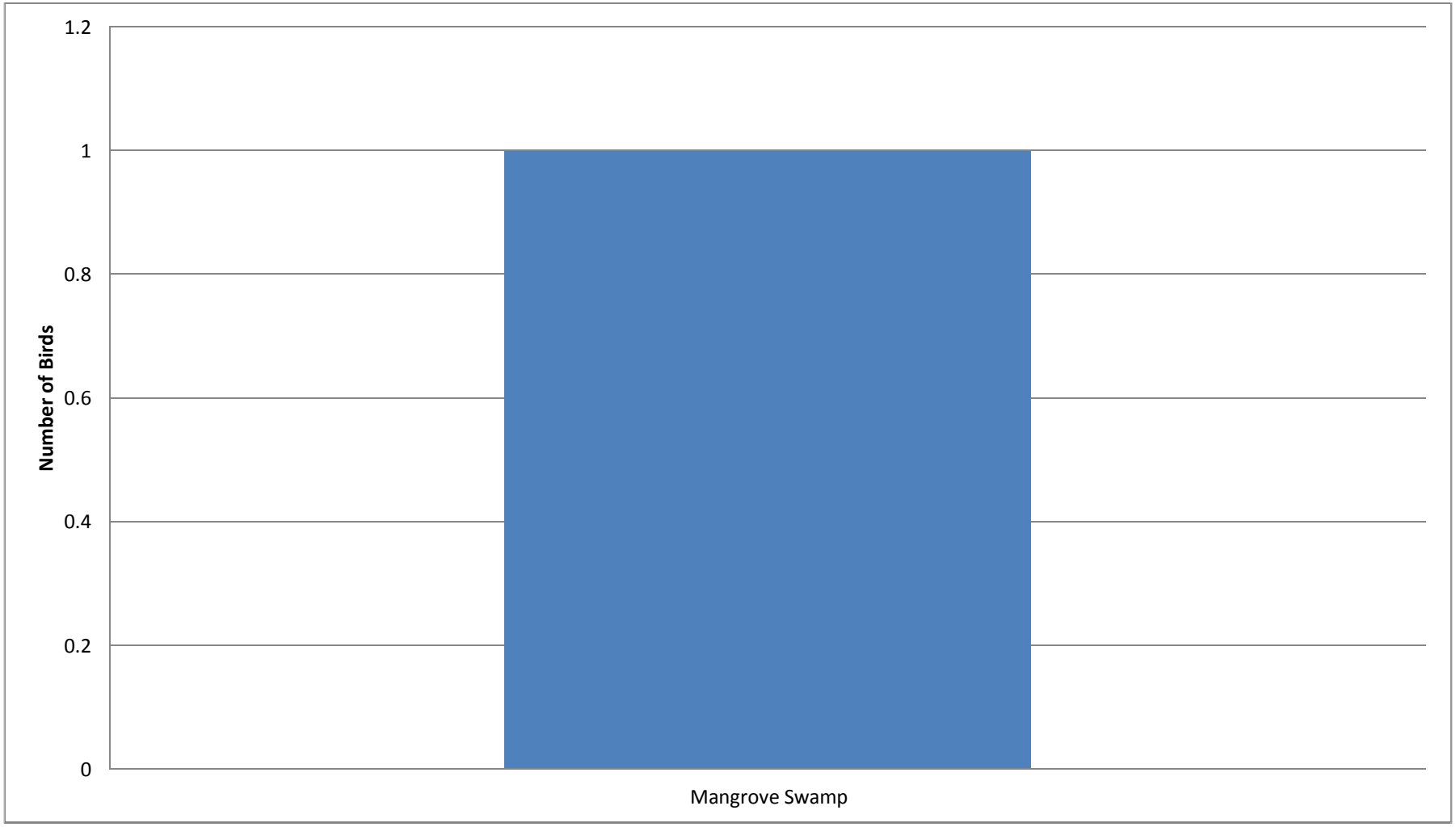


Figure 3-22. Number of reddish egrets associated with each Level 3 Land Use Land Cover category in the GIS database within the 30 mile boundary that surrounds the study area.

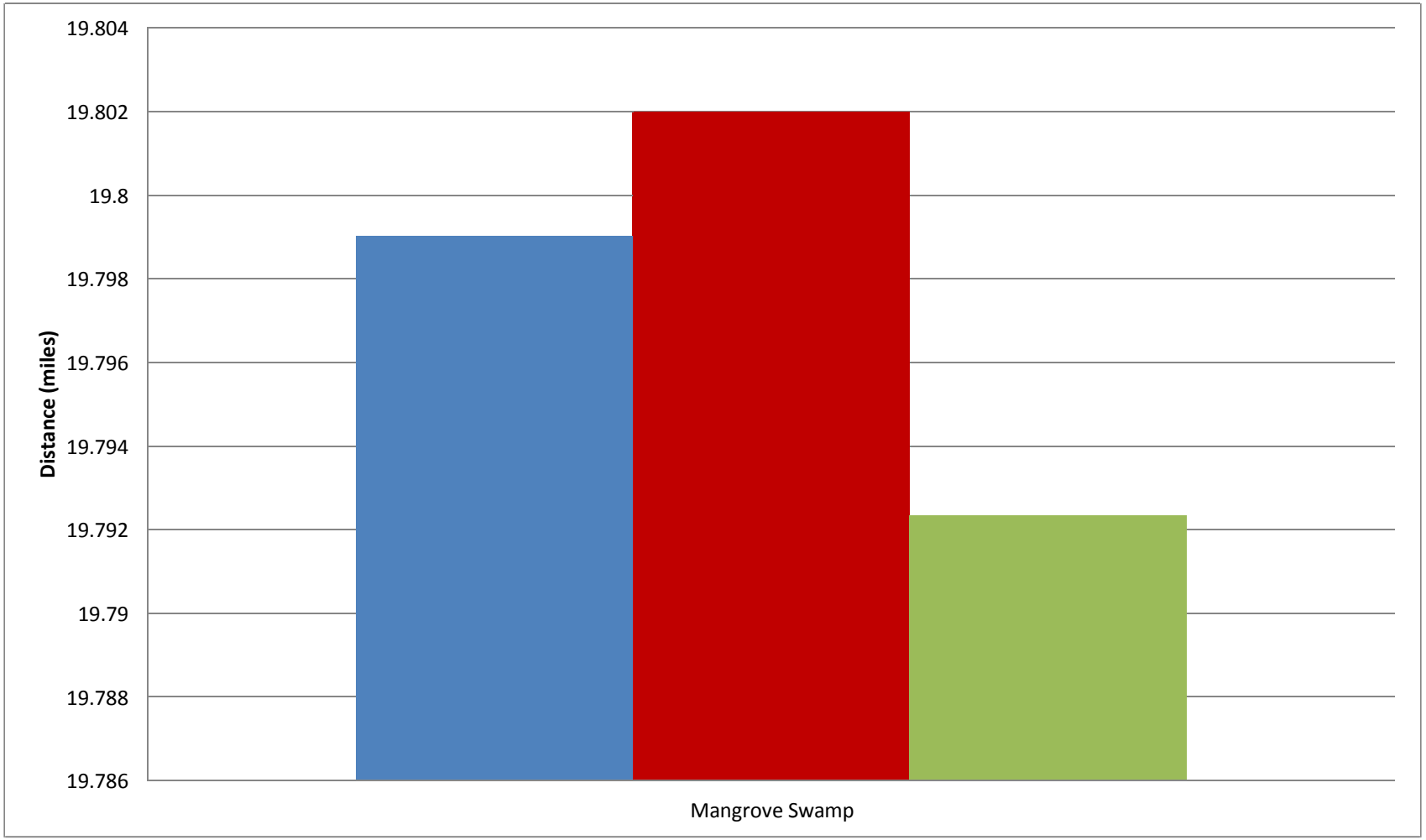


Figure 3-23. Relative risk in terms of distance of reddish egret preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

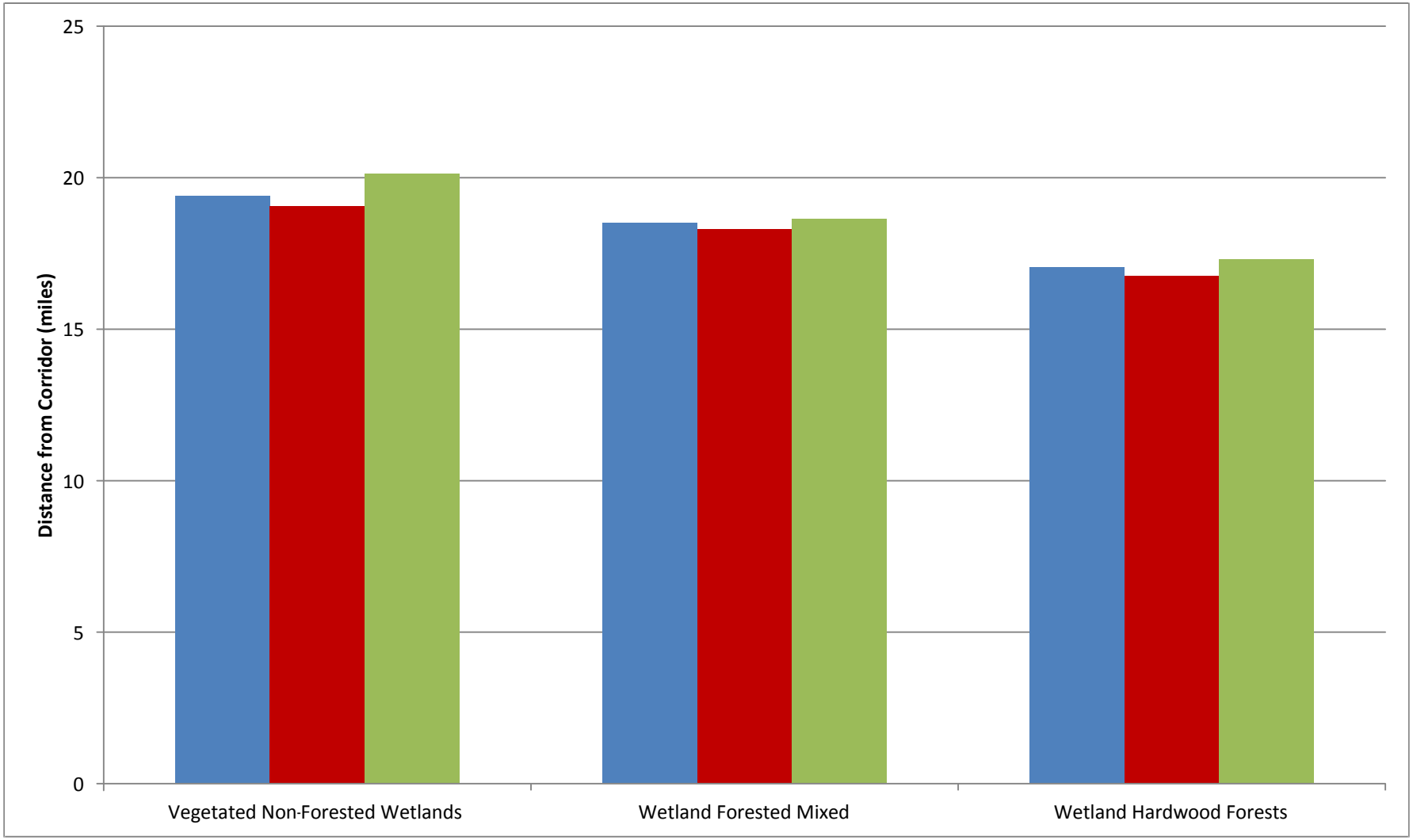


Figure 3-24. Relative risk in terms of distance of least bittern preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

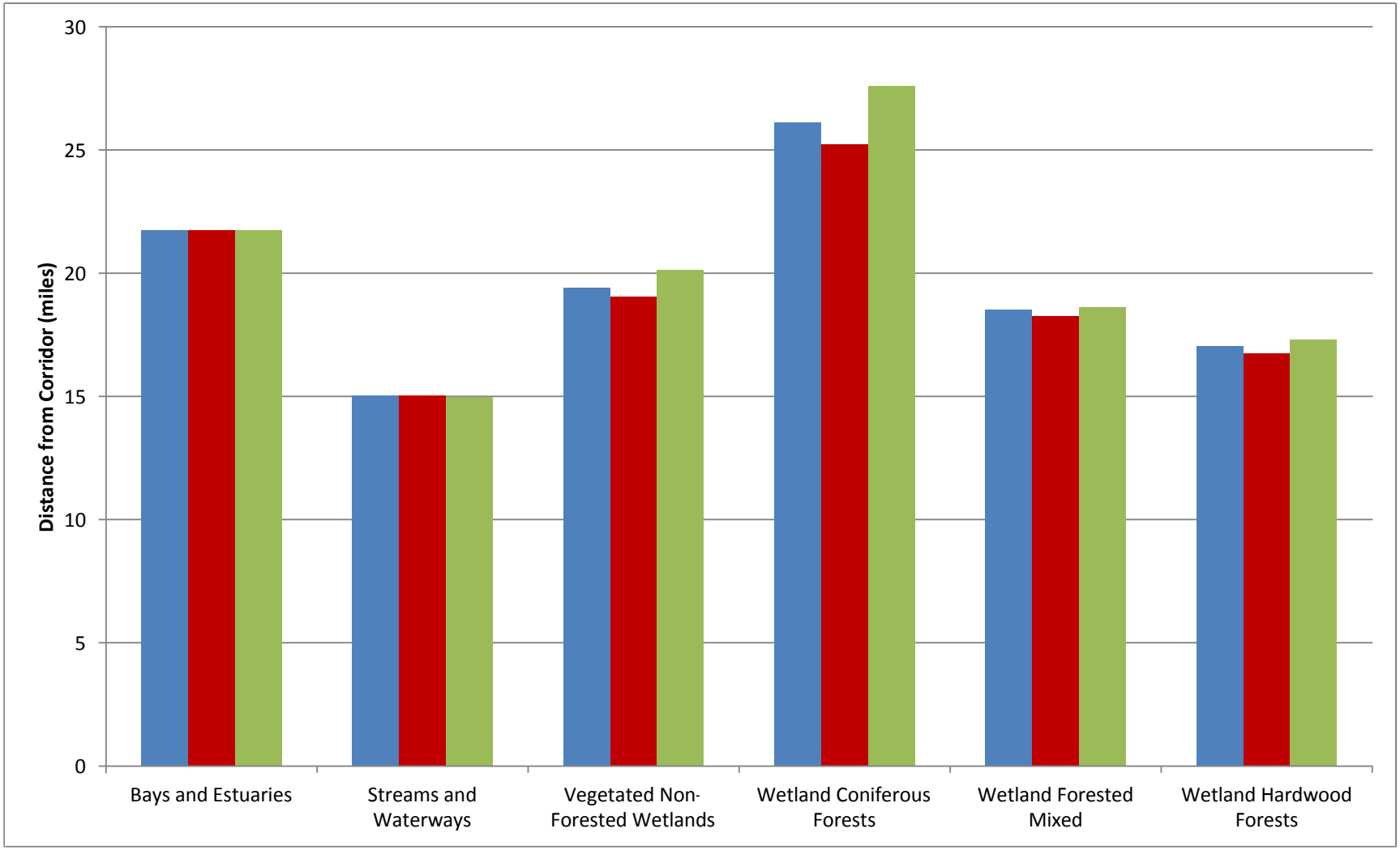


Figure 3-25. Relative risk in terms of distance of American bittern preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

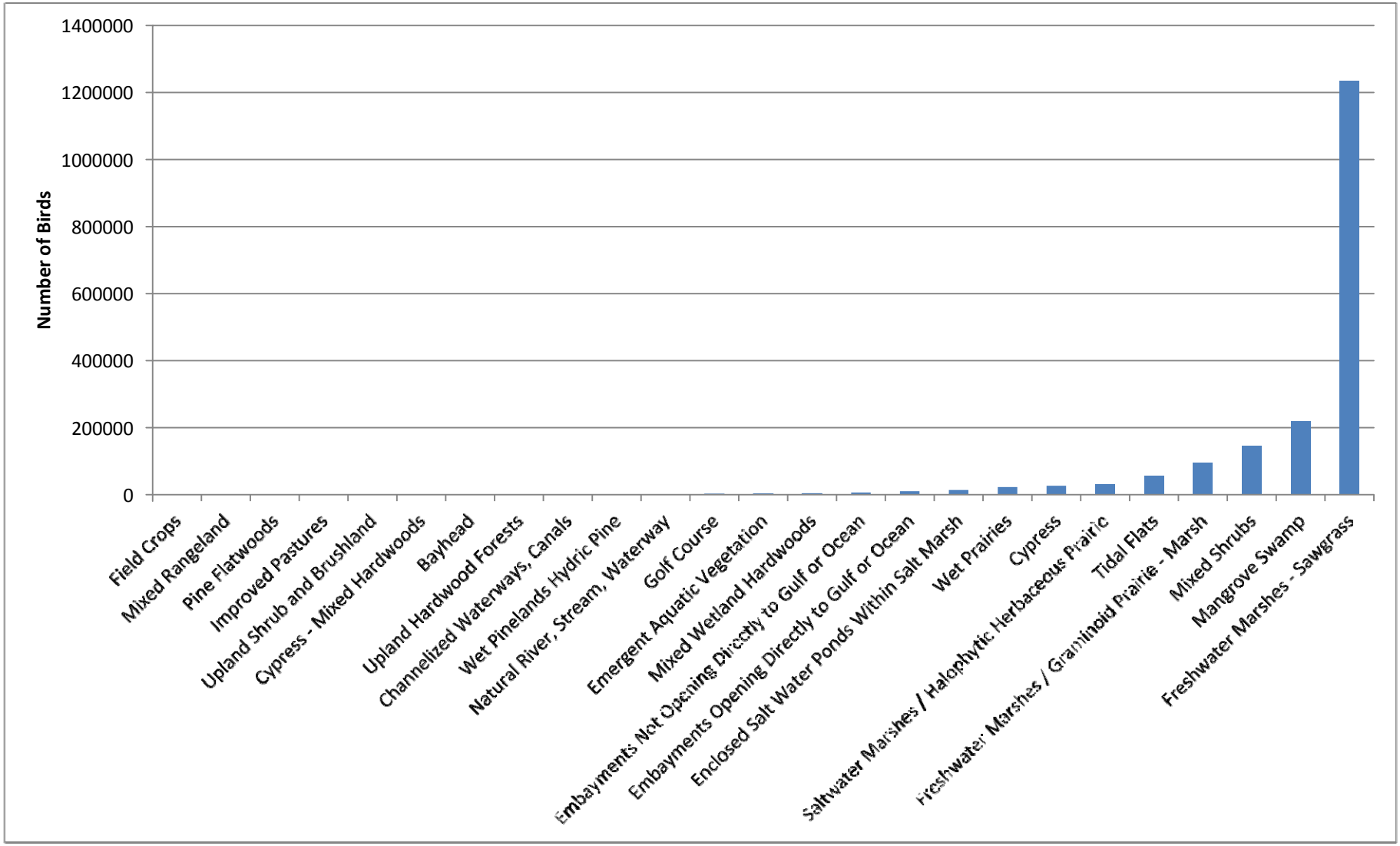


Figure 3-26. Number of white ibis associated with each Level 3 Land Use Land Cover category in the GIS database within the 30 mile boundary that surrounds the study area.

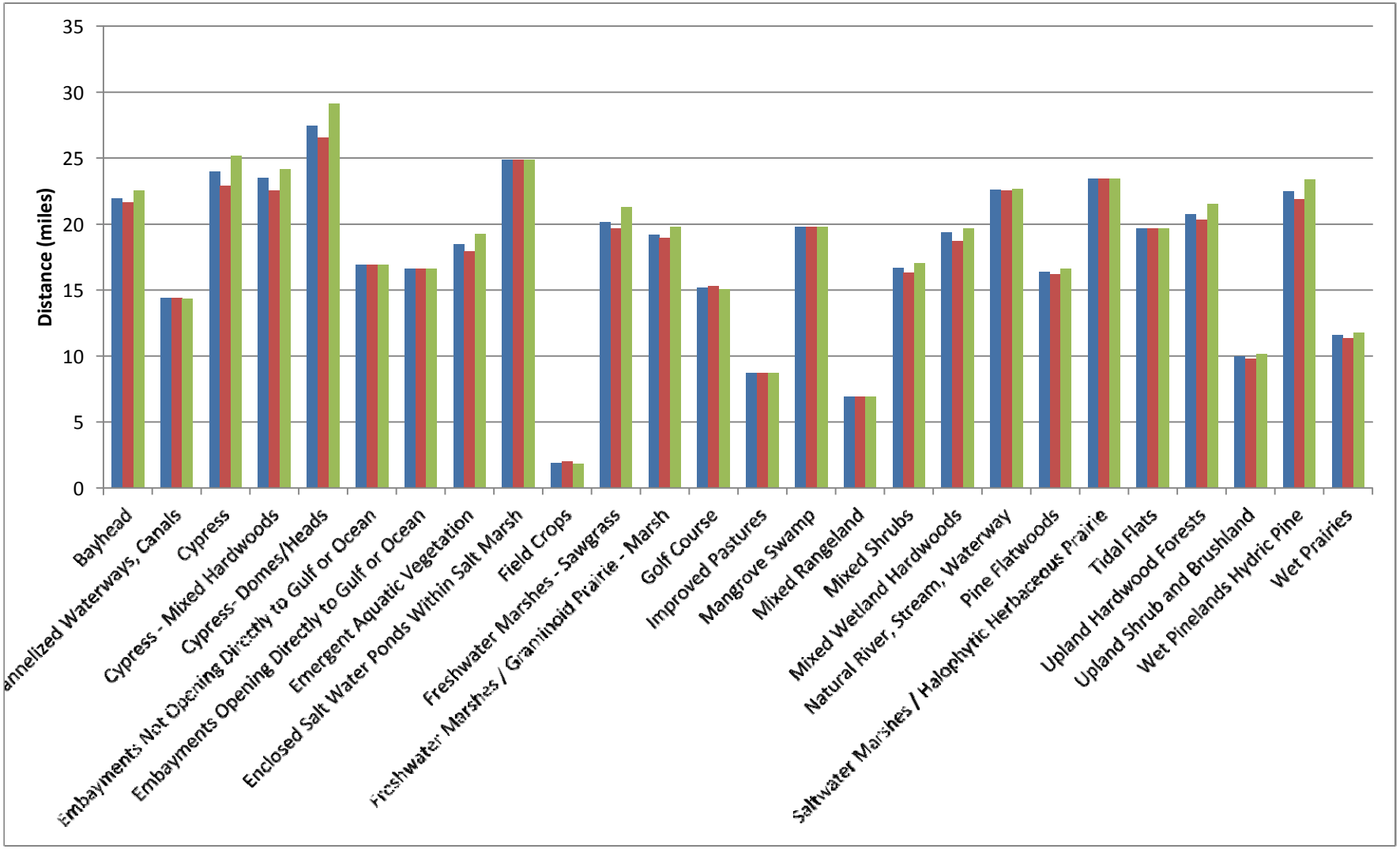


Figure 3-27. Relative risk in terms of distance of white ibis preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

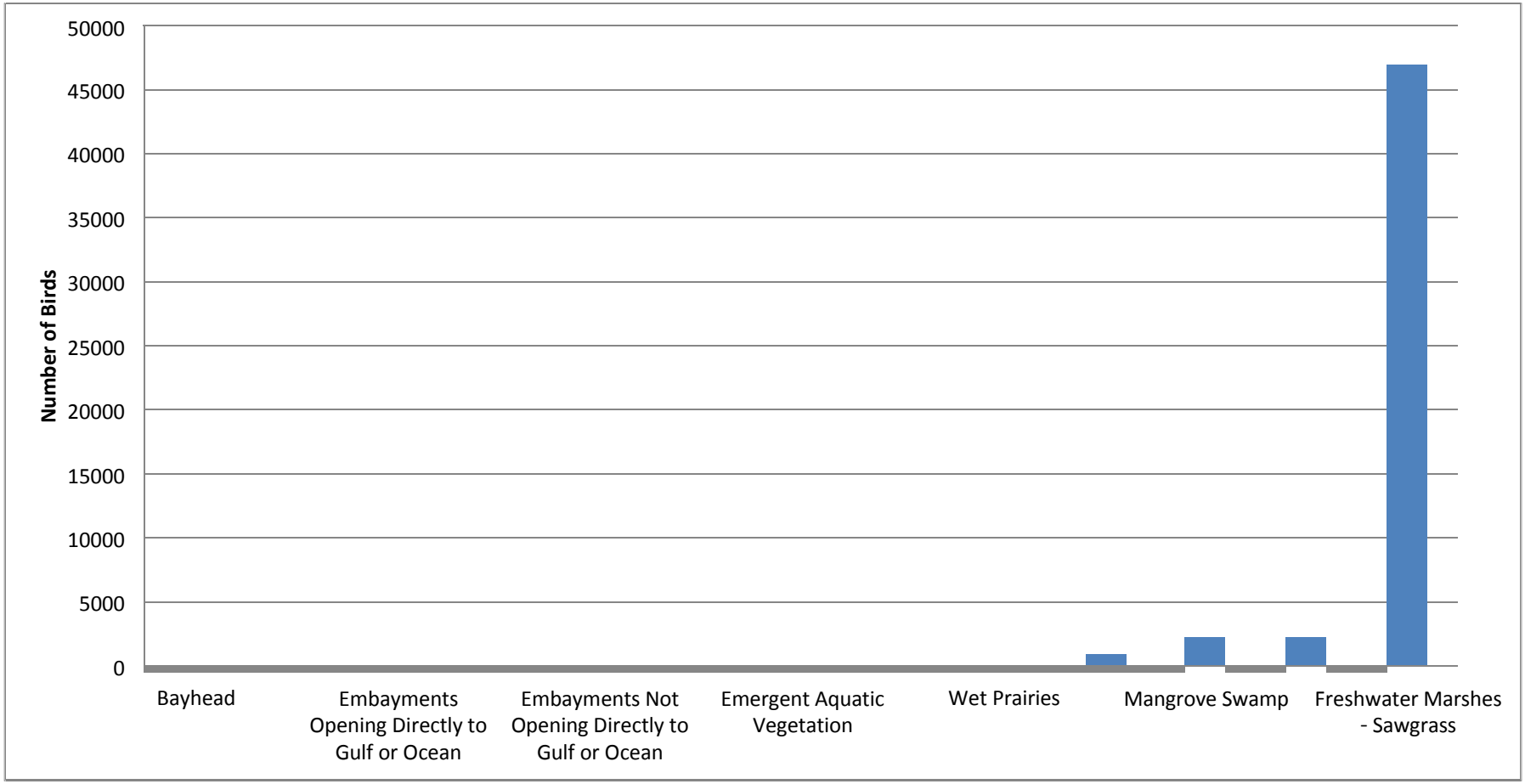


Figure 3-28. Number of glossy ibis associated with each Level 3 Land Use Land Cover category in the GIS database within the 30 mile boundary that surrounds the study area.

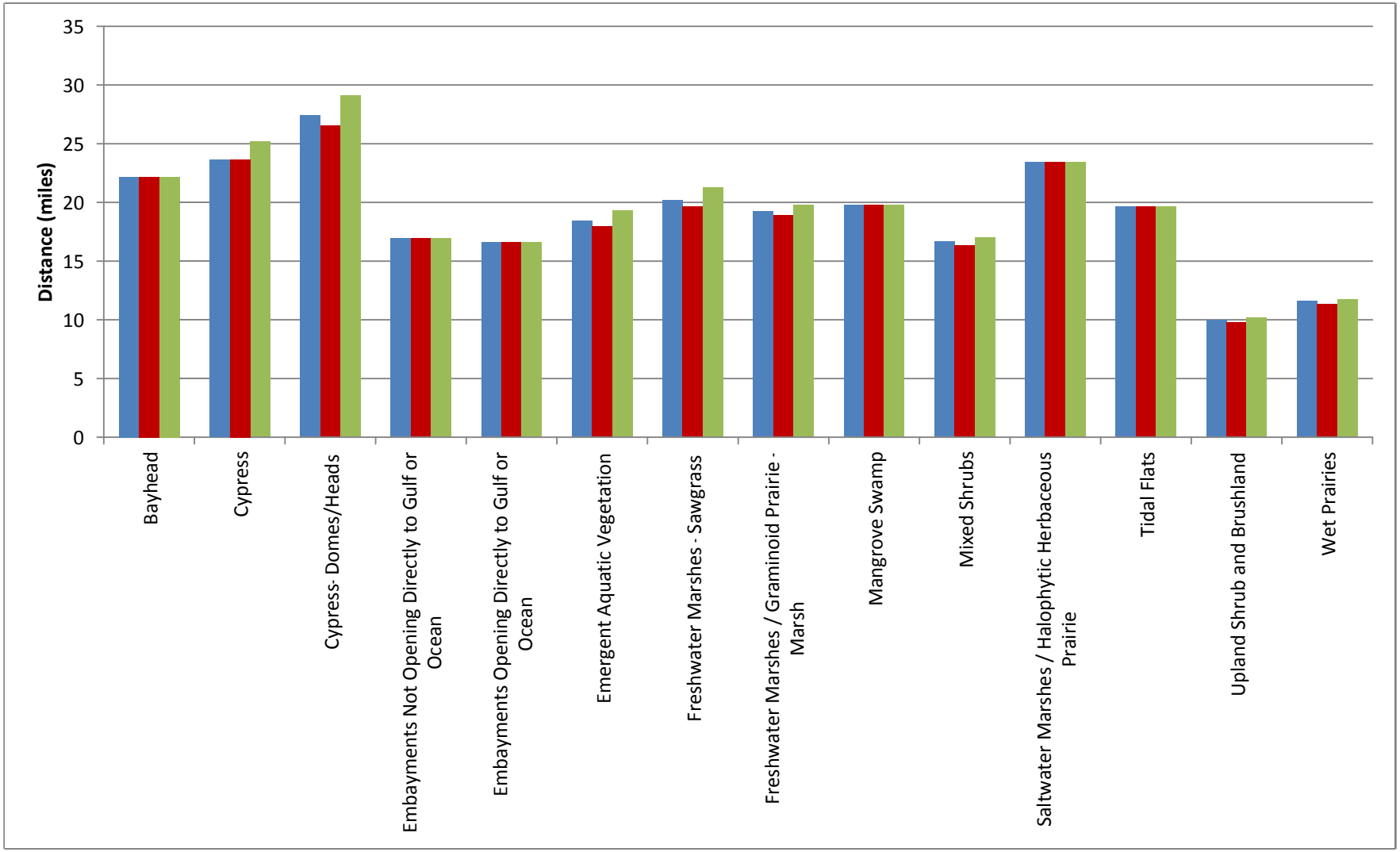


Figure 3-29. Relative risk in terms of distance of glossy ibis preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

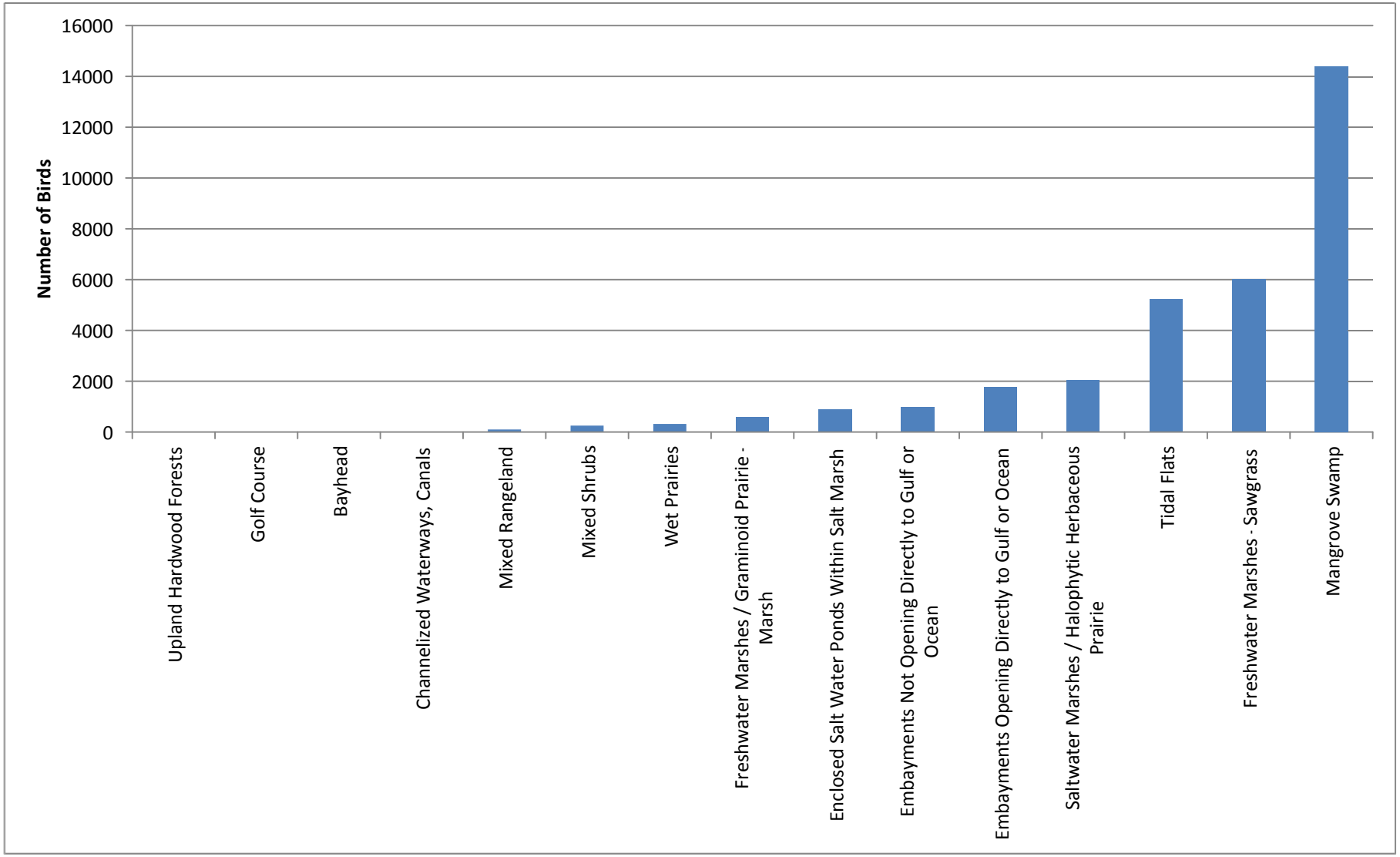


Figure 3-30. Number of roseate spoonbills associated with each Level 3 Land Use Land Cover category in the GIS database within the 30 mile boundary that surrounds the study area.

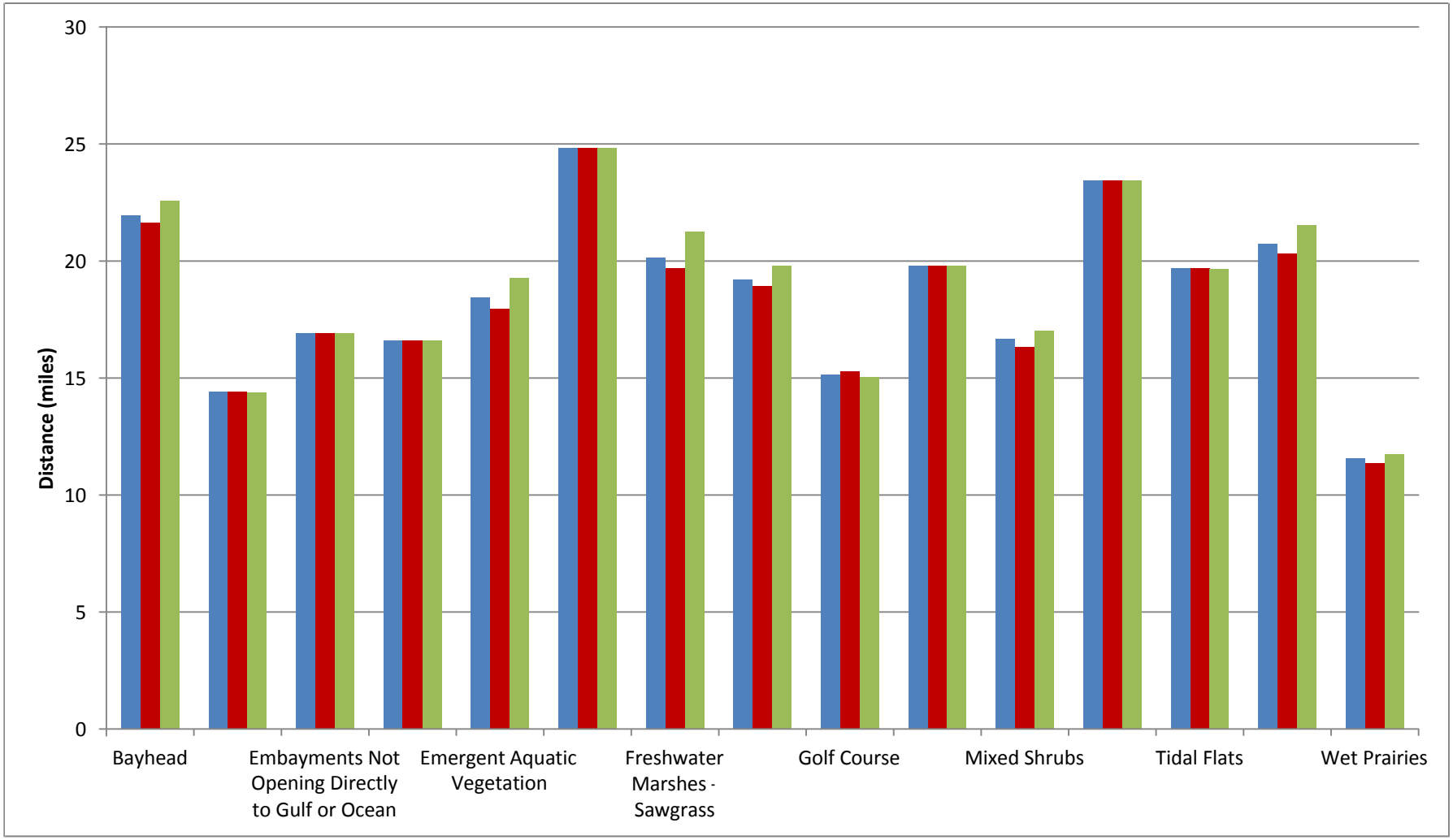


Figure 3-31. Relative risk in terms of distance of roseate spoonbill preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

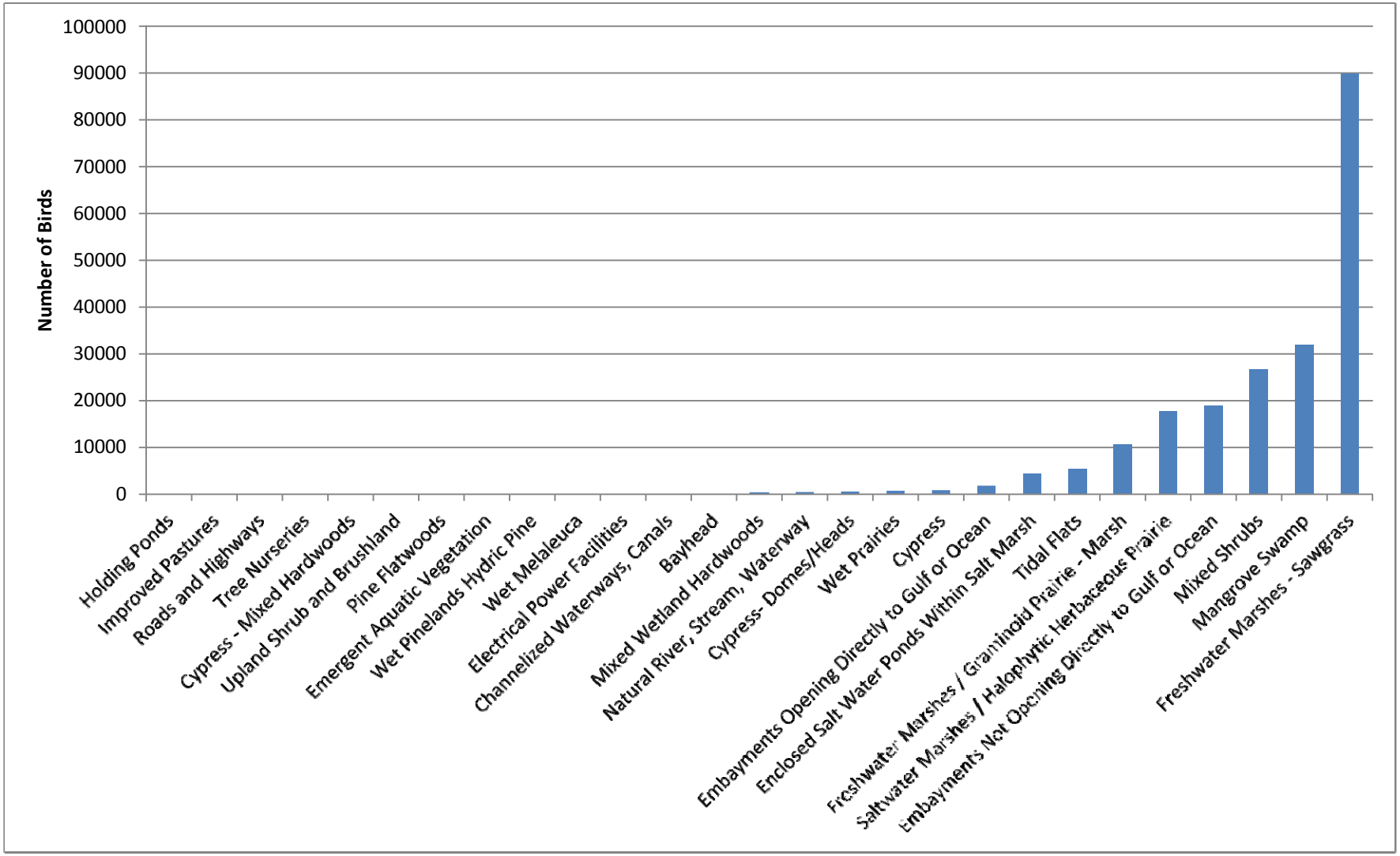


Figure 3-32. Number of wood storks associated with each Level 3 Land Use Land Cover category in the GIS database within the 30 mile boundary that surrounds the study area.

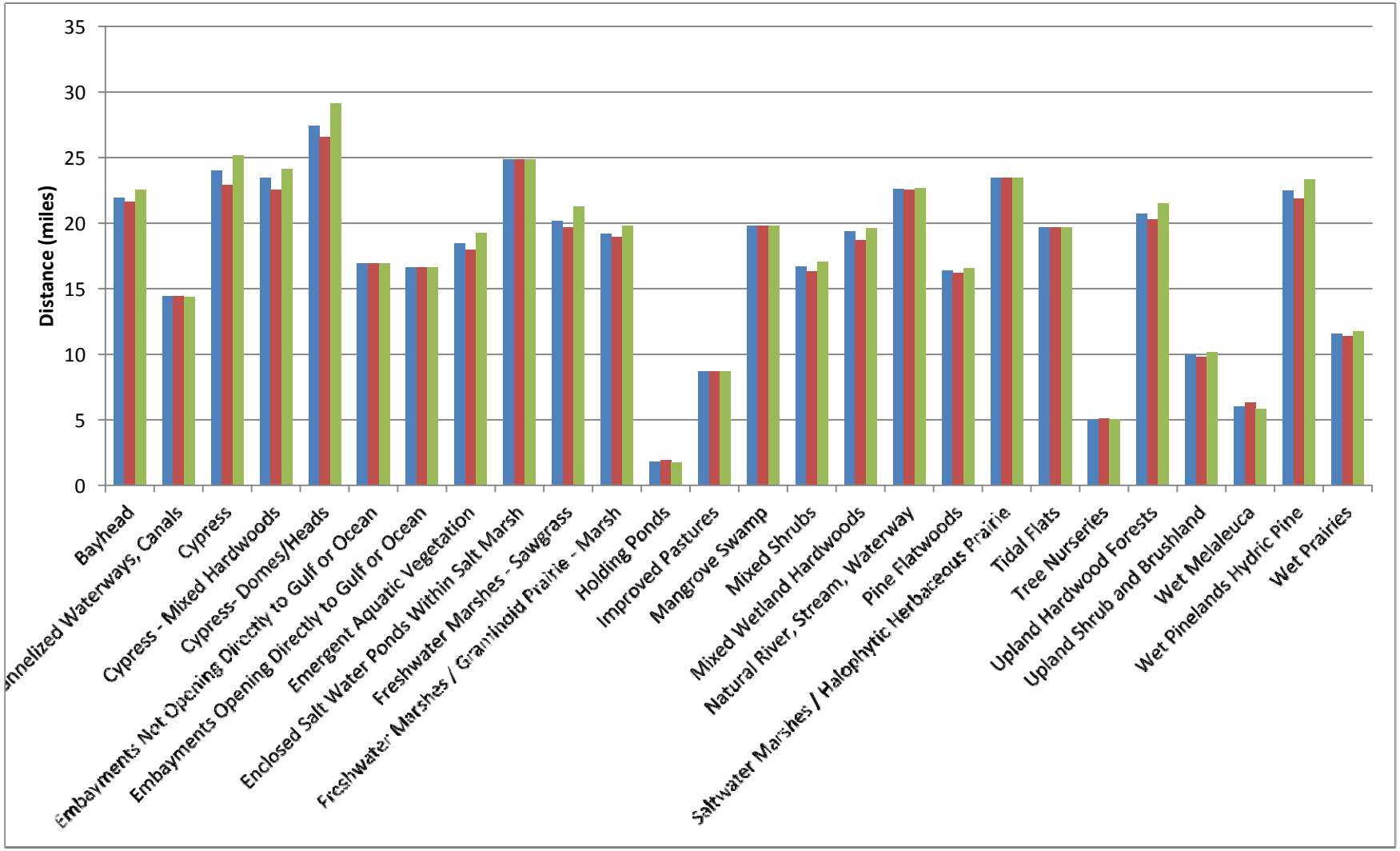


Figure 3-33. Relative risk in terms of distance of wood stork preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

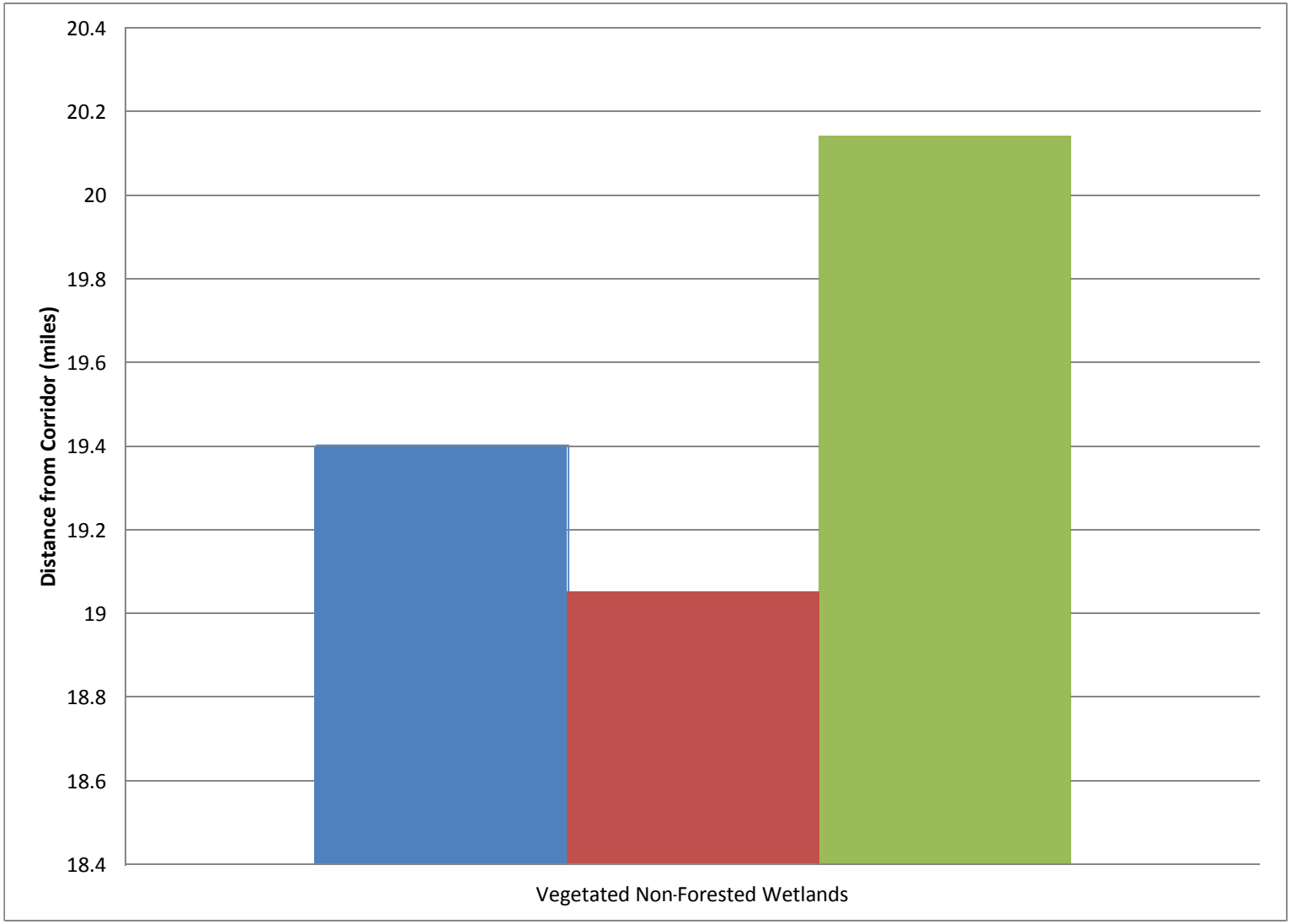


Figure 3-34. Relative risk in terms of distance of Florida sandhill crane preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

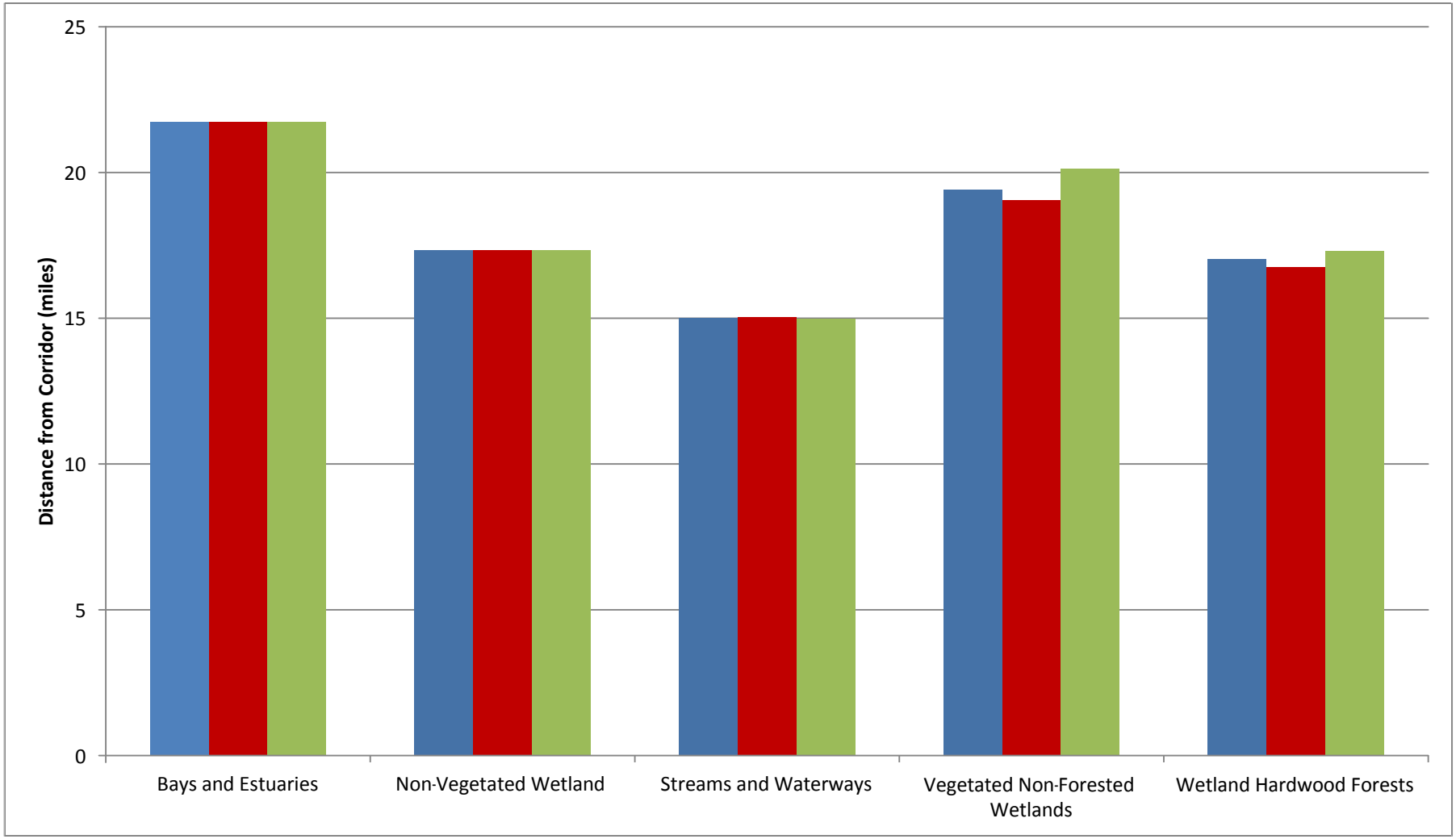


Figure 3-35. Relative risk in terms of distance of limpkin preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

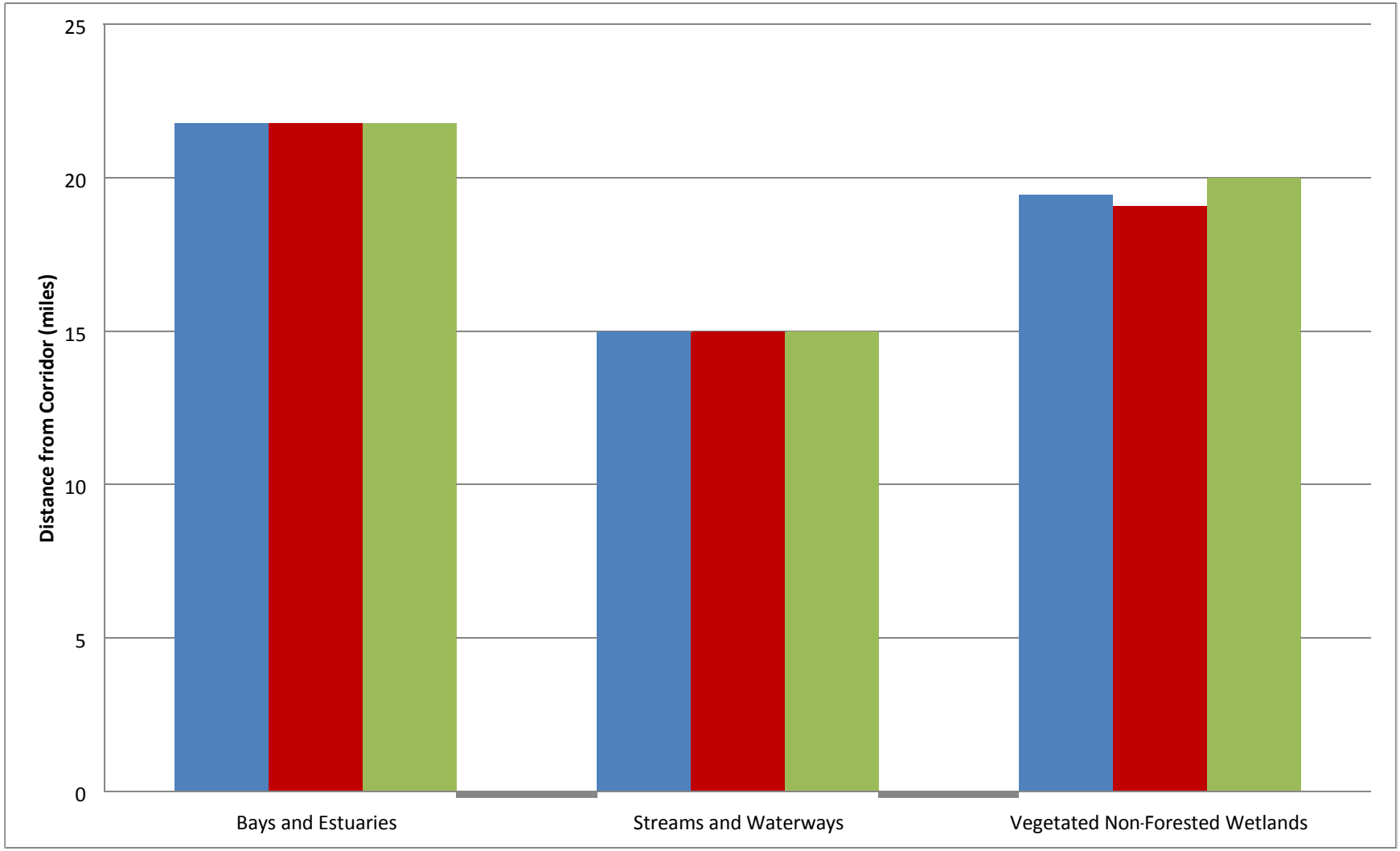


Figure 3-36. Relative risk in terms of distance of black rail preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

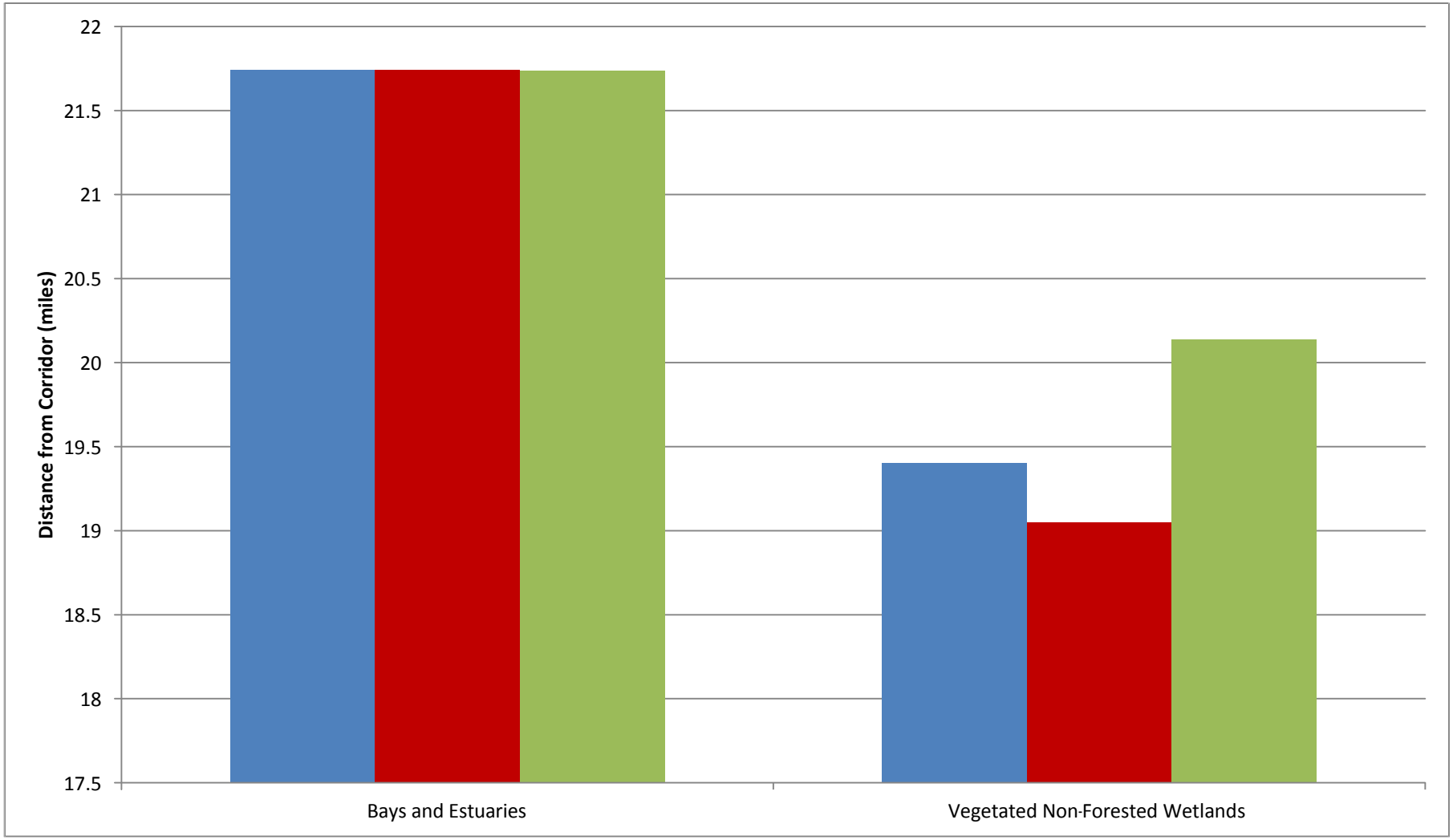


Figure 3-37. Relative risk in terms of distance of yellow rail preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

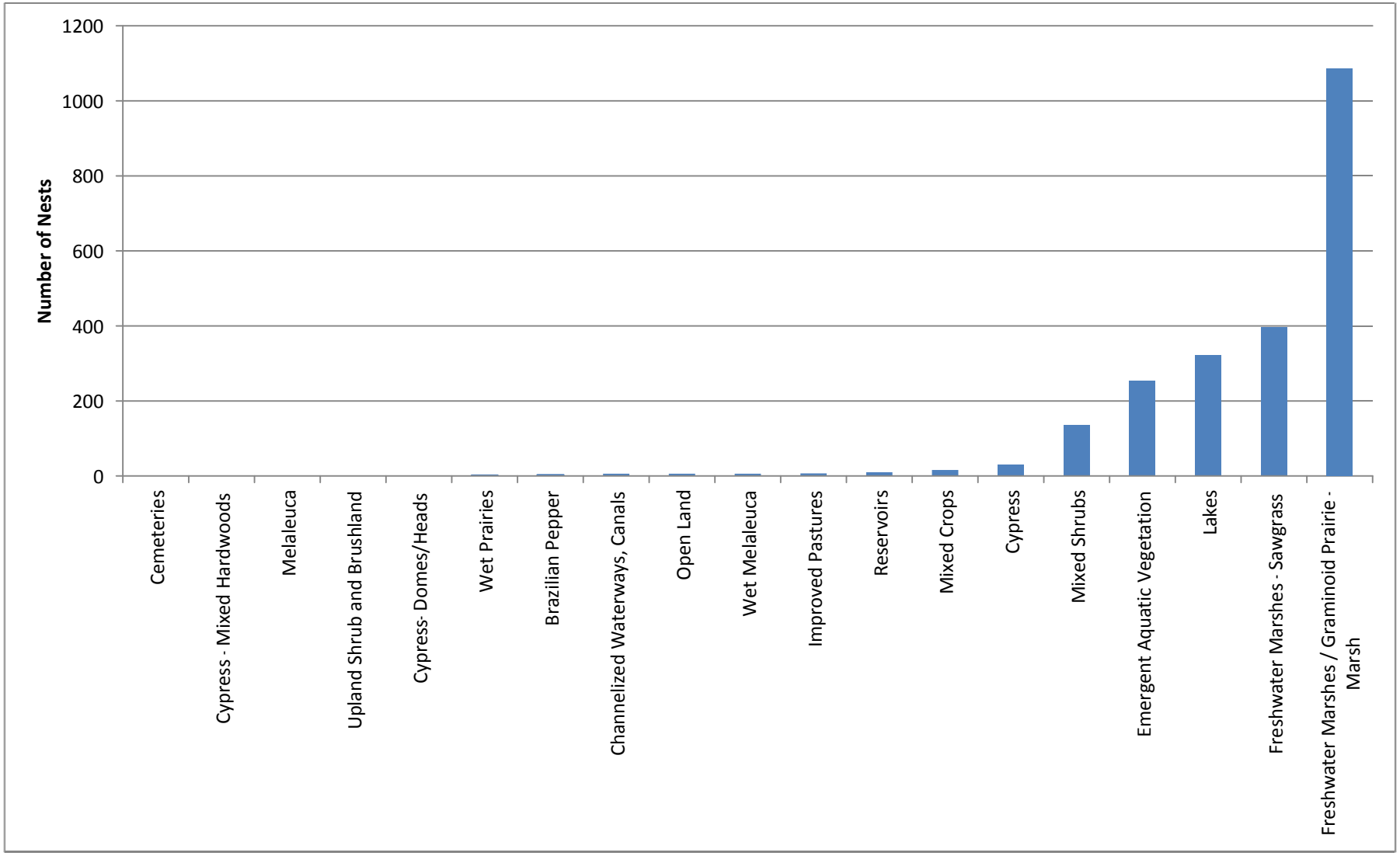


Figure 3-38. Number of snail kites associated with each Level 3 Land Use Land Cover category in the GIS database within the 30 mile boundary that surrounds the study area.

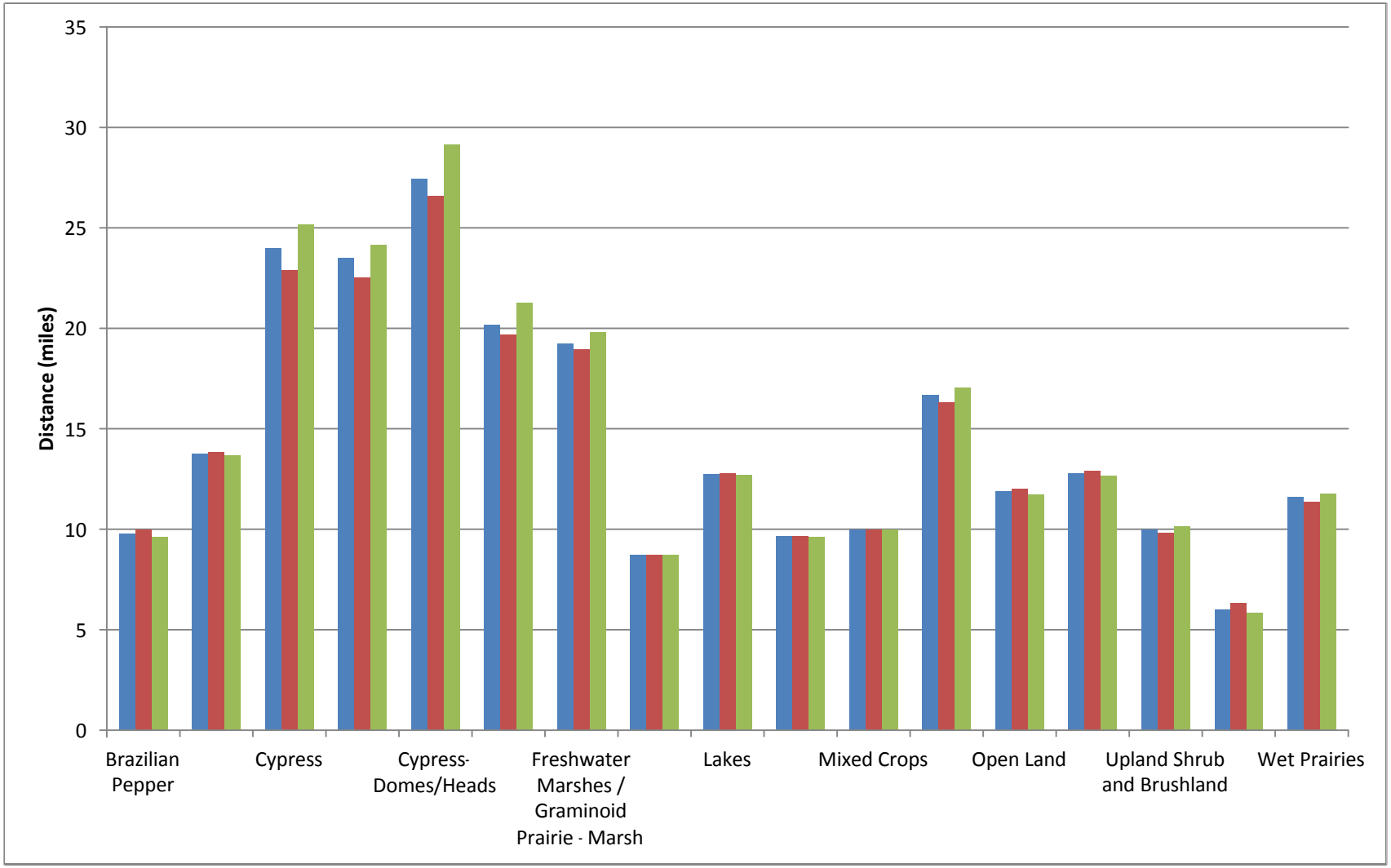


Figure 3-39. Relative risk in terms of distance of snail kite preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

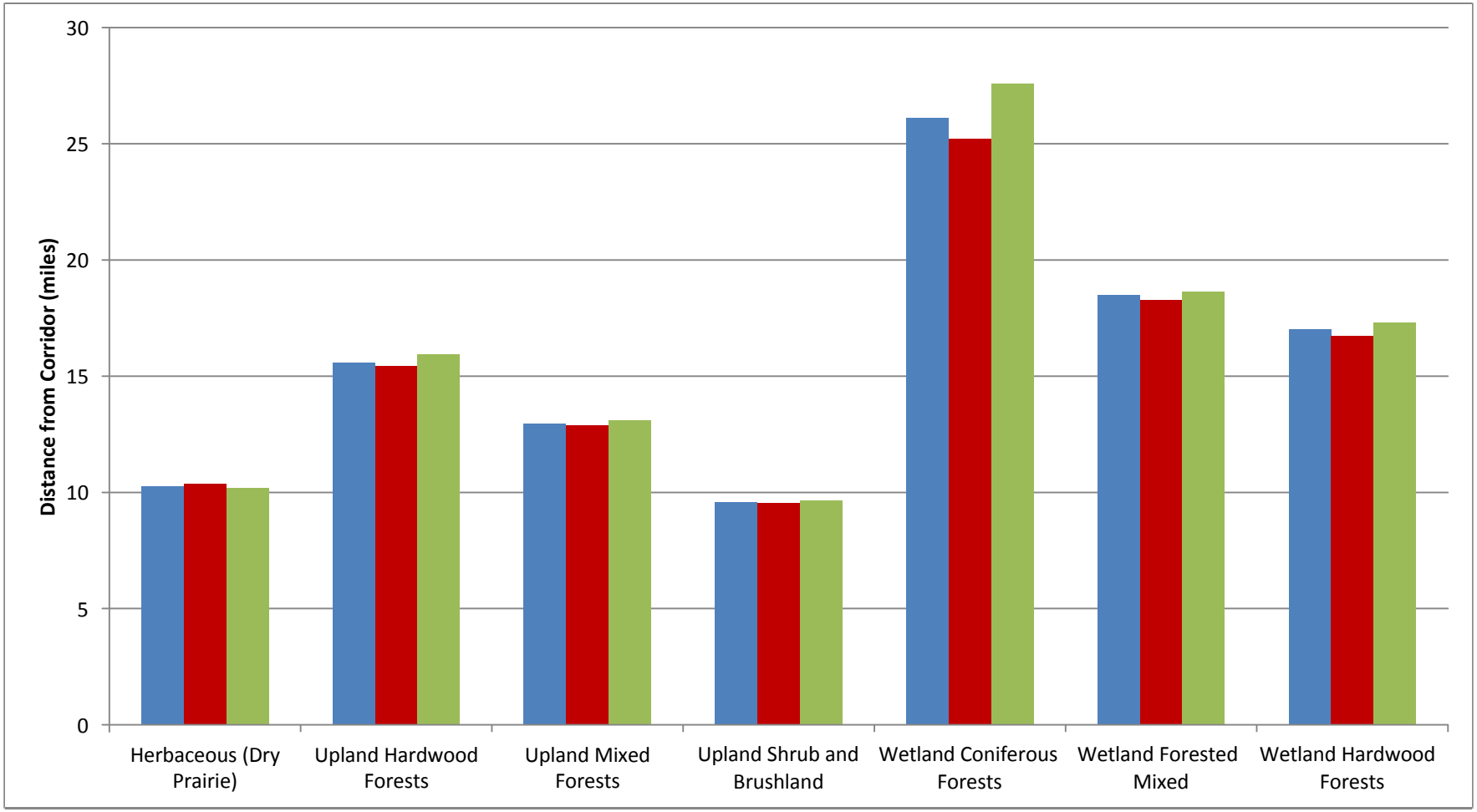


Figure 3-40. Relative risk in terms of distance of short tailed hawk preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

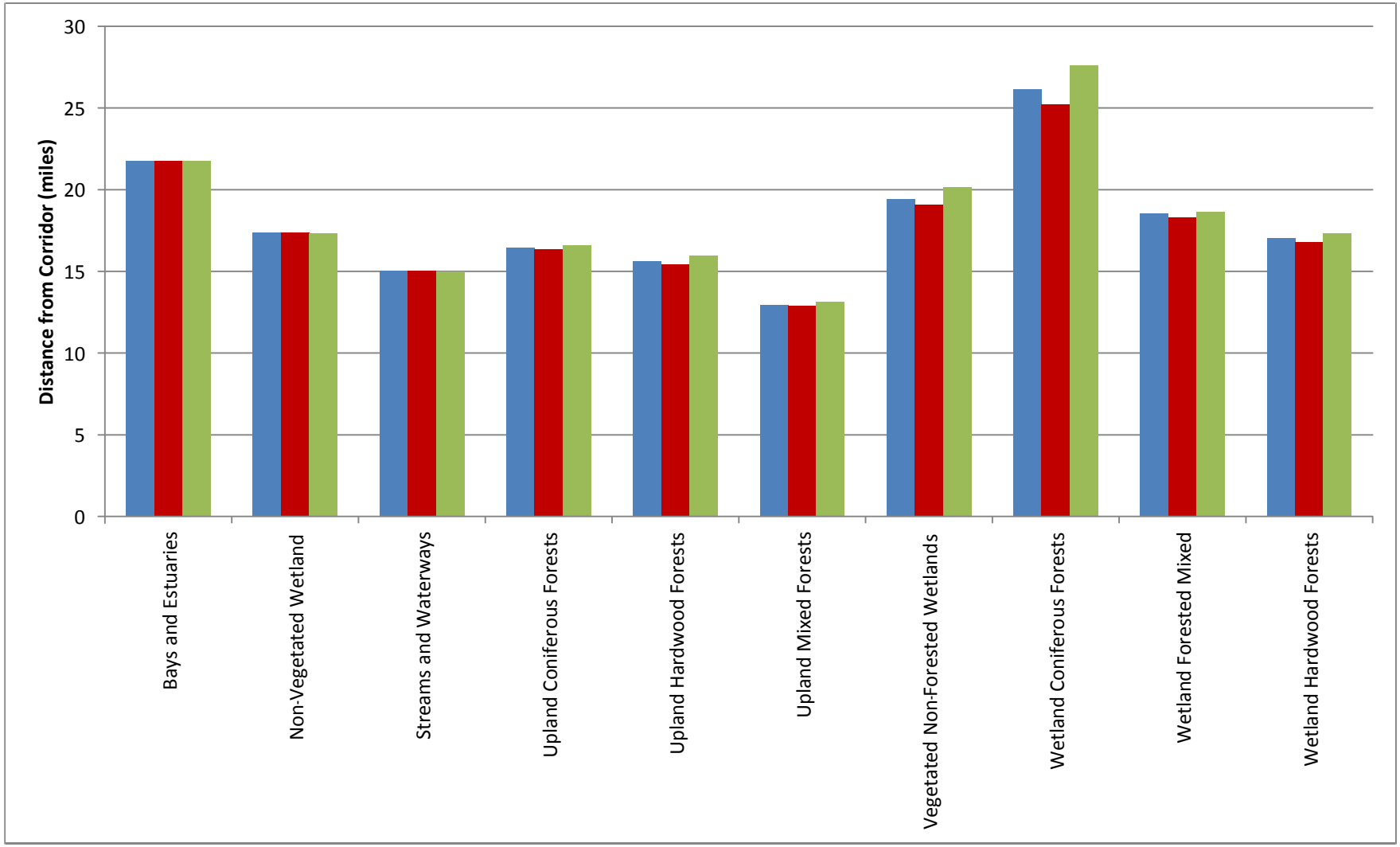


Figure 3-41. Relative risk in terms of distance of swallow tailed kite preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

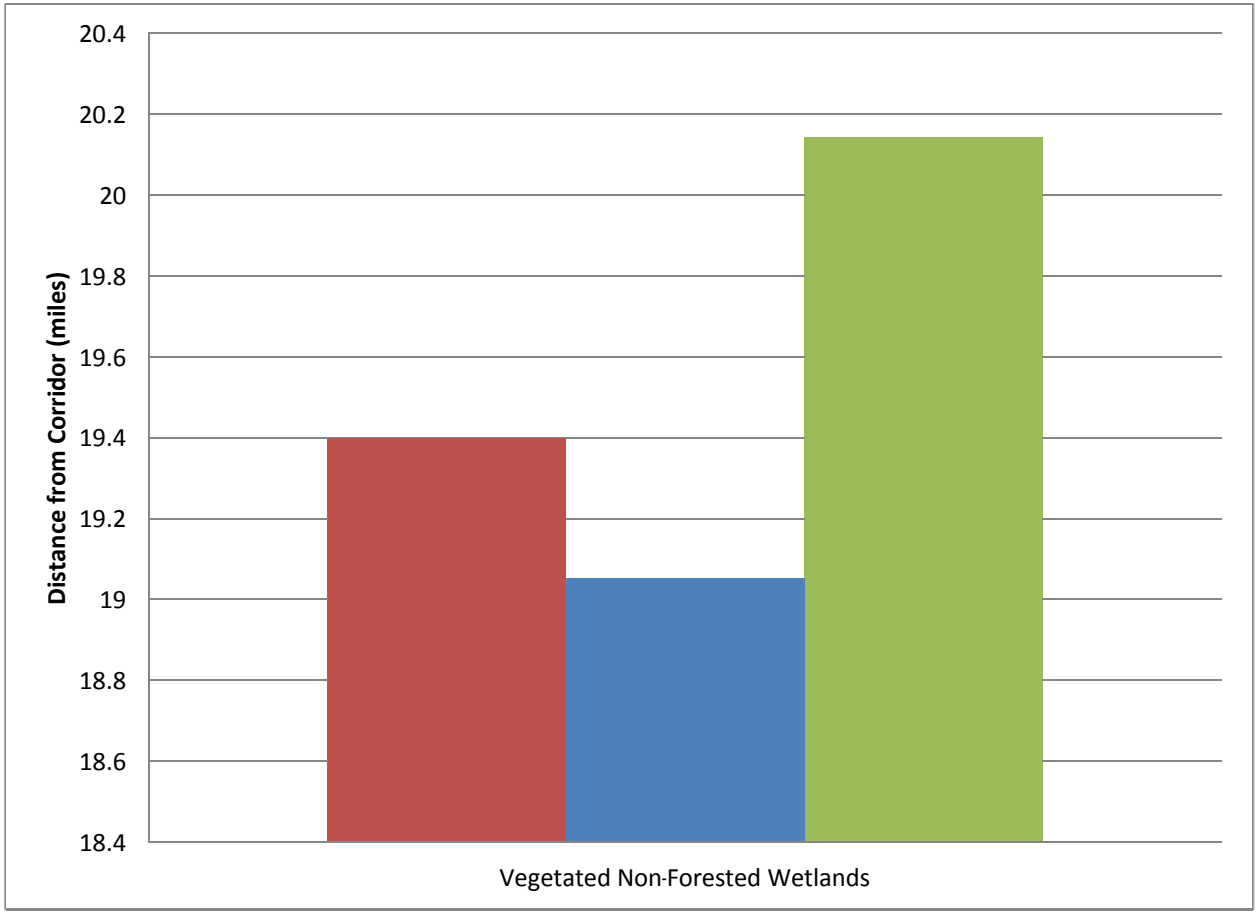


Figure 3-42. Relative risk in terms of distance of northern harrier preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

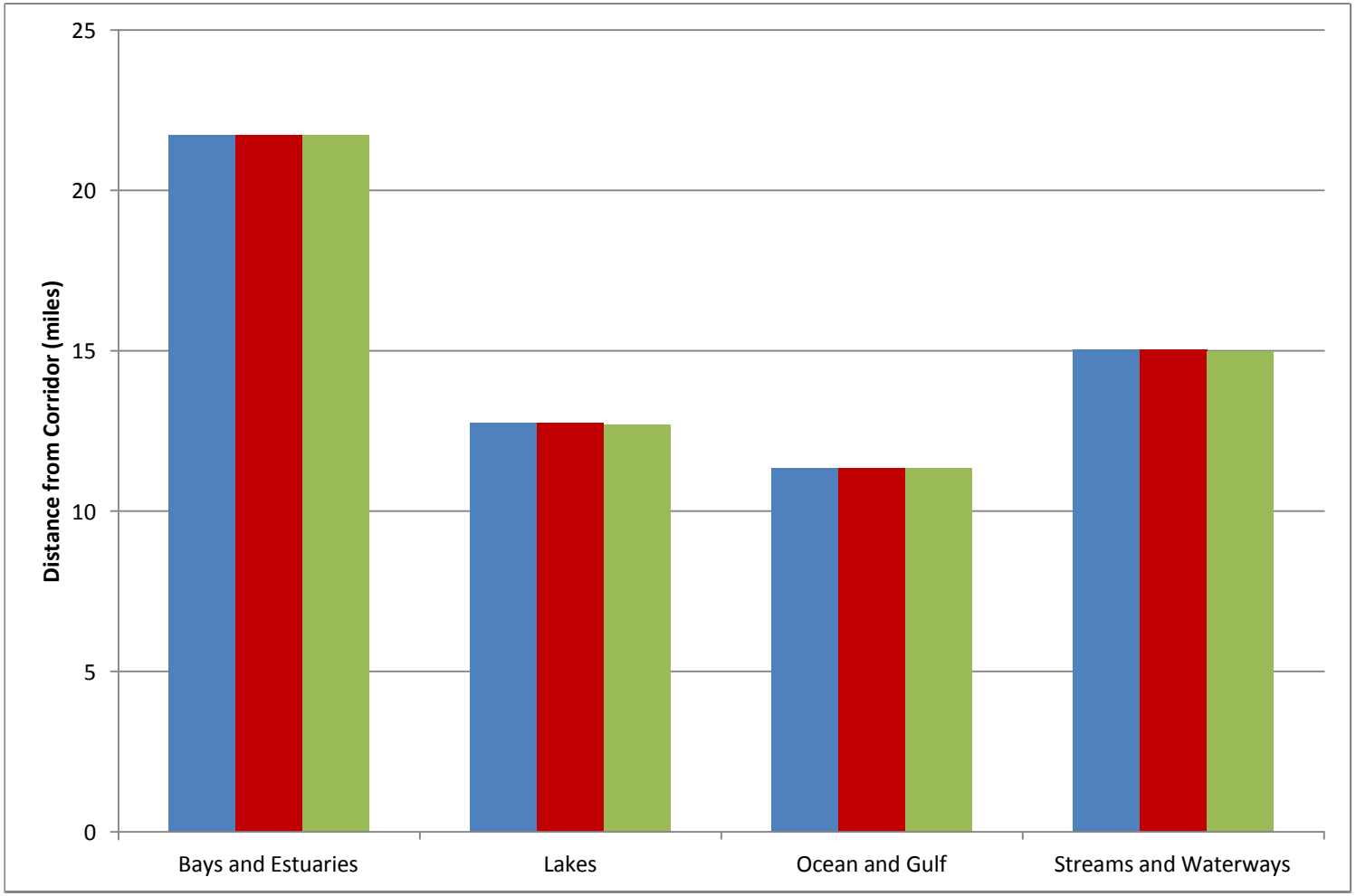


Figure 3-43. Relative risk in terms of distance of osprey preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

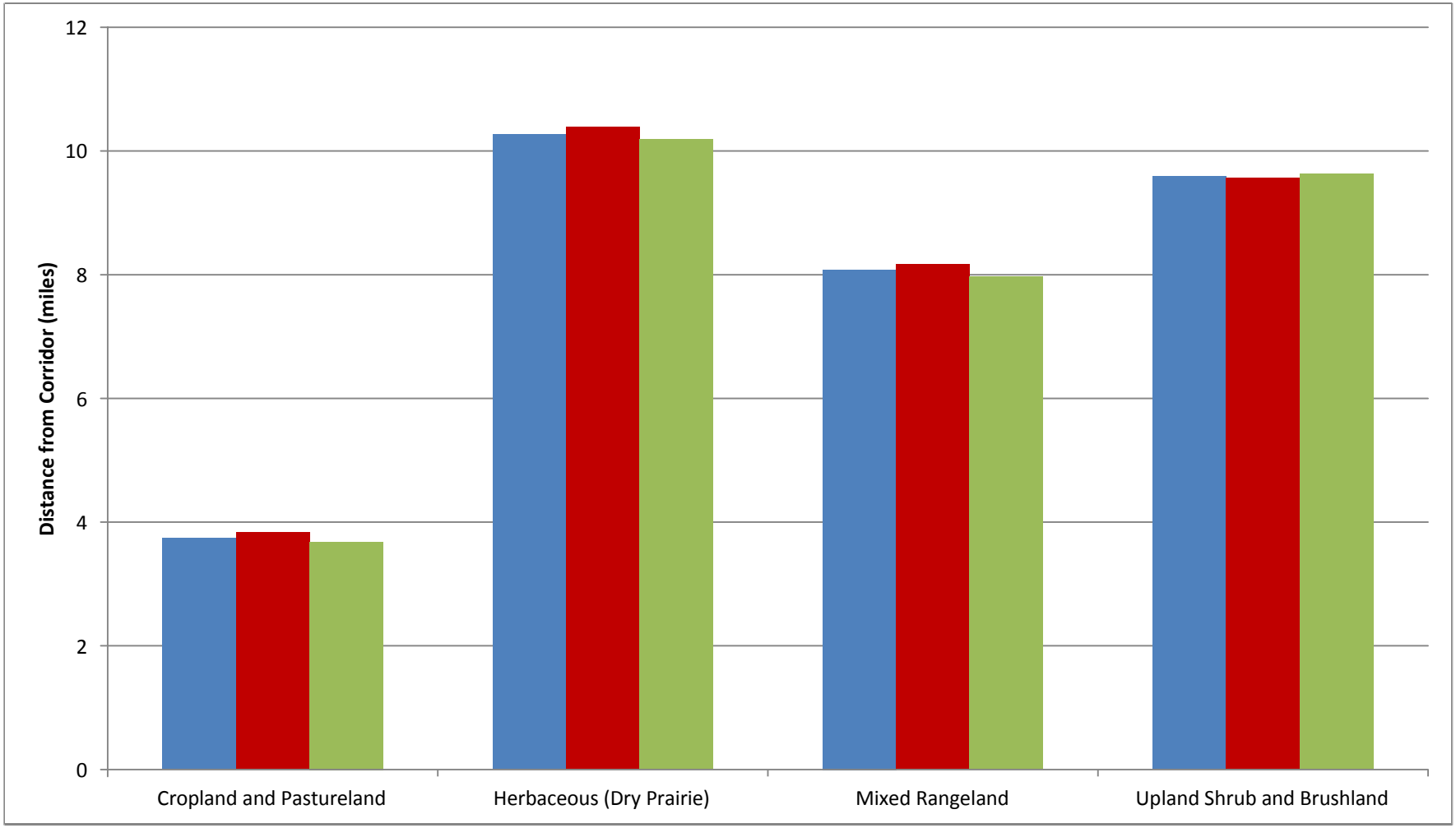


Figure 3-44. Relative risk in terms of distance of crested caracara preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

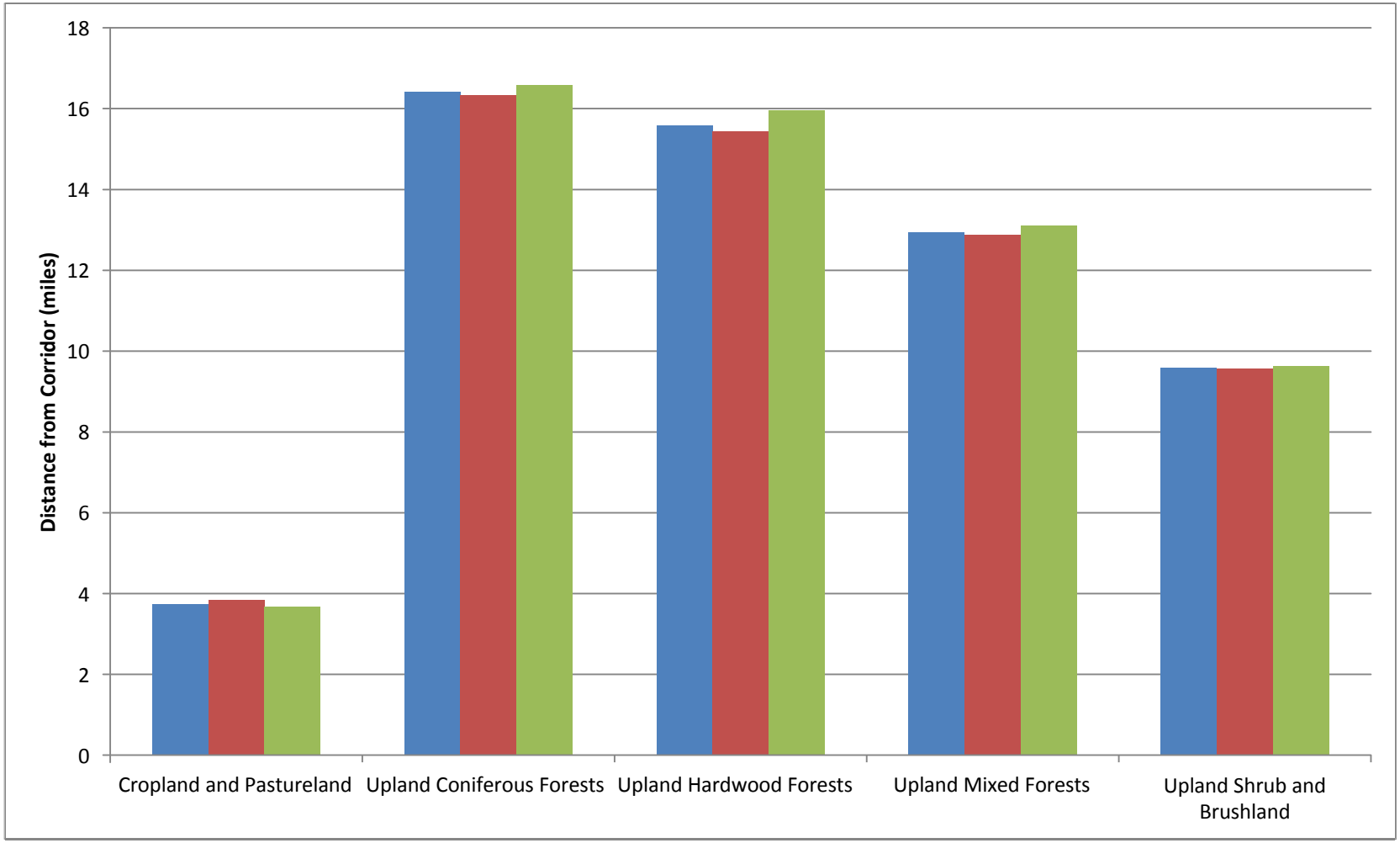


Figure 3-45. Relative risk in terms of distance of American kestrel preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

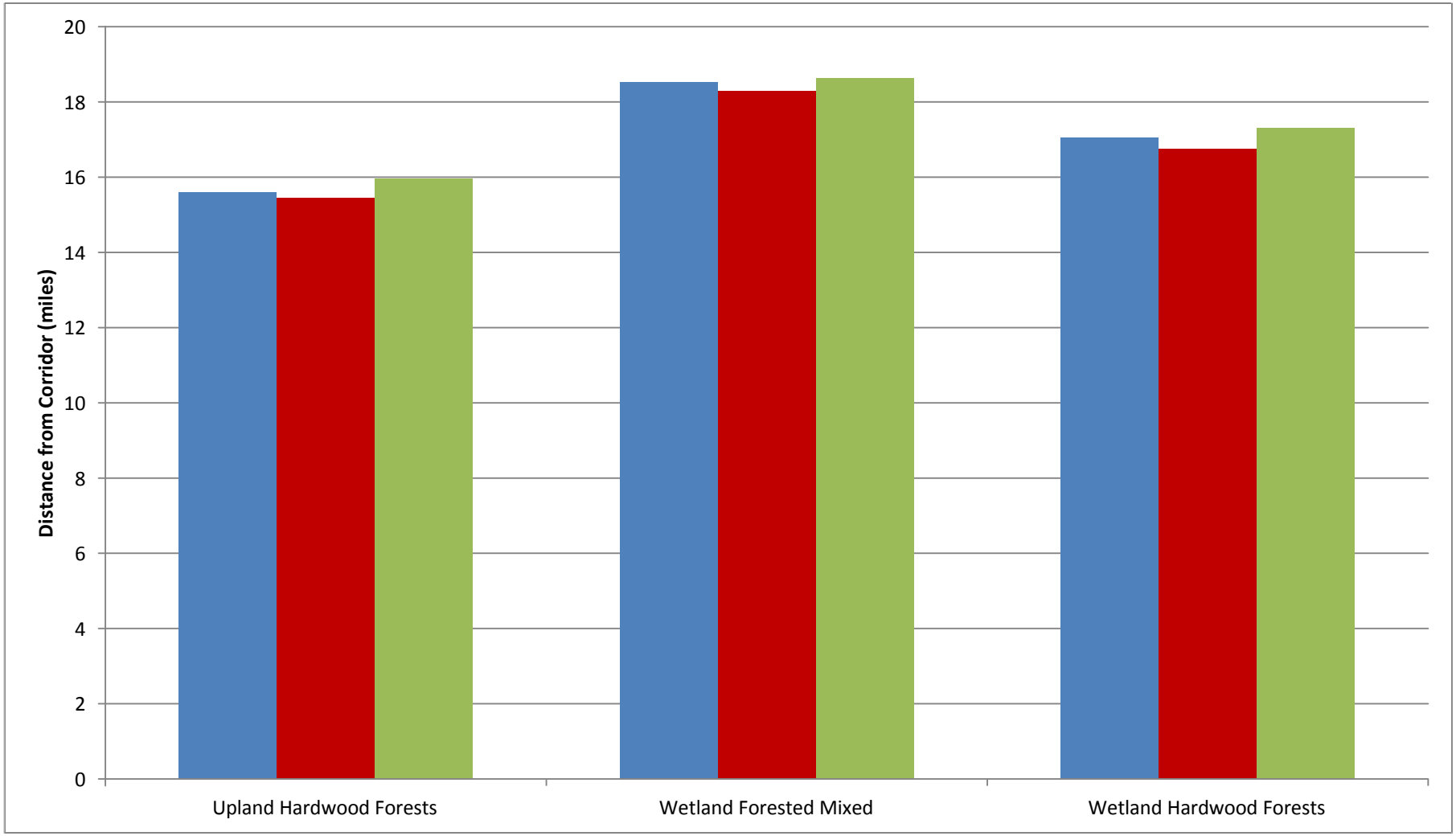


Figure 3-46. Relative risk in terms of distance of white crowned pigeon preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

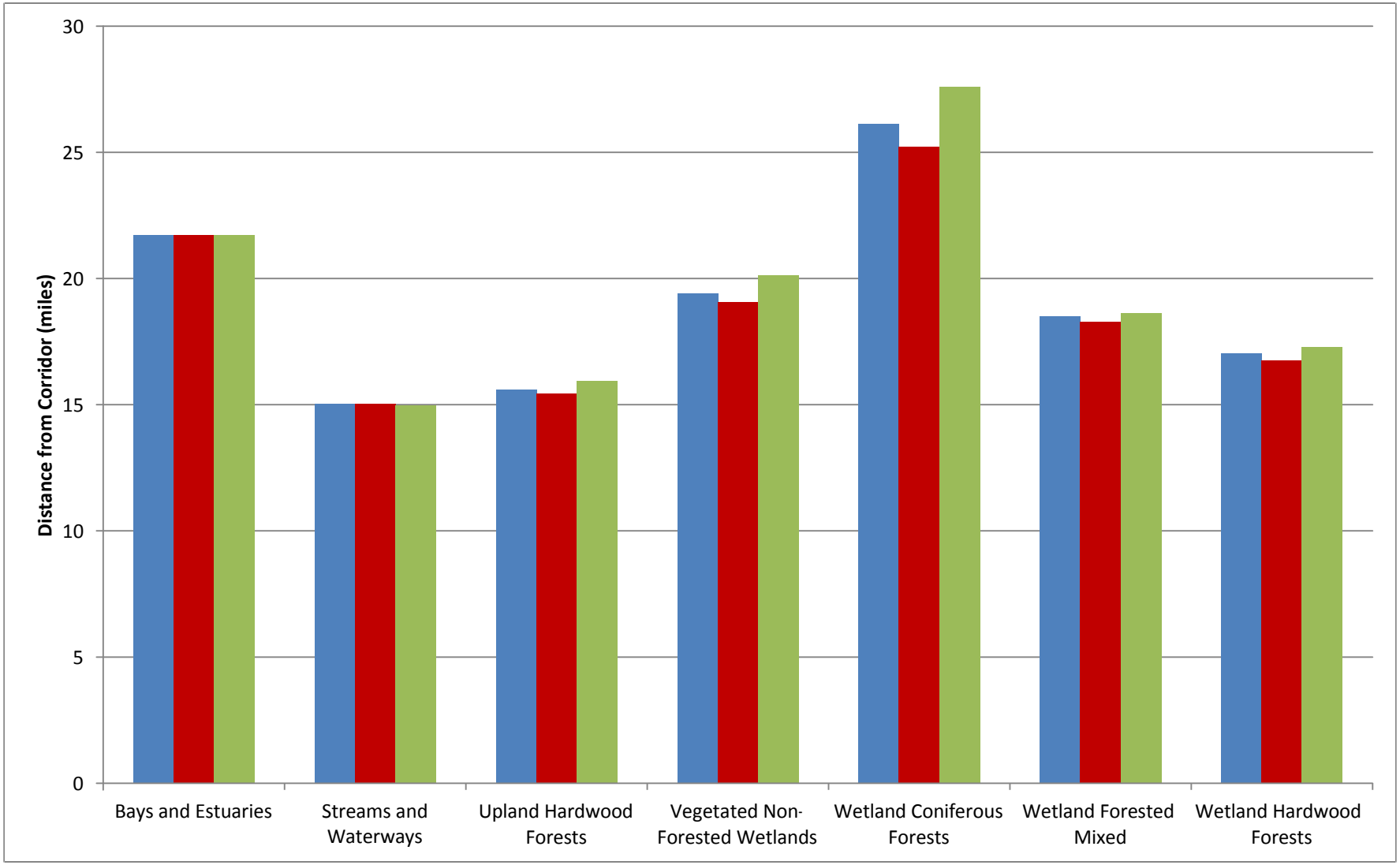


Figure 3-47. Relative risk in terms of distance of yellow billed cuckoo preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

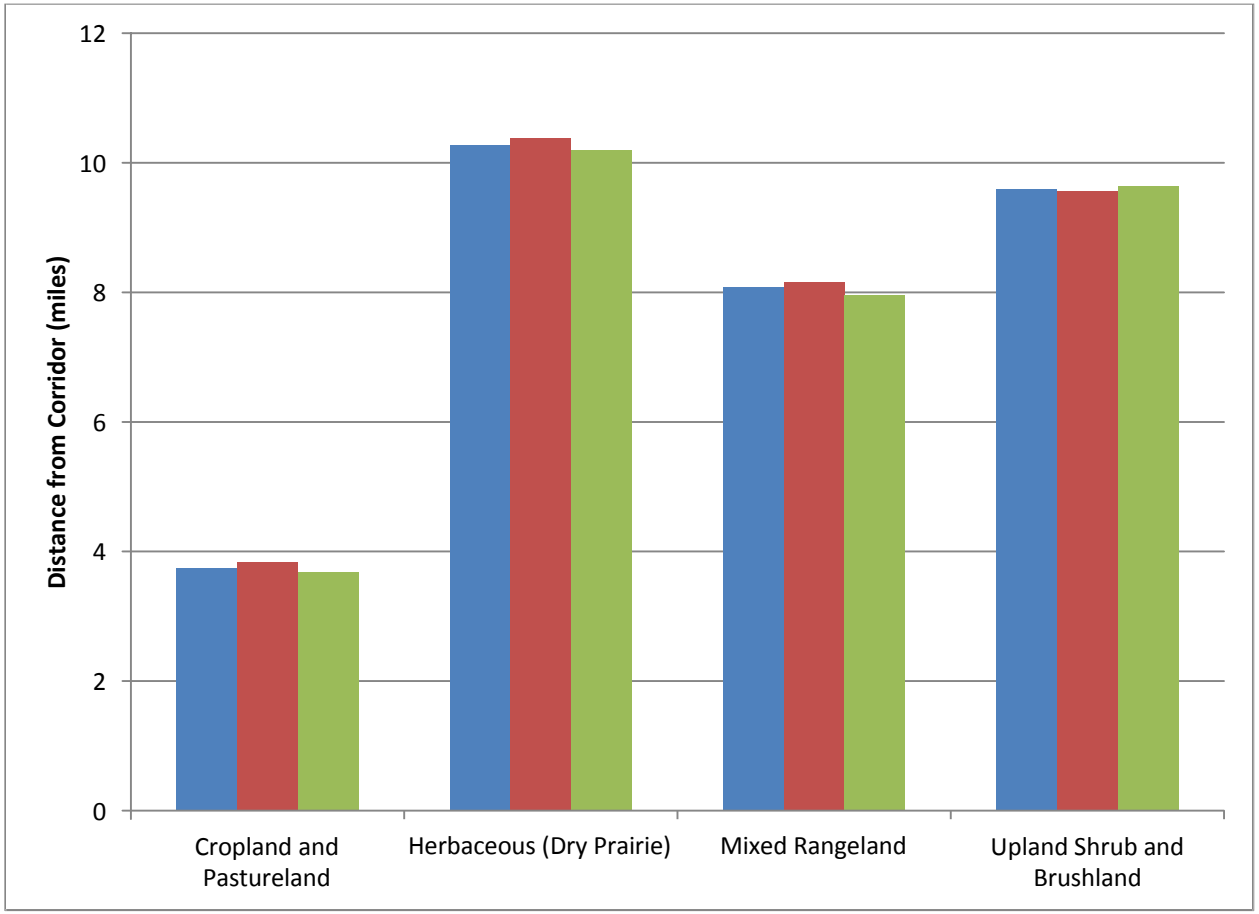


Figure 3-48. Relative risk in terms of distance of barn owl preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

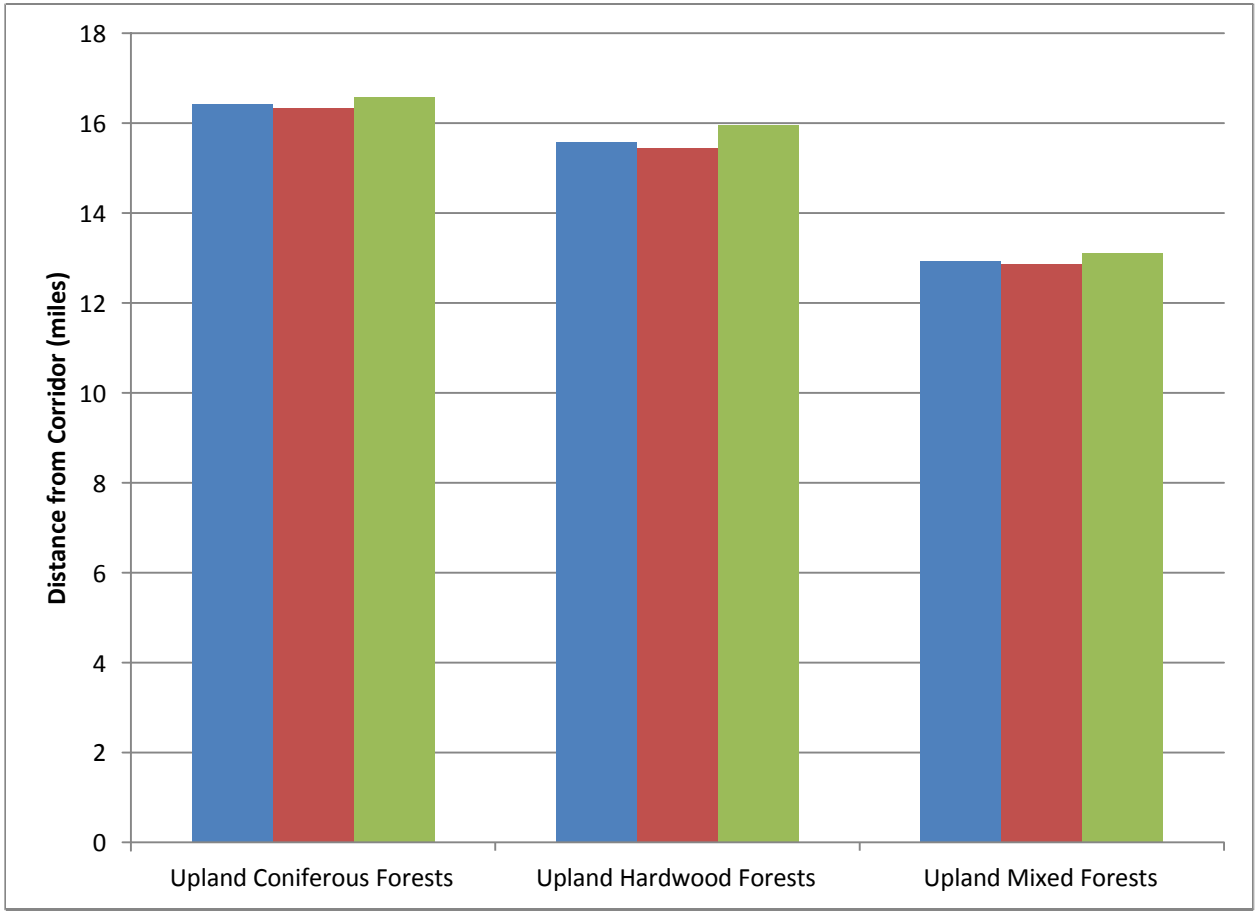


Figure 3-49. Relative risk in terms of distance of northern flicker preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

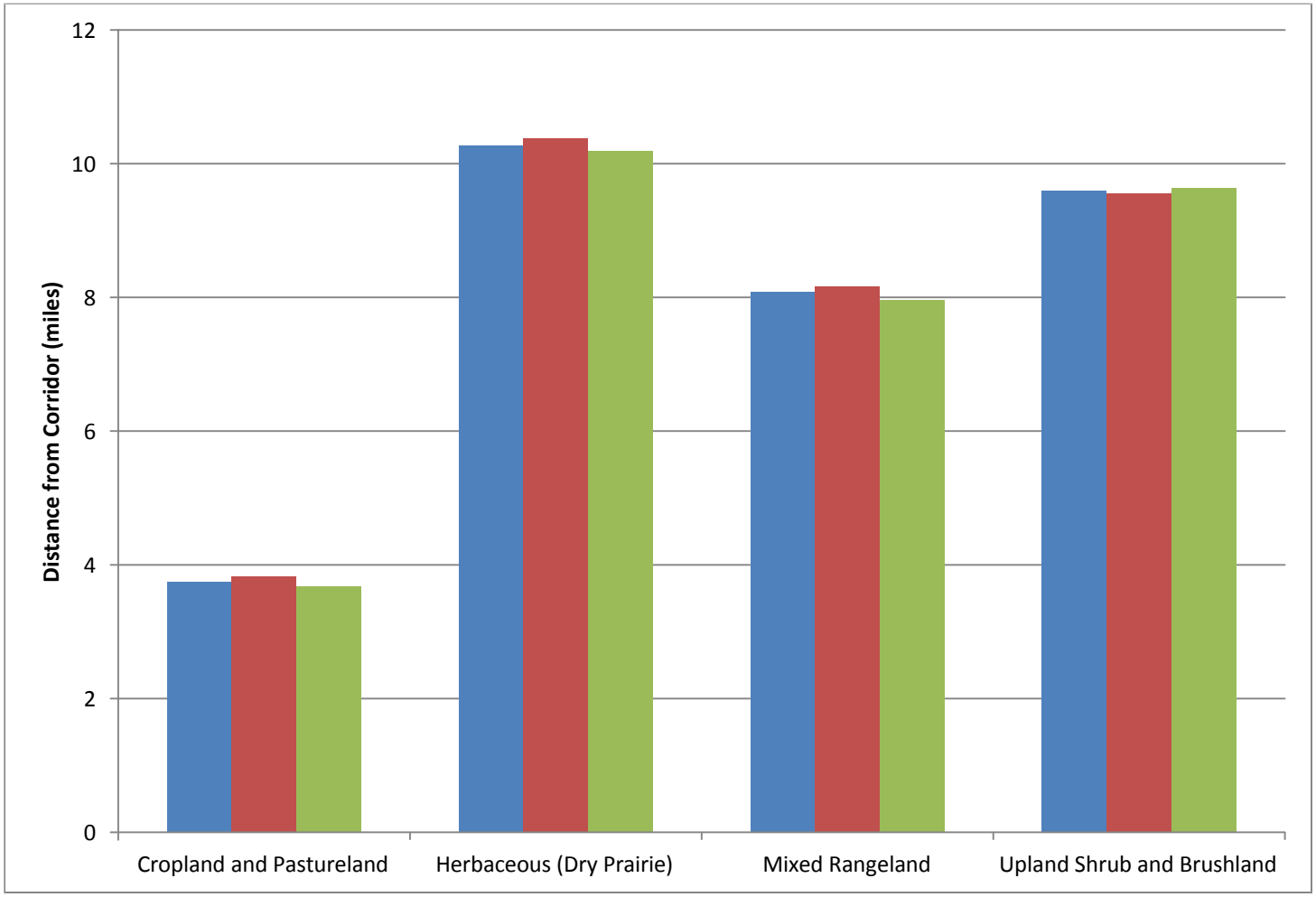


Figure 3-50. Relative risk in terms of distance of loggerhead shrike preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

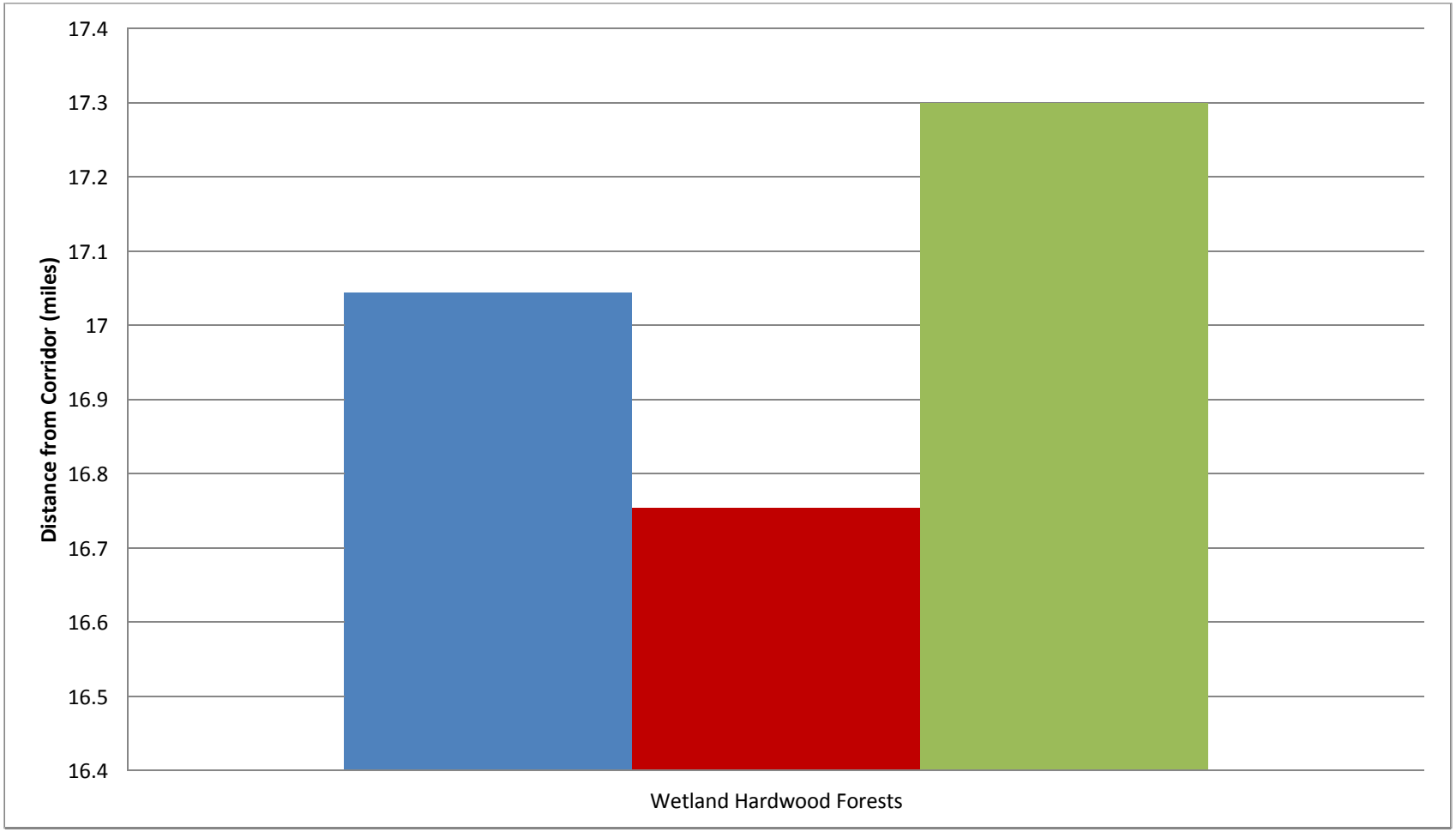


Figure 3-51. Relative risk in terms of distance of black whiskered vireo preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

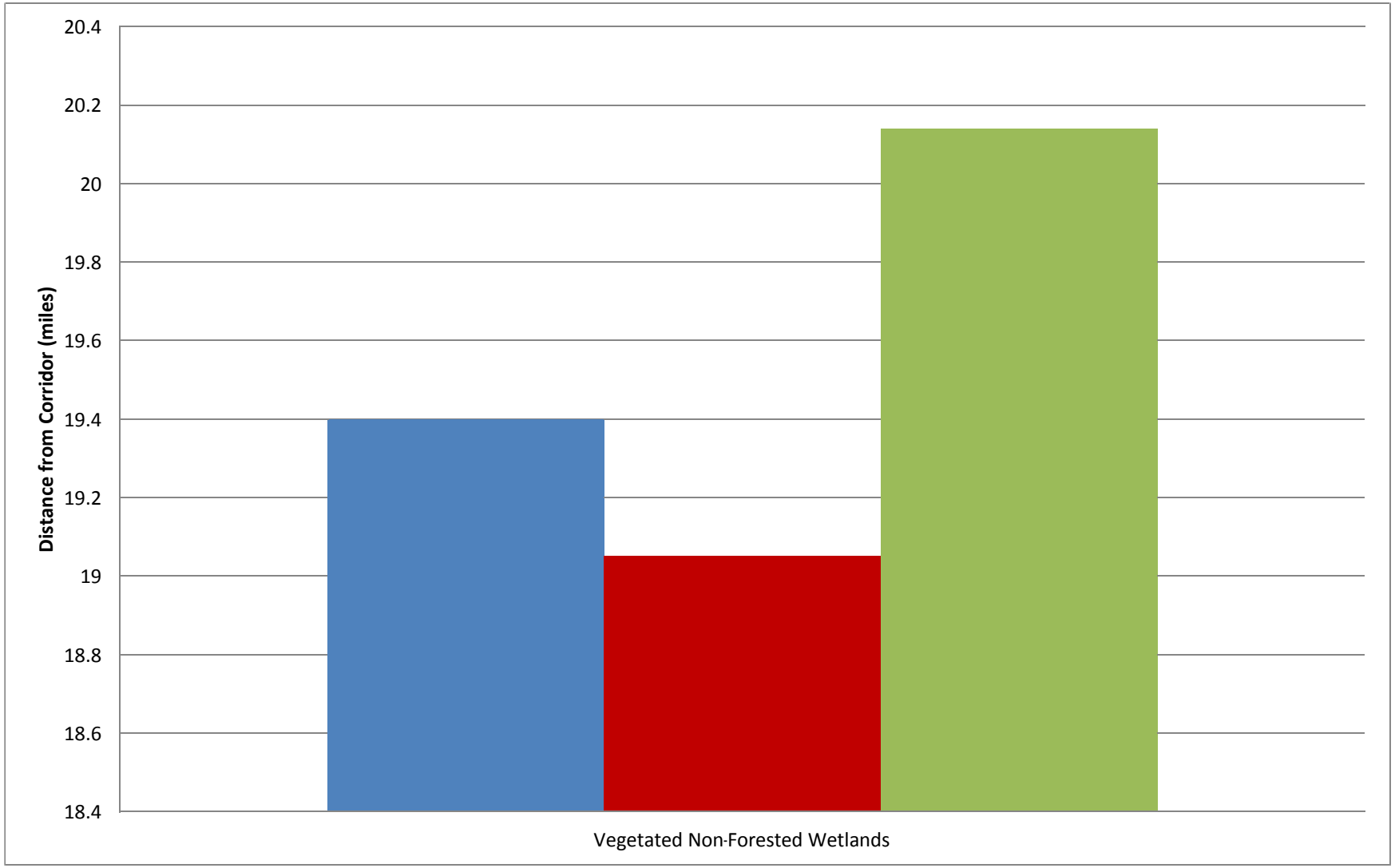


Figure 3-52. Relative risk in terms of distance of marsh wren preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

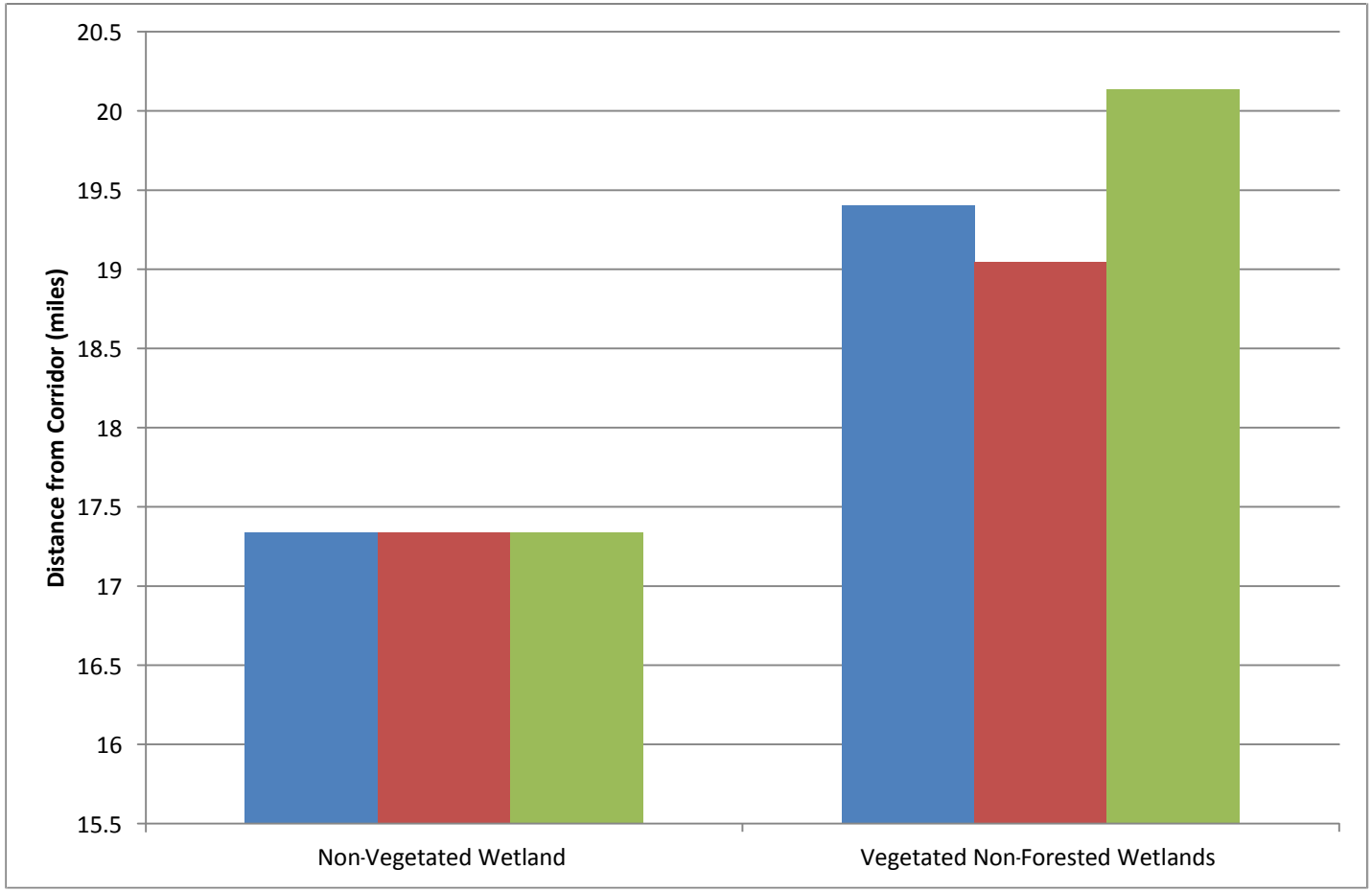


Figure 3-53. Relative risk in terms of distance of sedge wren preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

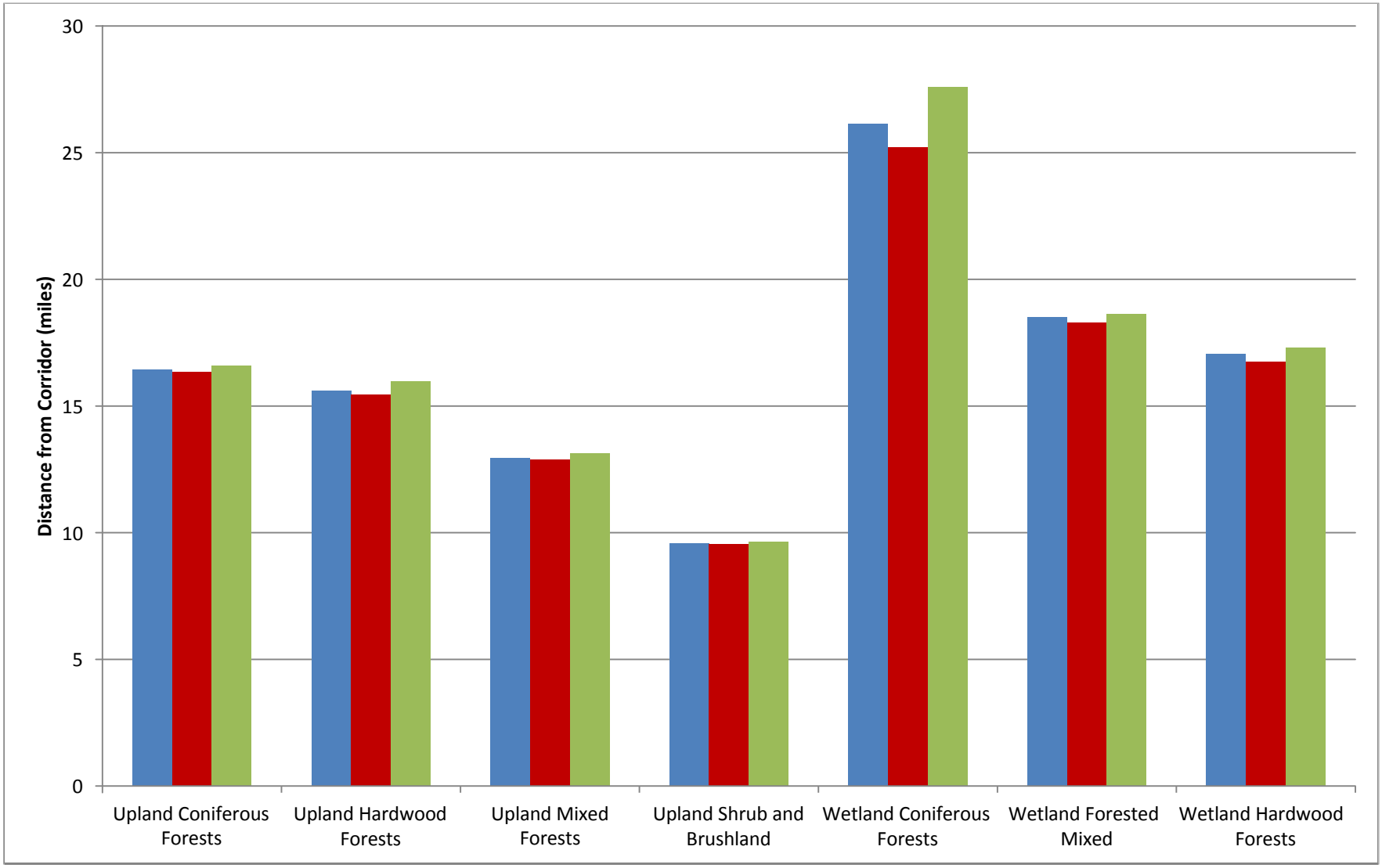


Figure 3-54. Relative risk in terms of distance of wood thrush preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

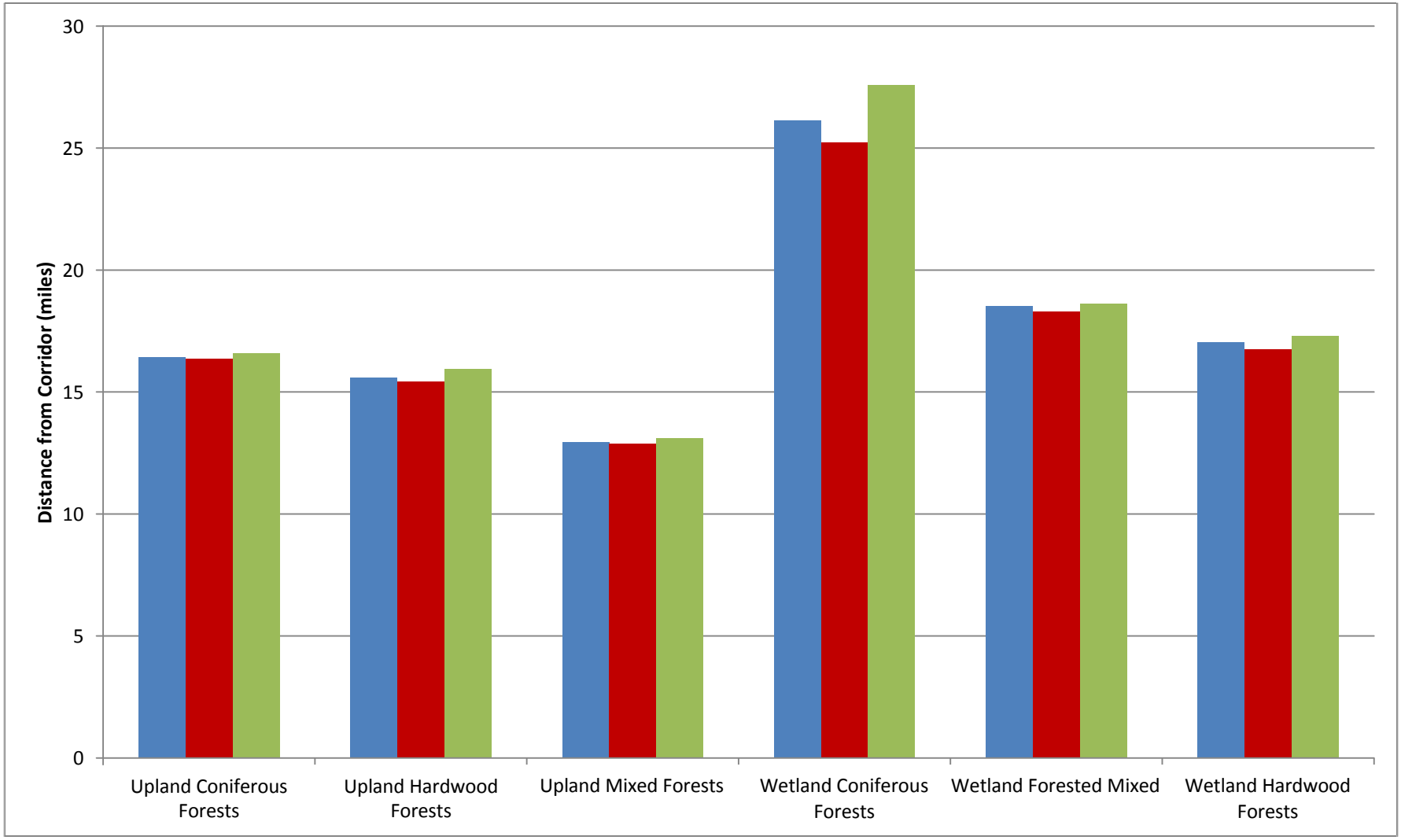


Figure 3-55. Relative risk in terms of distance of veery preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

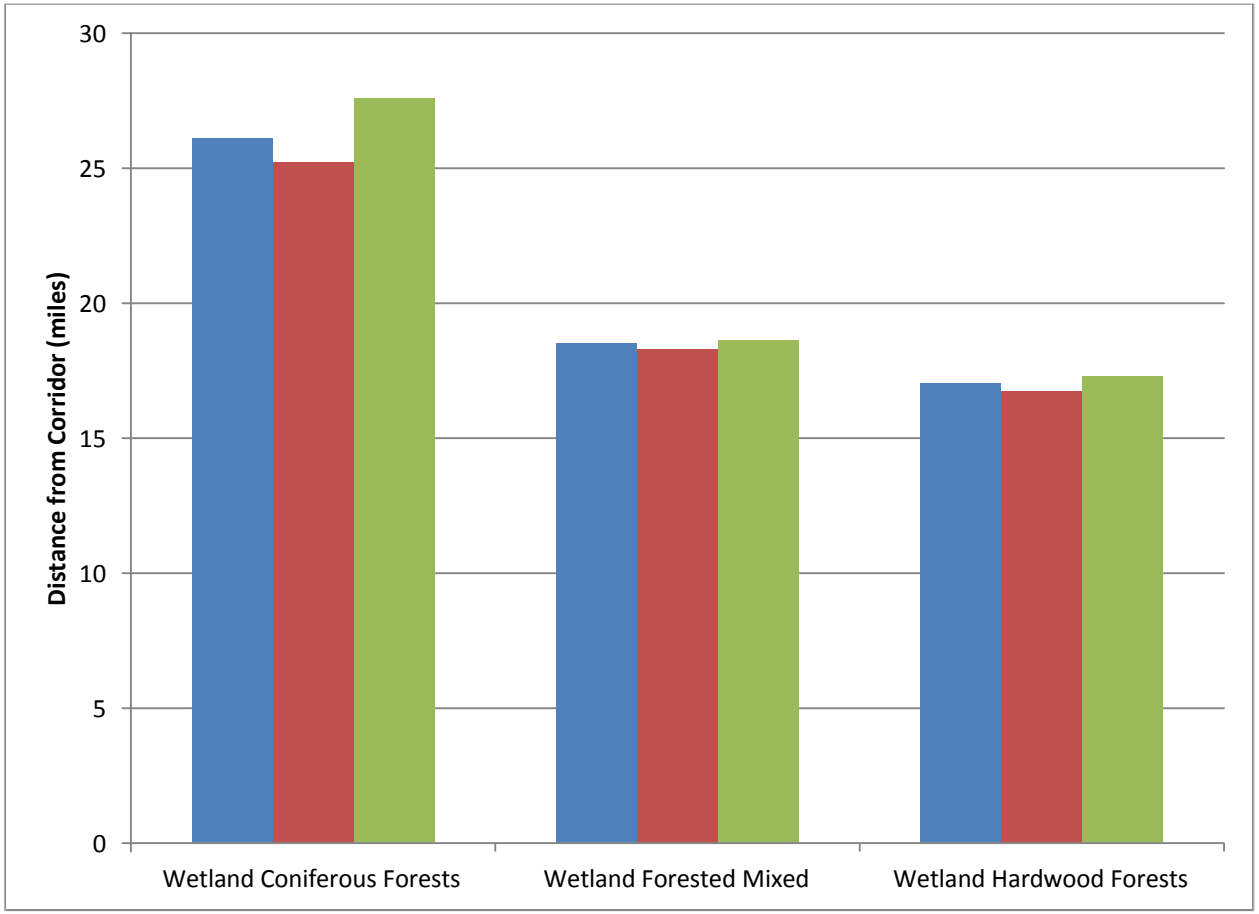


Figure 3-56. Relative risk in terms of distance of black throated blue warbler preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

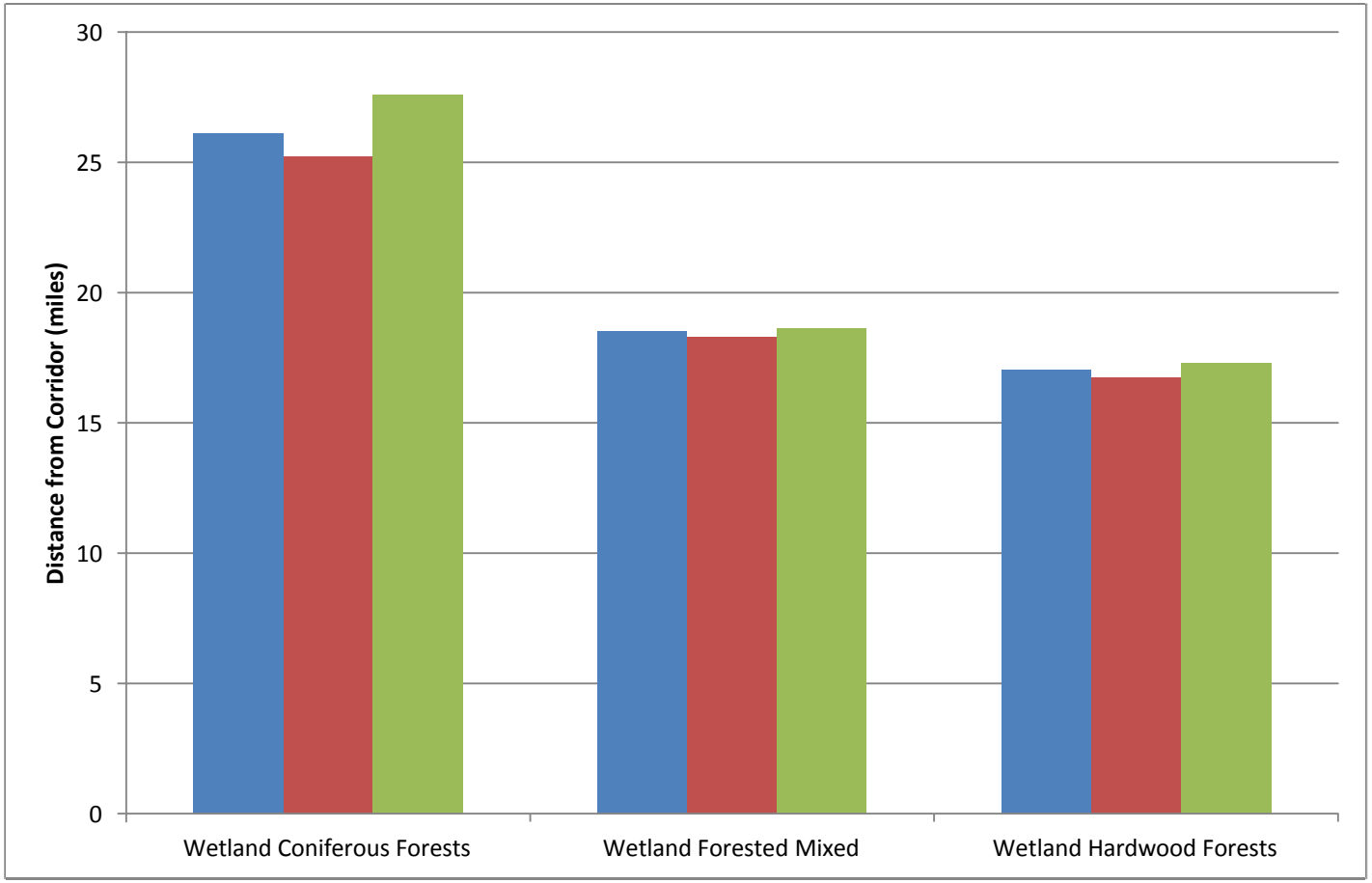


Figure 3-57. Relative risk in terms of distance of prairie warbler preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

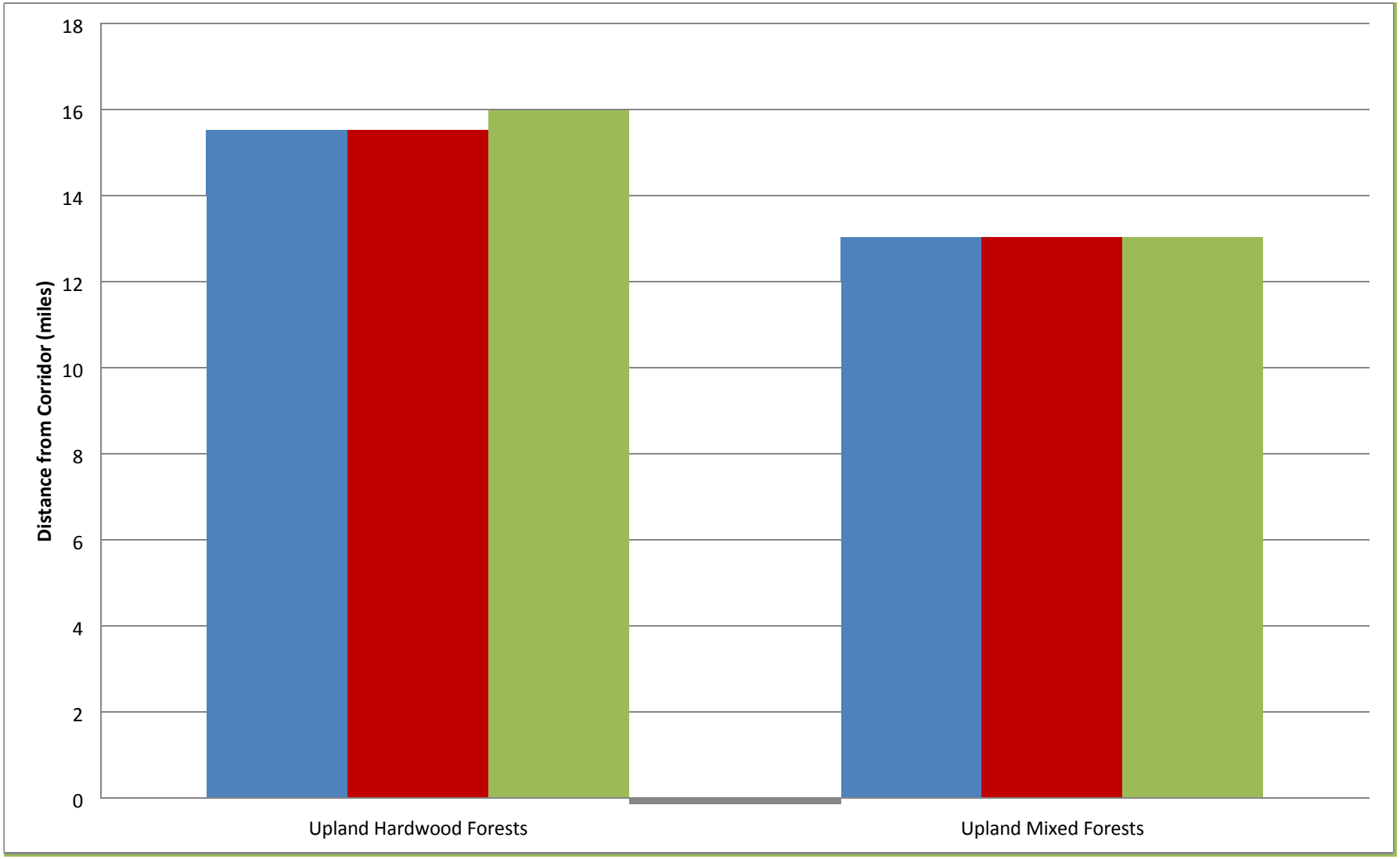


Figure 3-58. Relative risk in terms of distance of worm eating warbler preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

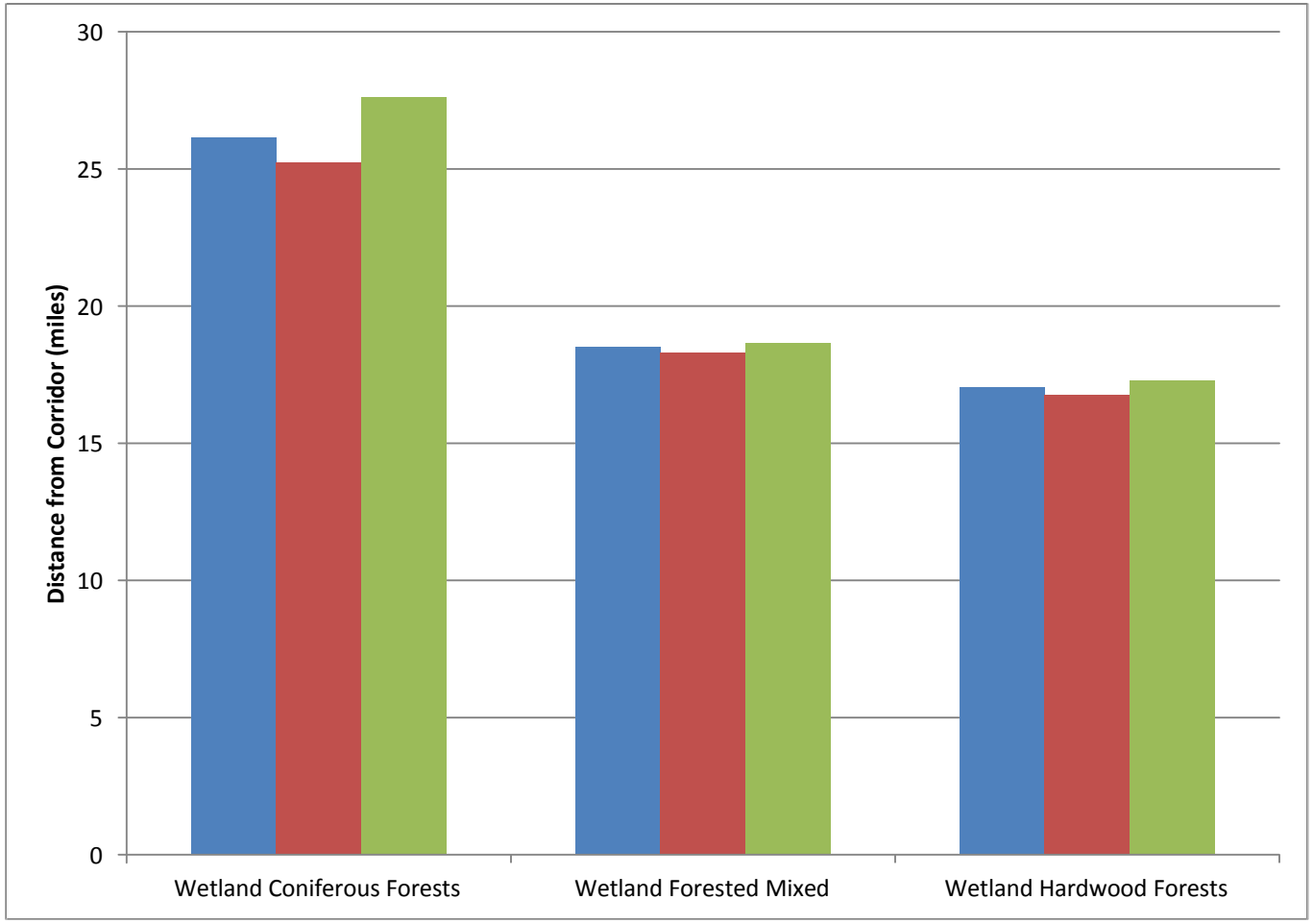


Figure 3-59. Relative risk in terms of distance of Swainson's warbler preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

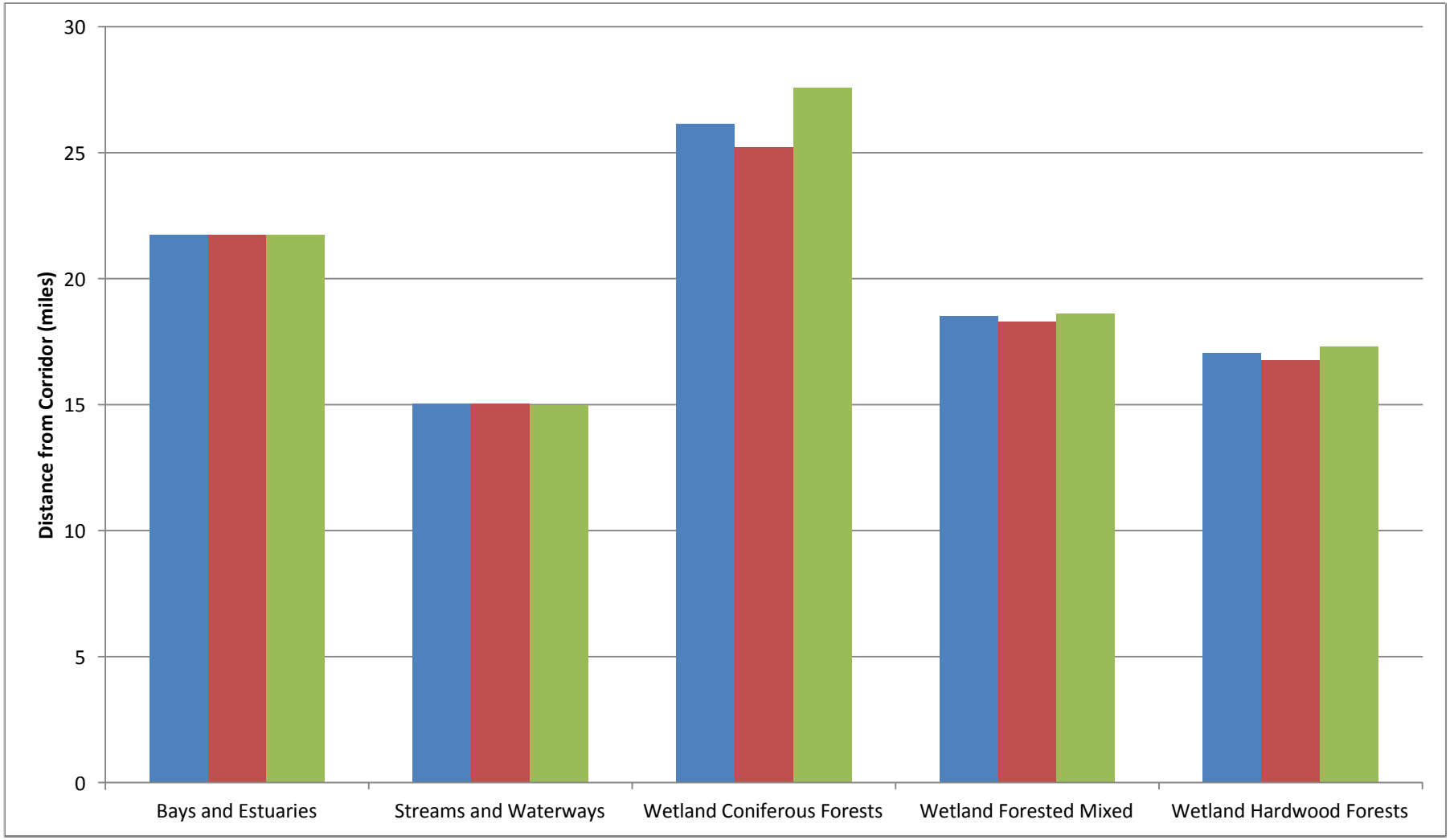


Figure 3-60. Relative risk in terms of distance of Louisiana waterthrush preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

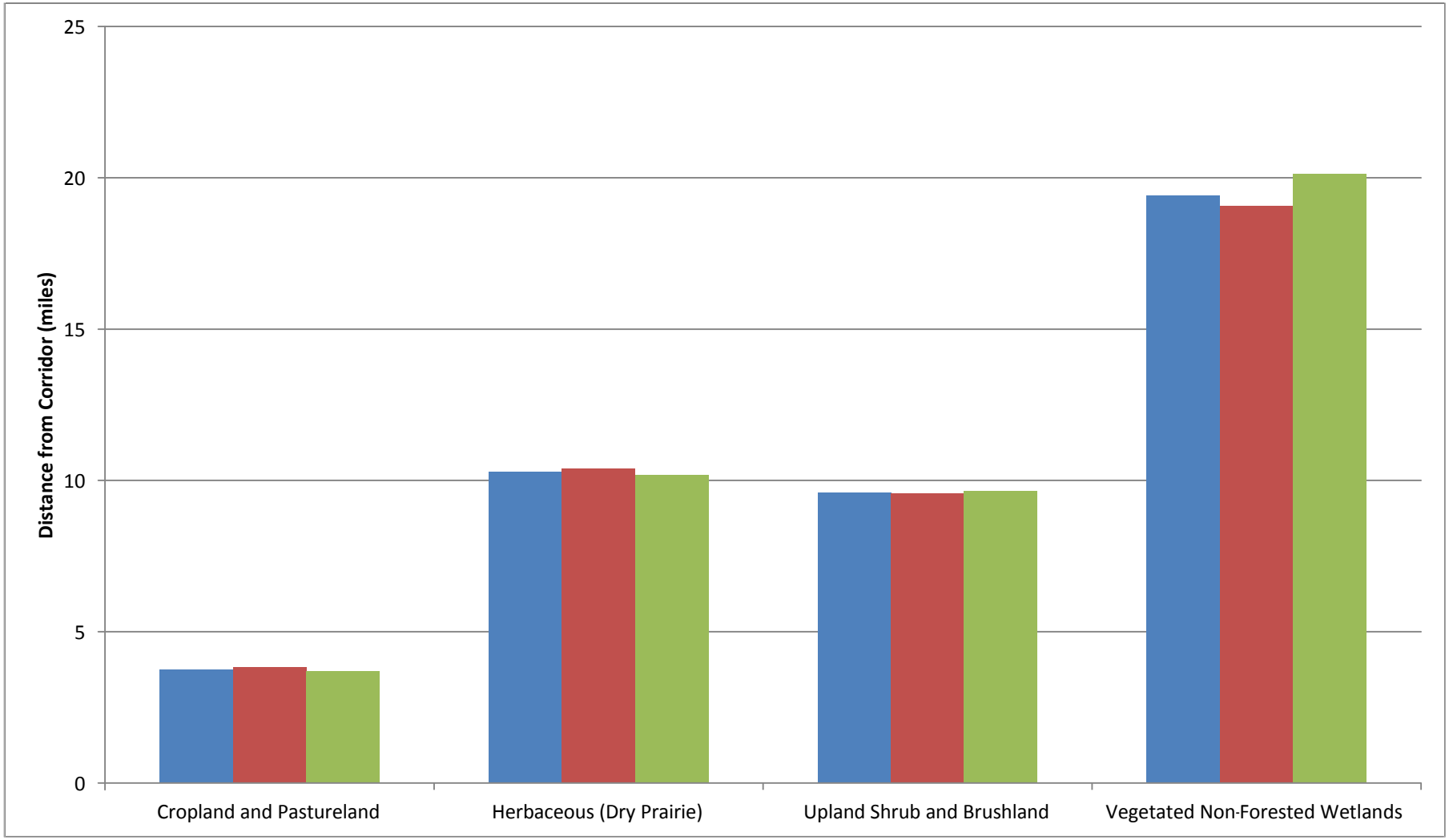


Figure 3-61. Relative risk in terms of distance of bobolink preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

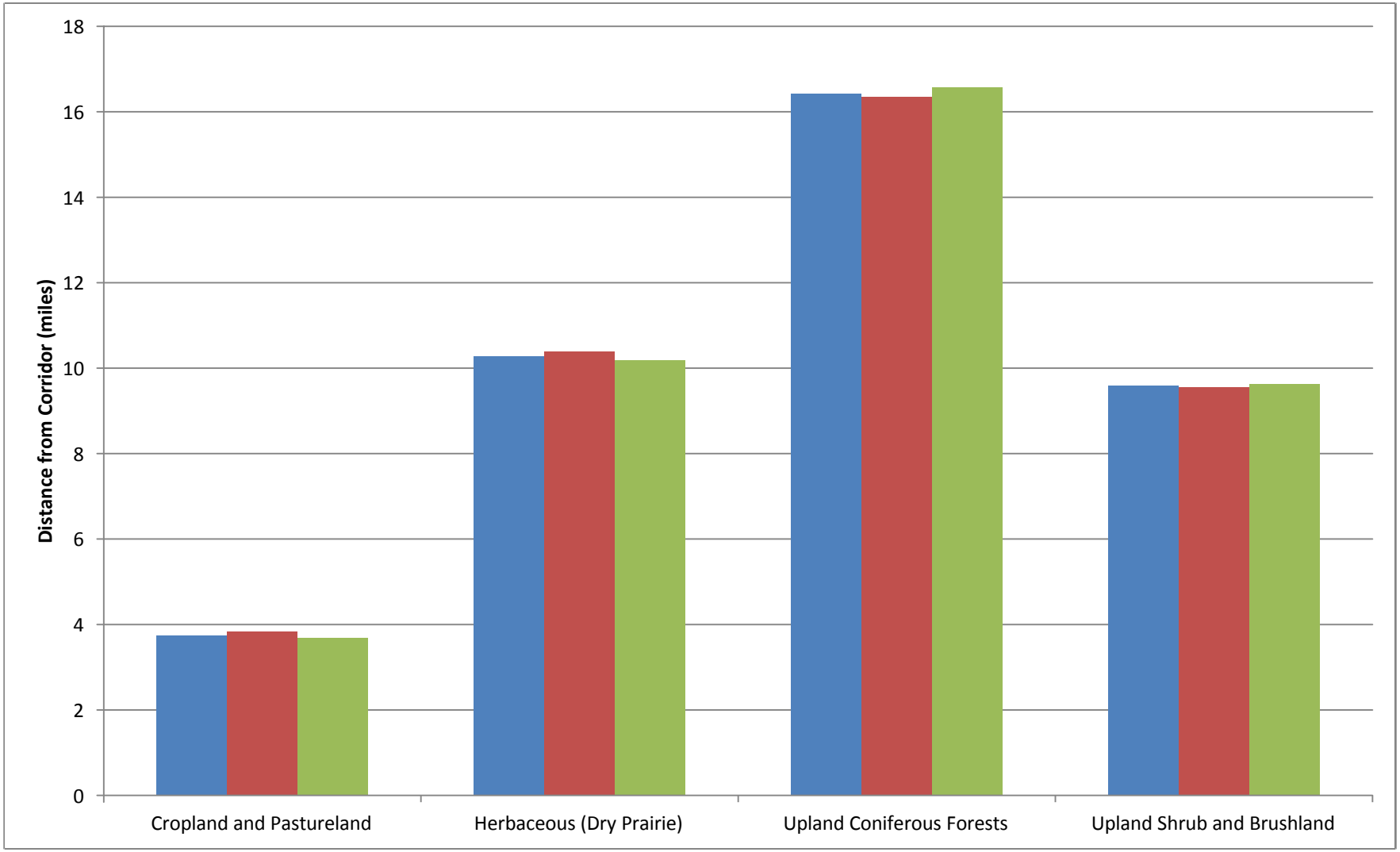


Figure 3-62. Relative risk in terms of distance of Eastern meadowlark preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

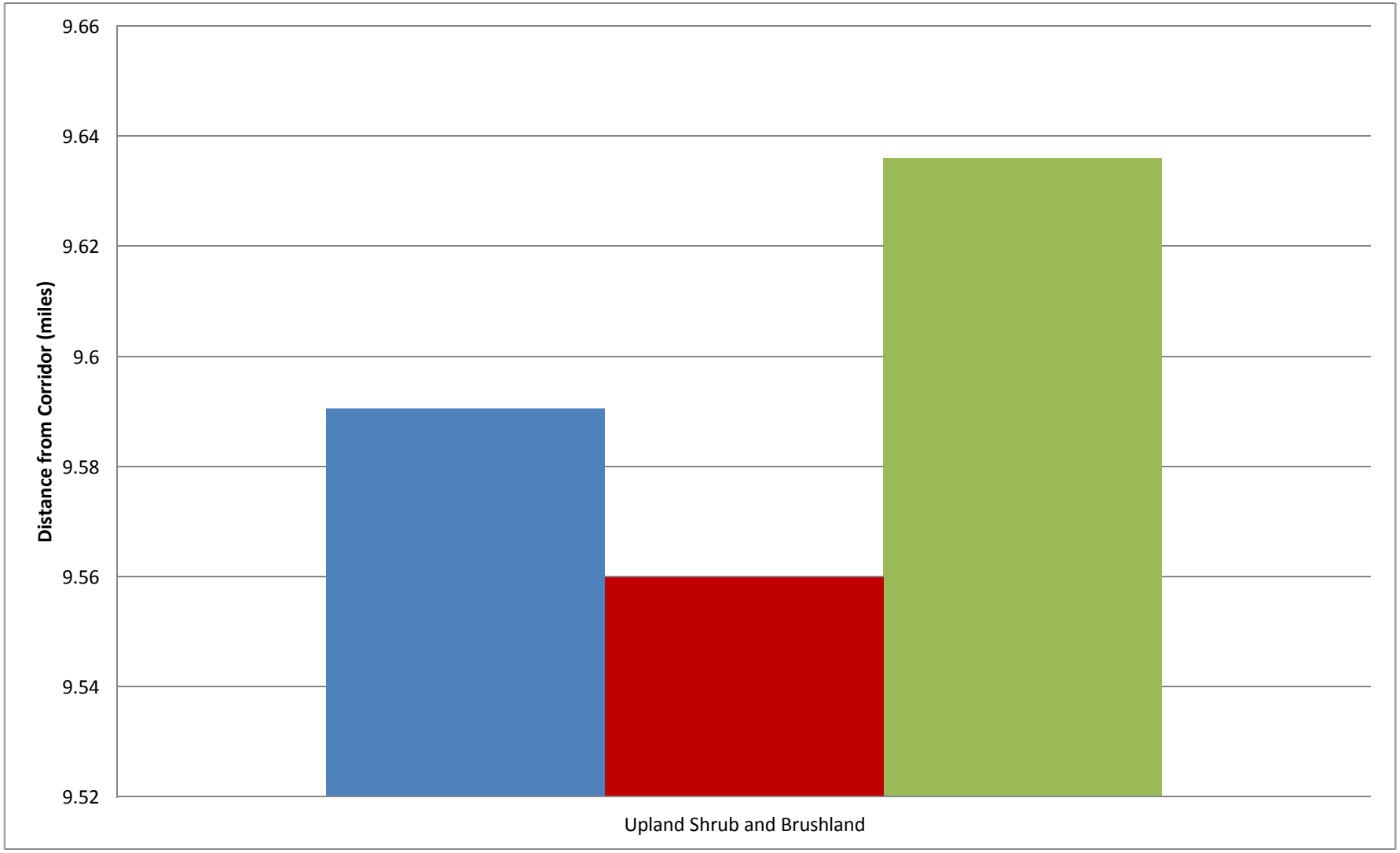


Figure 3-63. Relative risk in terms of distance of painted bunting preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

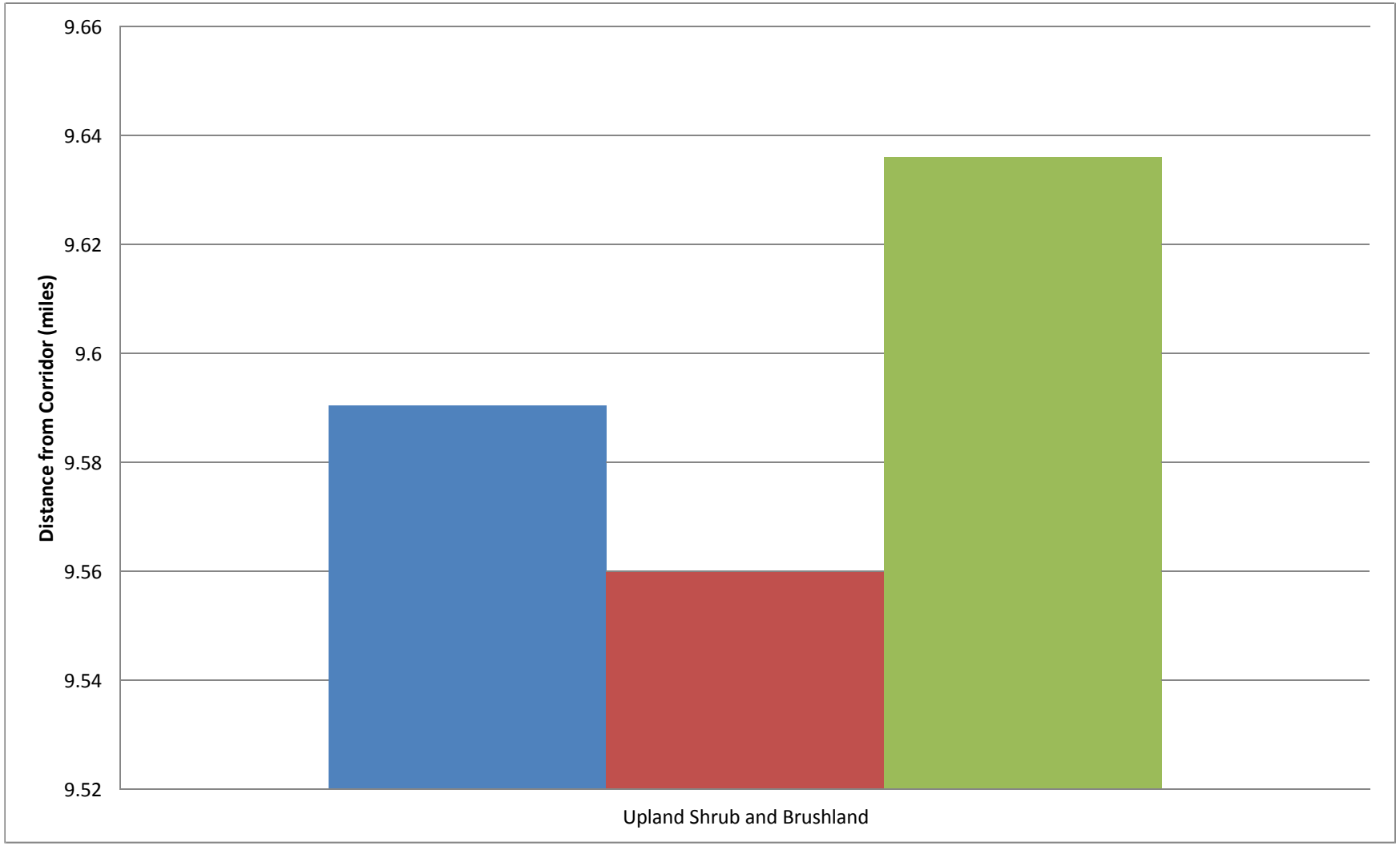


Figure 3-64. Relative risk in terms of distance of field sparrow preferred habitat to each potential transmission corridor within the 30 mile boundary that surrounds the study area. Legend: Blue = FPL West Preferred Corridor | Red = FPL West Secondary Corridor | Green = Route A

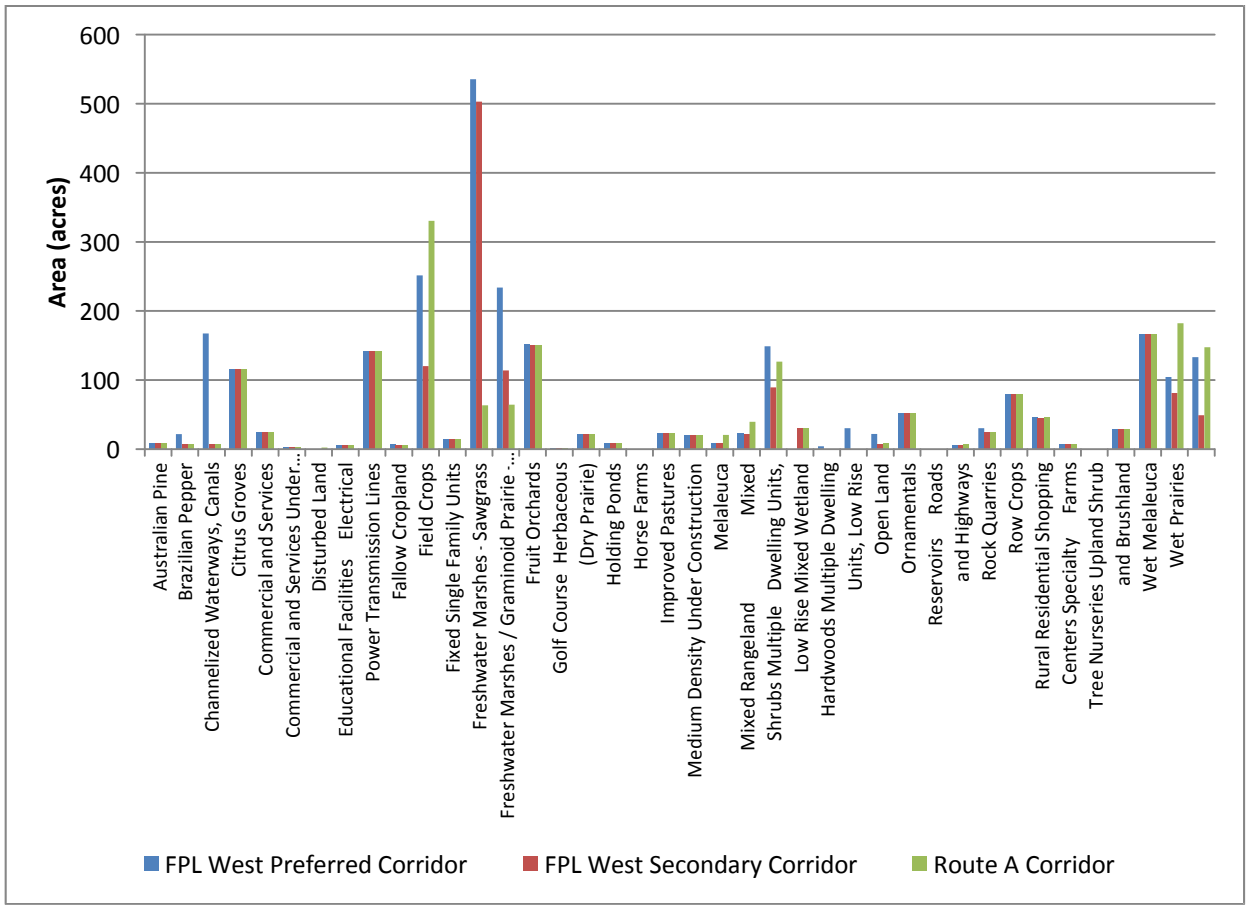


Figure 3-65. Area of each type of habitat (Level 3 land use land cover classification) located in each potential transmission corridor.

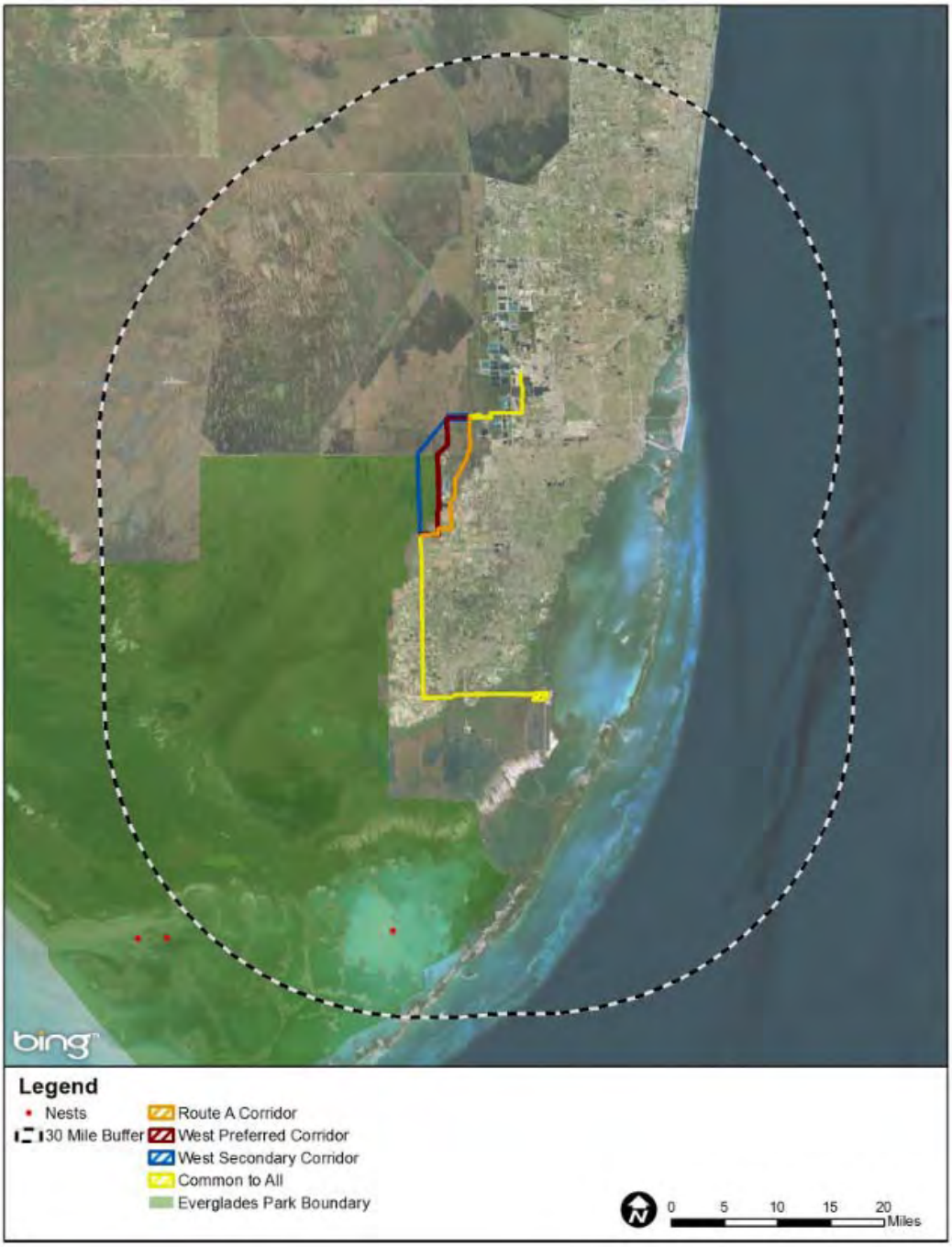


Figure 4-1. Brown pelican nest within the 30-mile study boundary of the transmission corridors.

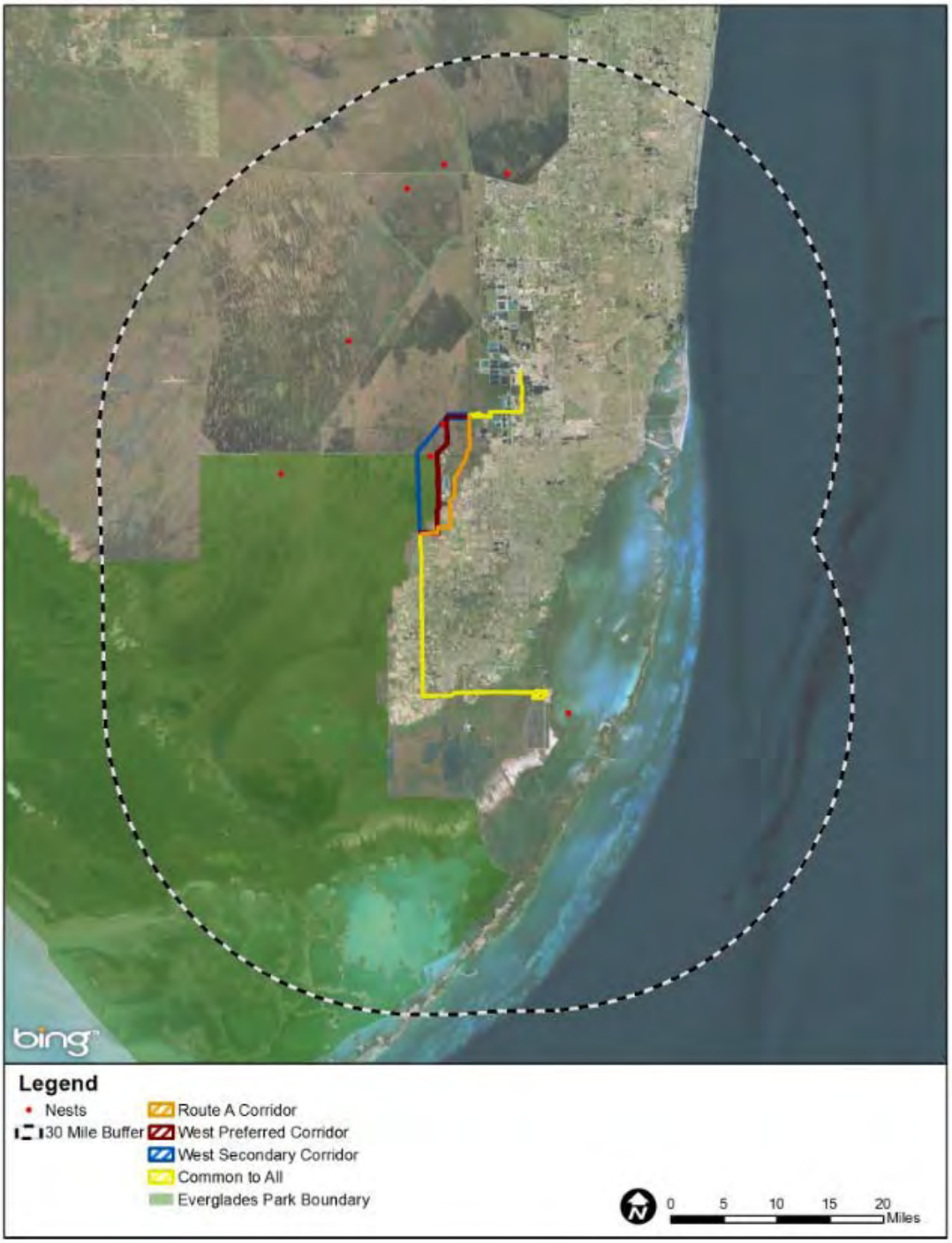


Figure 4-2. Anhinga nests within the 30-mile study boundary of the transmission corridors.

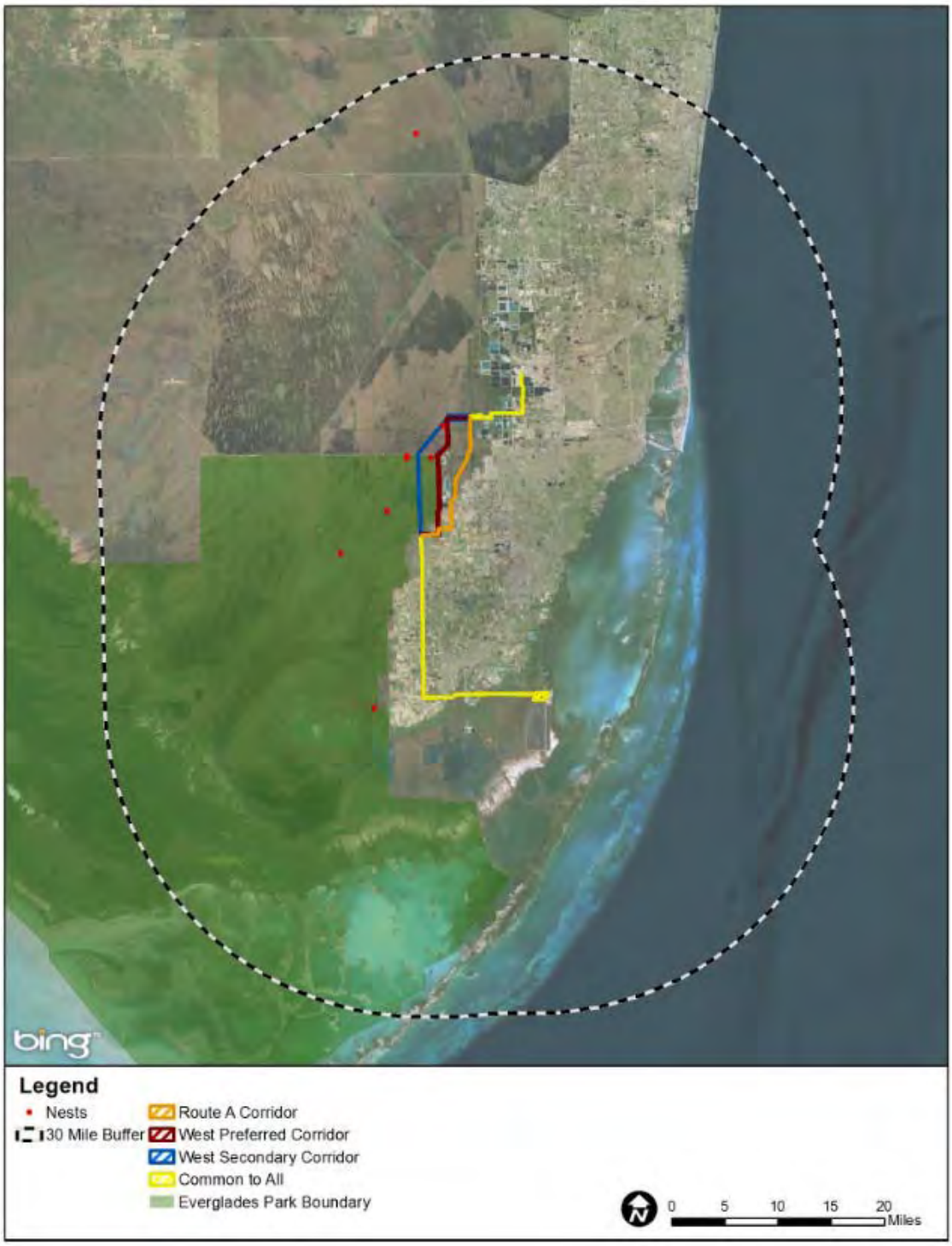


Figure 4-3. Black-crowned heron nests within the 30-mile study boundary of the transmission corridors.

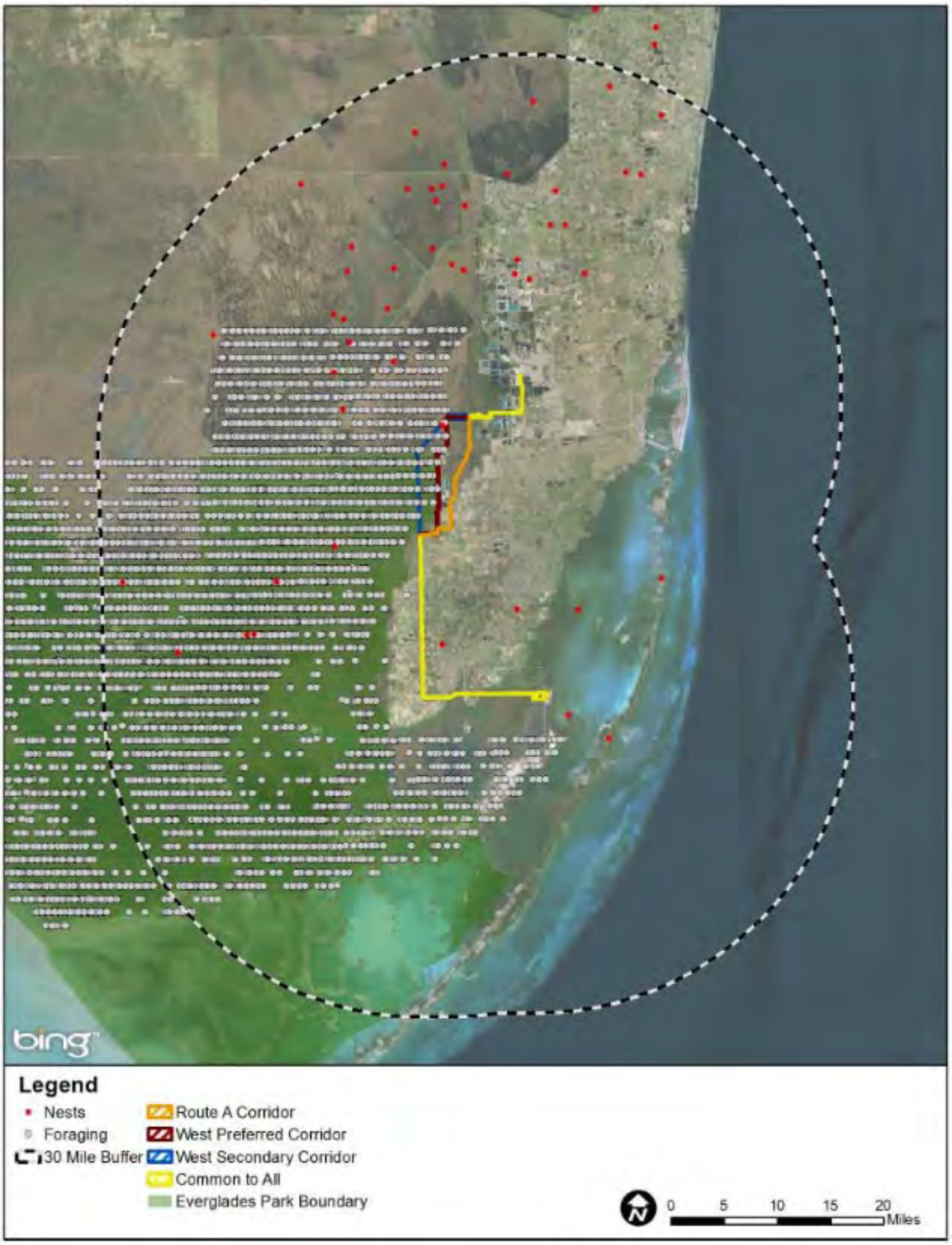


Figure 4-4. Great blue heron nests and foraging locations within the 30-mile study boundary of the transmission corridors.

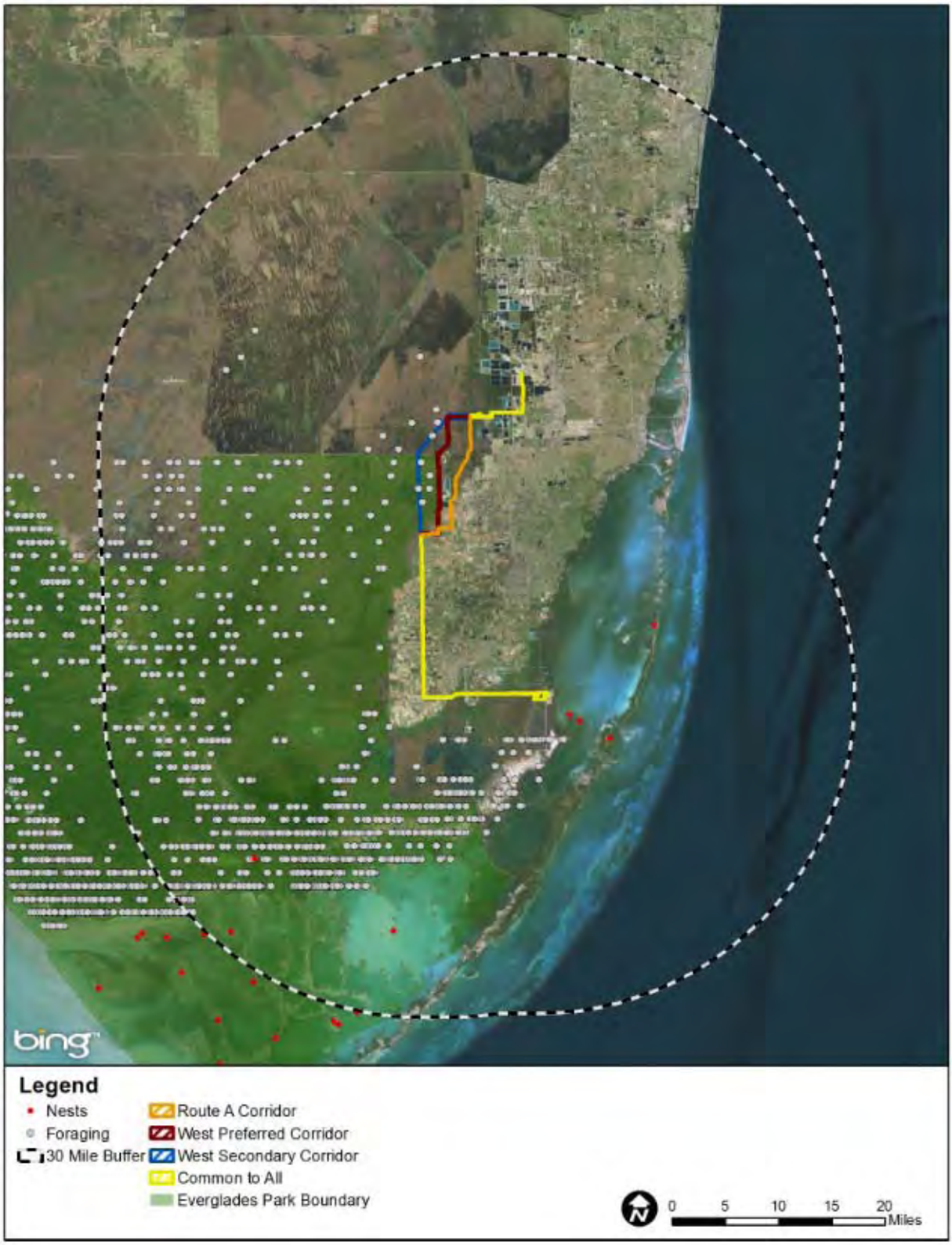


Figure 4-5. Great white heron nests and foraging locations within the 30-mile study boundary of the transmission corridors.

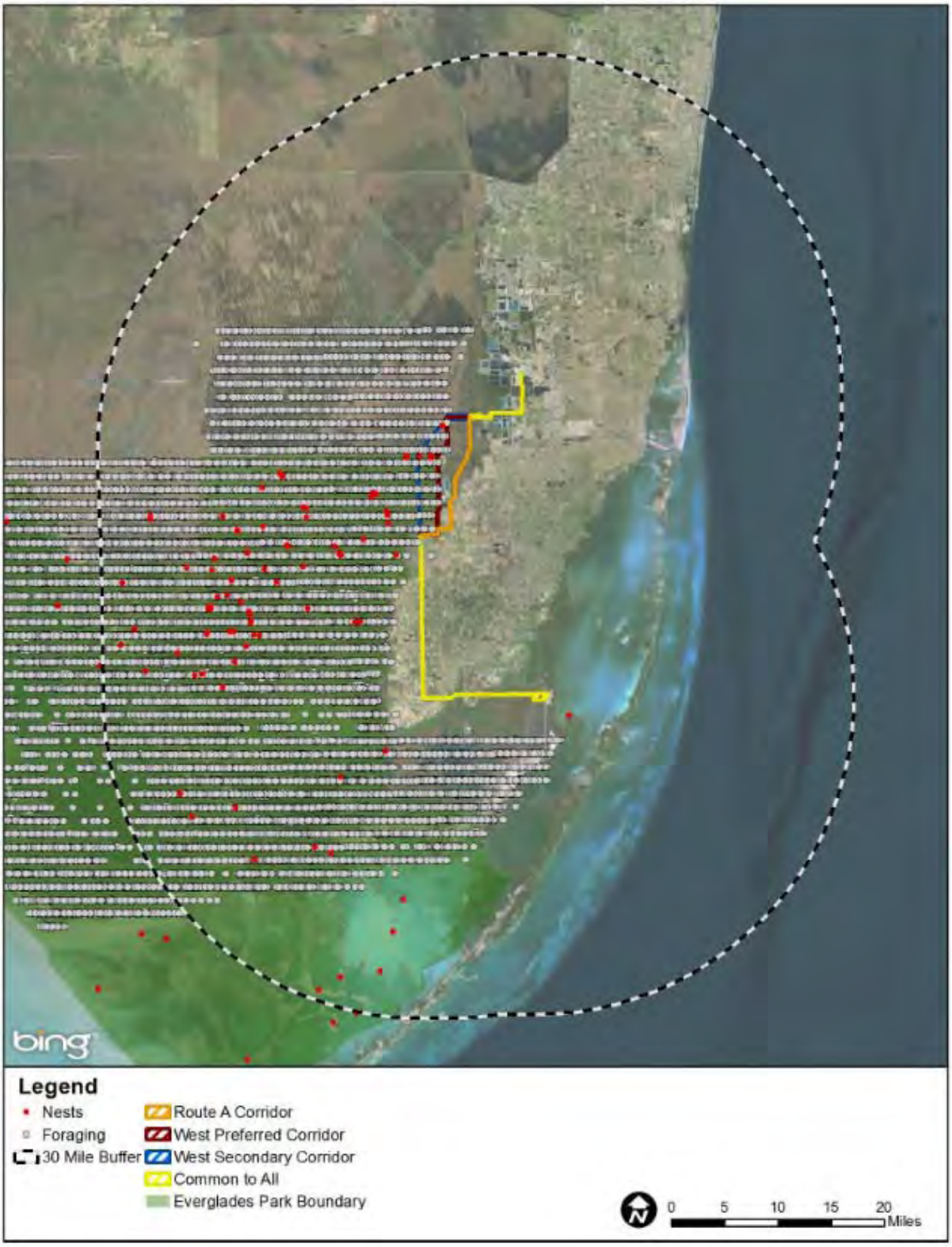


Figure 4-6. Great egret nests and foraging locations within the 30-mile study boundary of the transmission corridors.

Figure 4-7. Little blue heron nests within the 30-mile study boundary of 7the transmission corridors

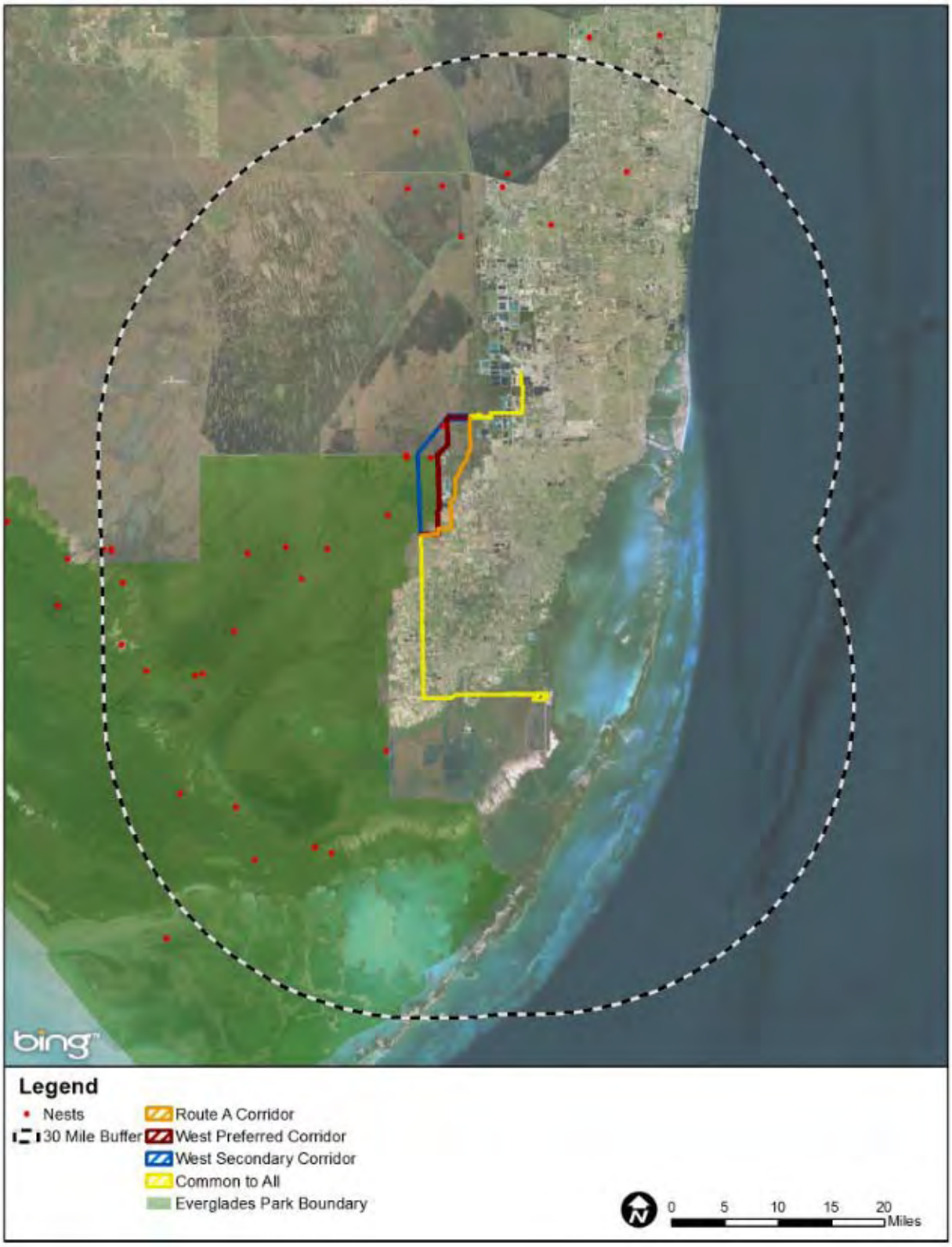


Figure 4-8. Snowy egret nests within the 30-mile study boundary of the transmission corridors.

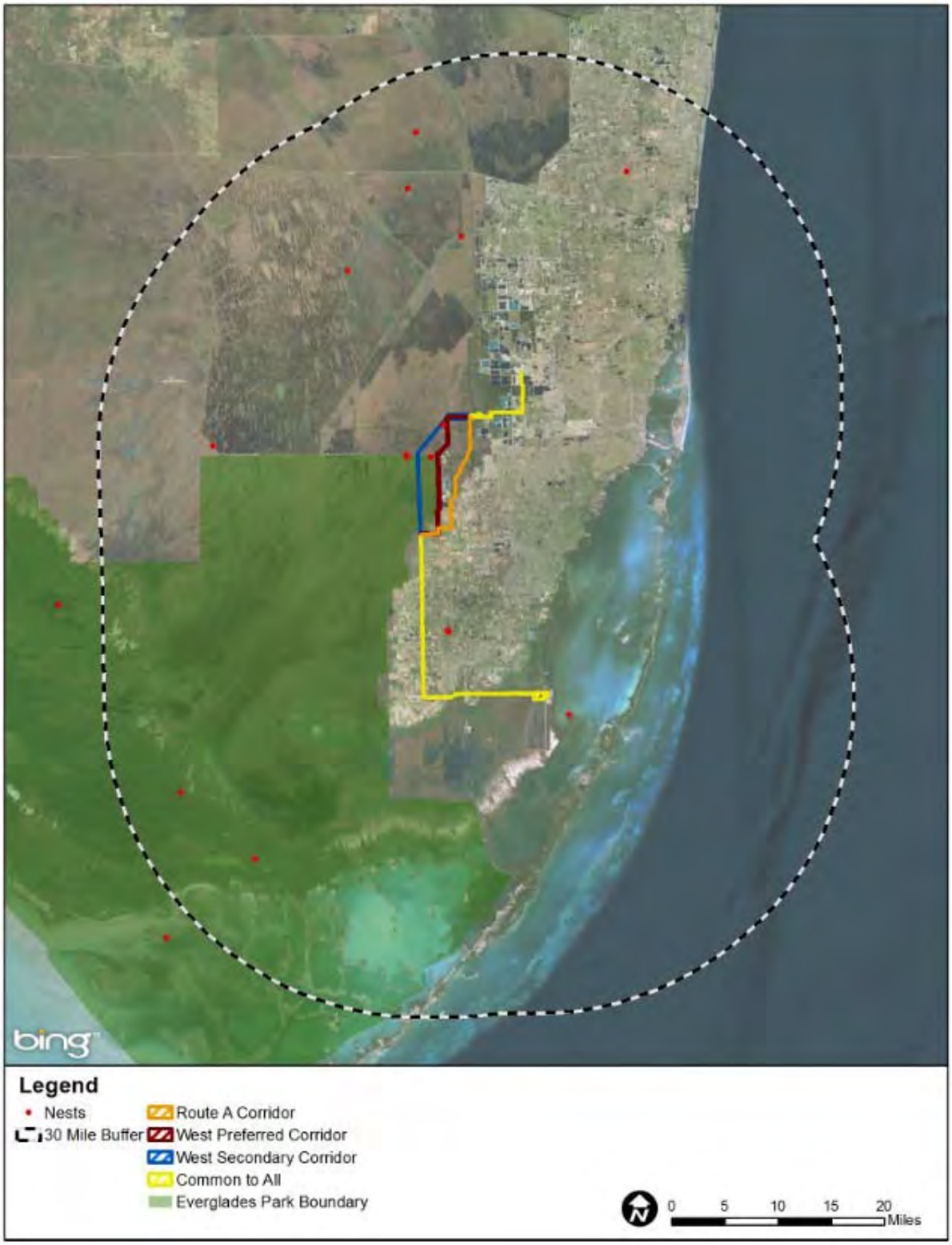


Figure 4-9. Tricolored heron nests within the 30-mile study boundary of the transmission corridors.

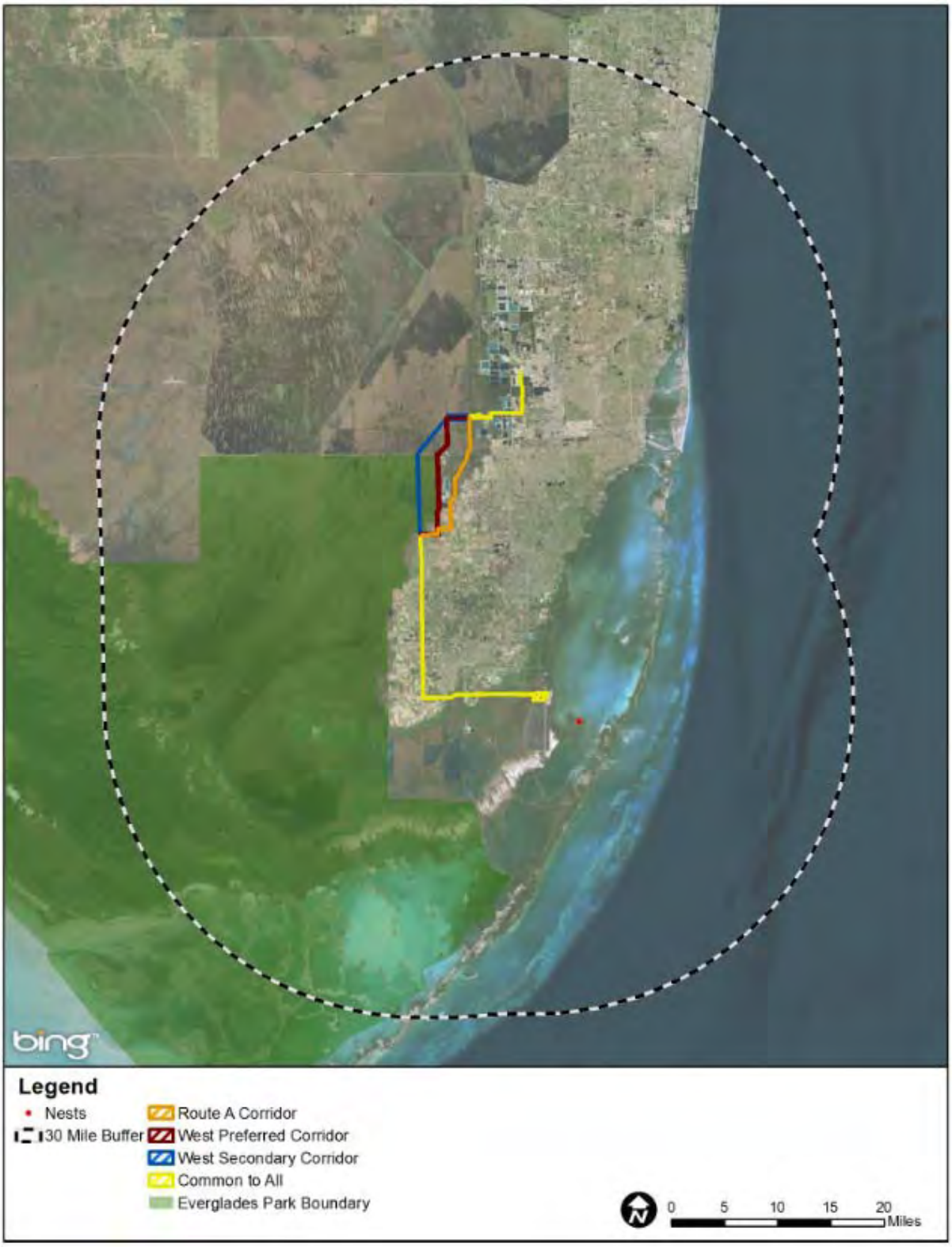


Figure 4-10. Reddish egret nest within the 30-mile study boundary of the transmission corridors.

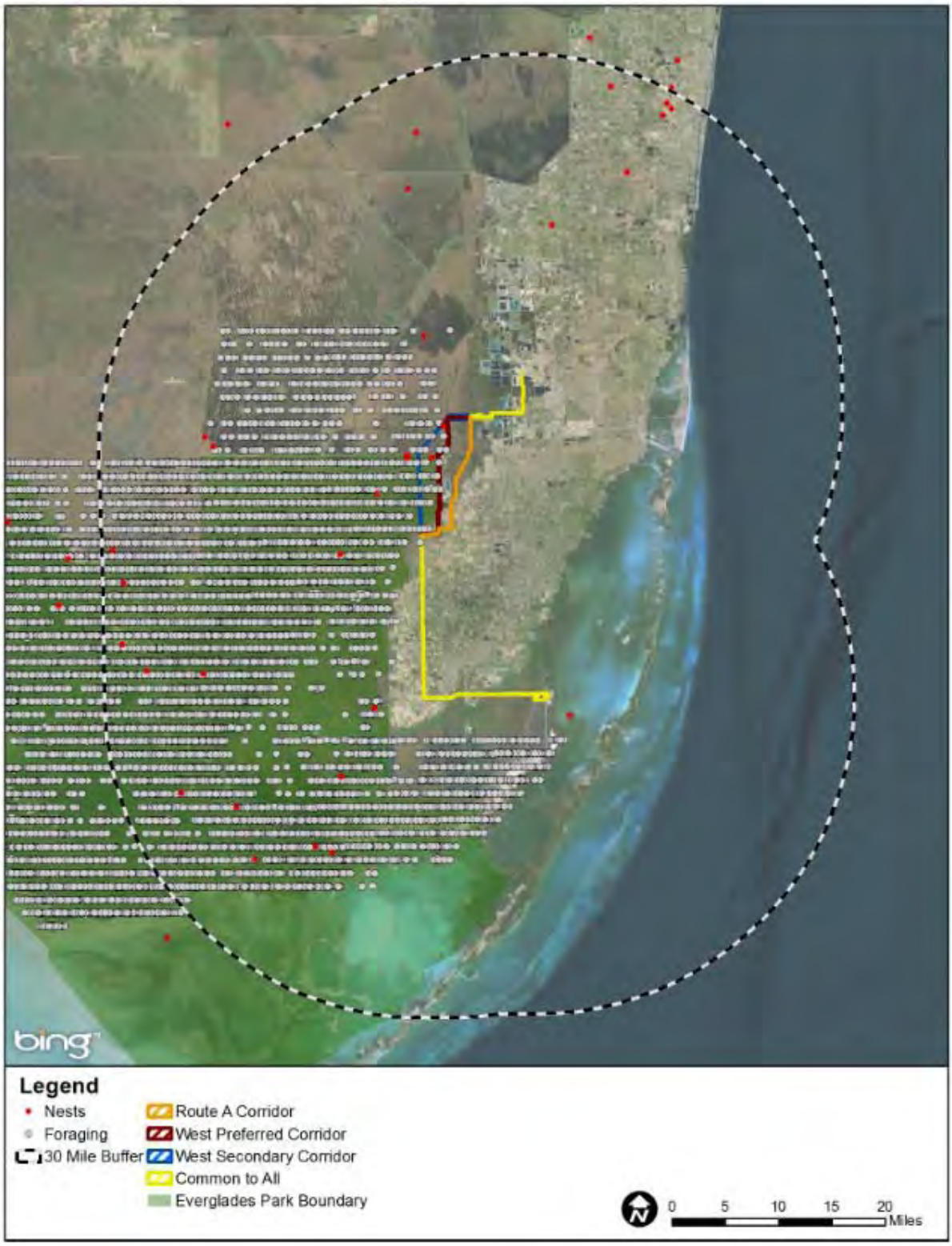


Figure 4-11. White ibis nests and foraging locations within the 30-mile study boundary of the transmission corridors.

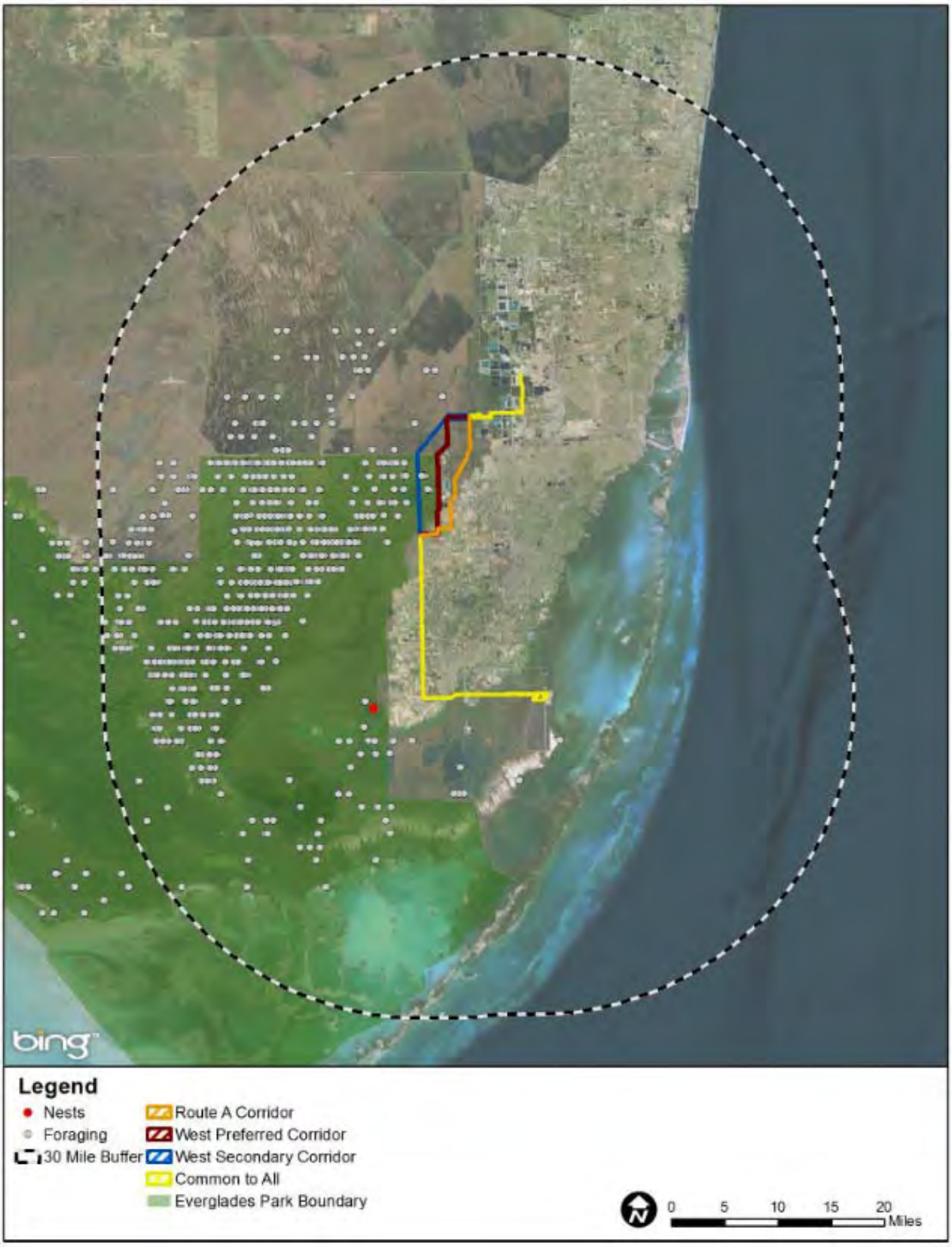


Figure 4-12. Glossy ibis nests and foraging locations within the 30-mile study boundary of the transmission corridors.

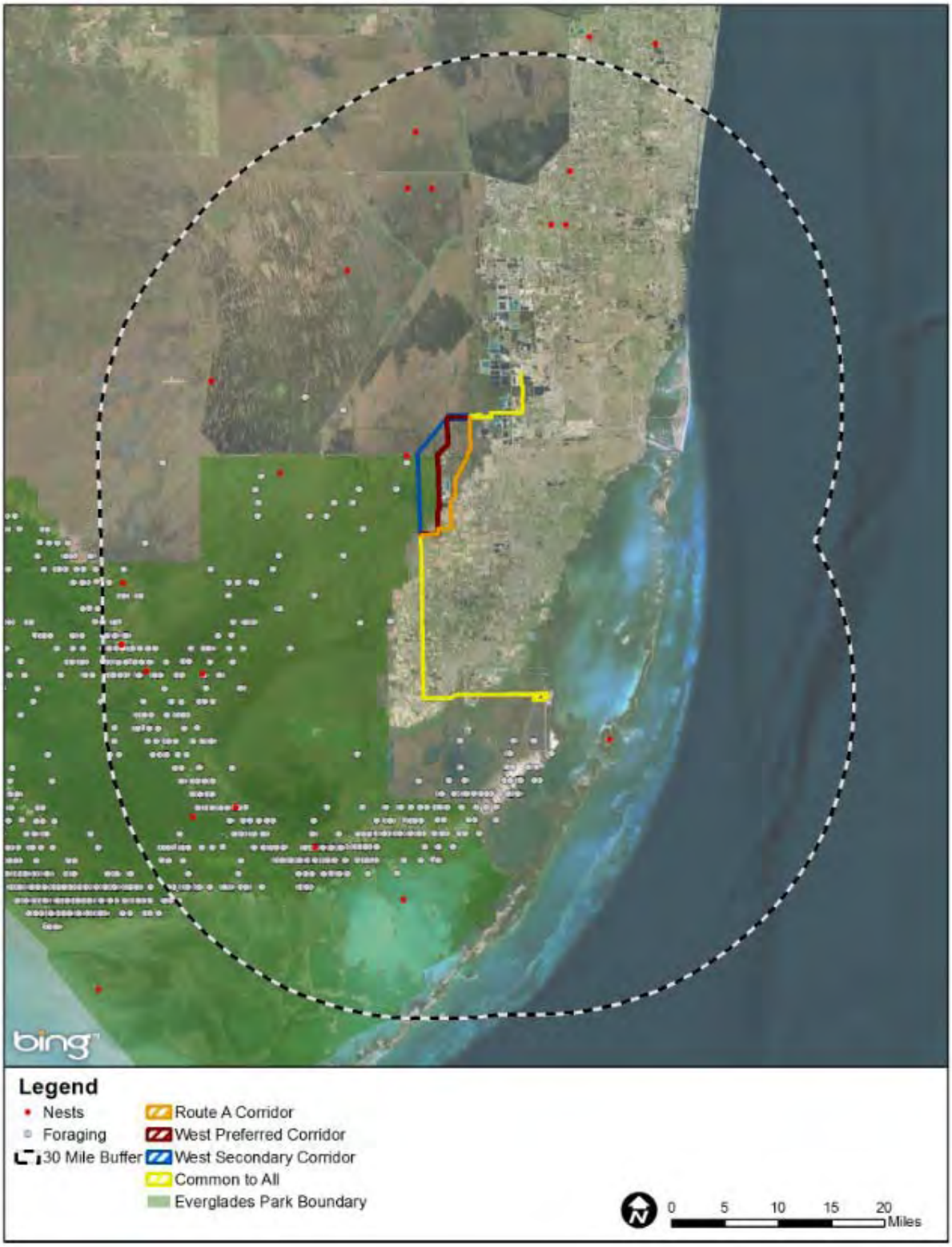


Figure 4-13. Roseate spoonbill nests and foraging locations within the 30-mile study boundary of the transmission corridors.

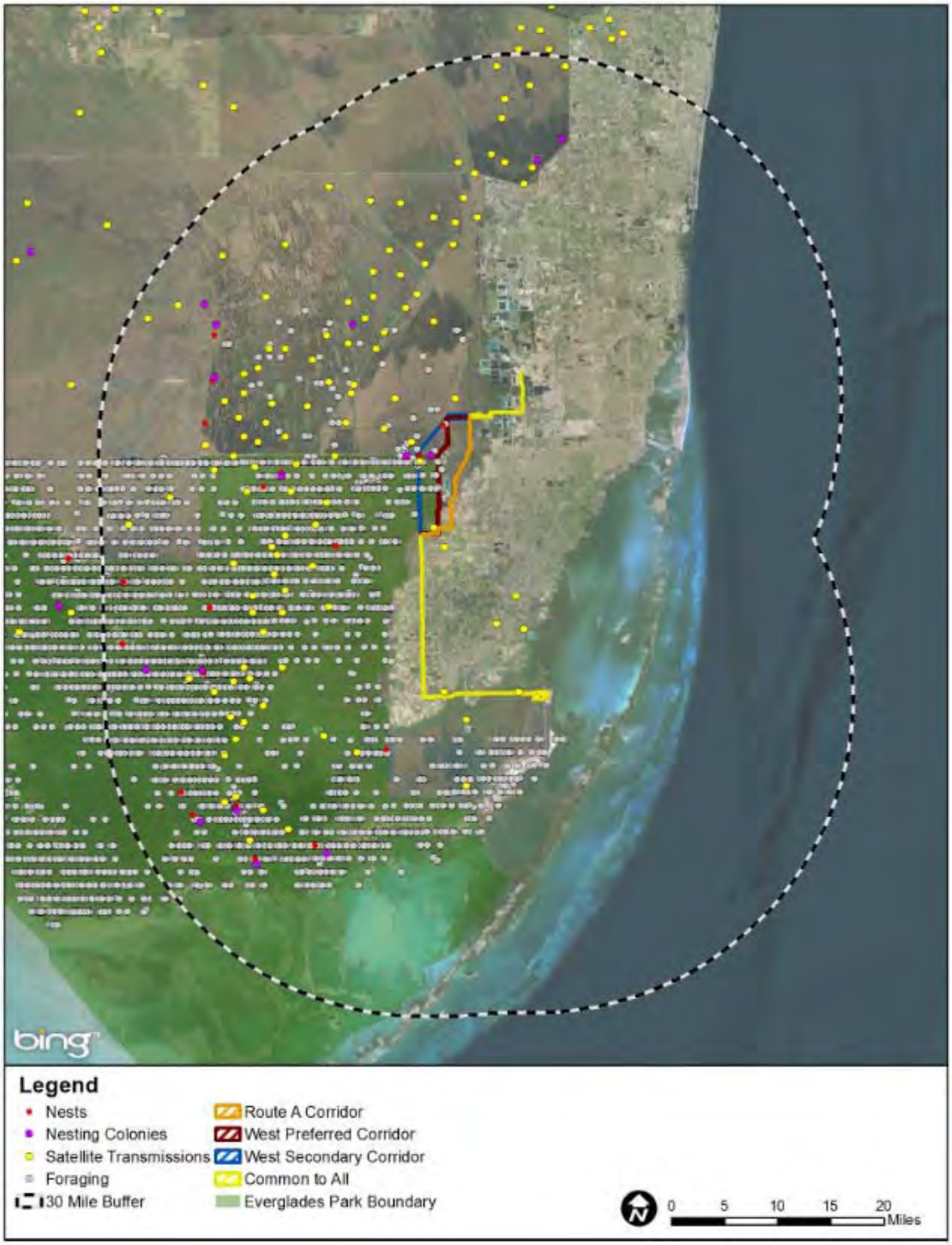


Figure 4-14. Wood stork nests, colonies, and foraging locations within the 30-mile study boundary of the transmission corridors.

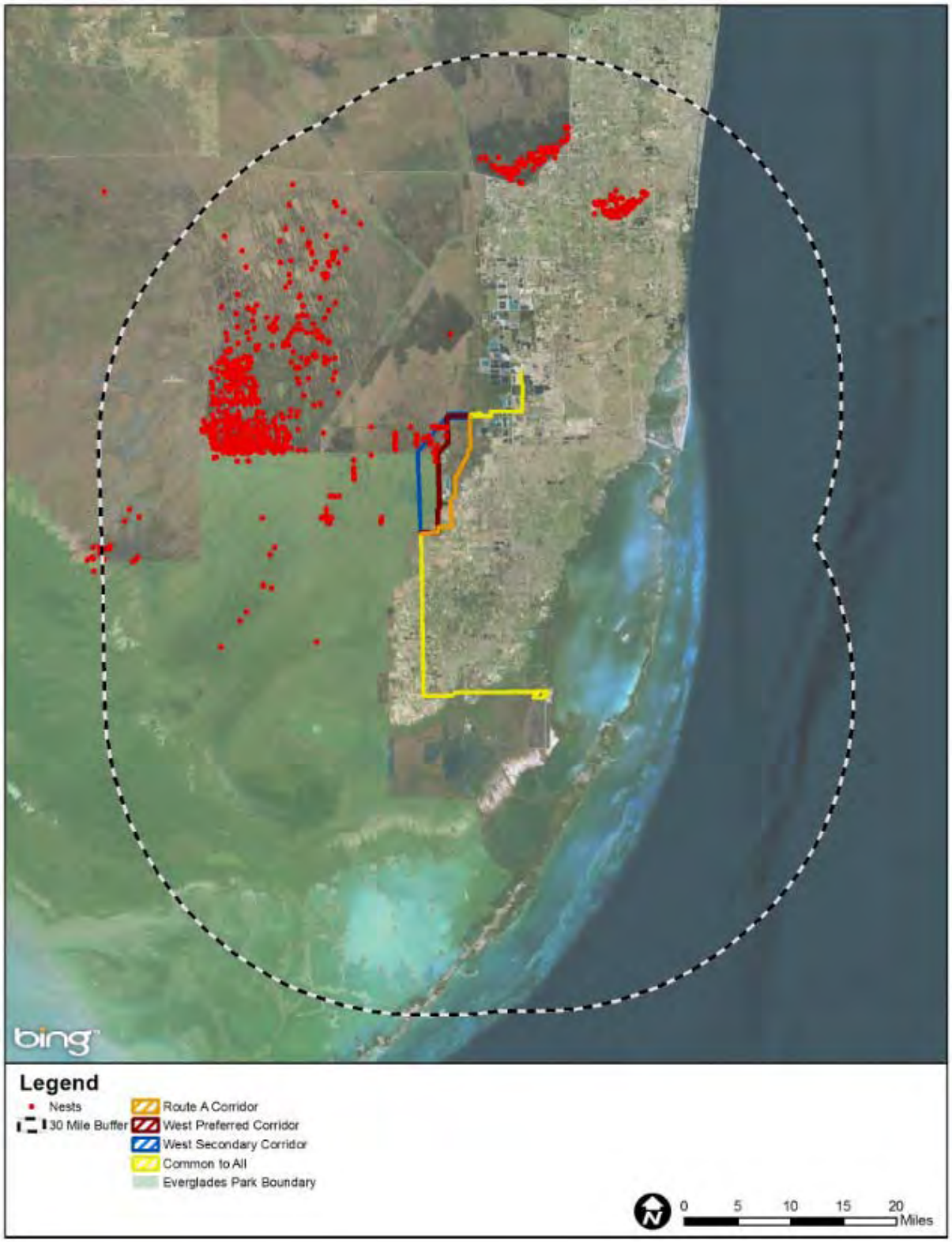


Figure 4-15. Snail kite nests within the 30-mile study boundary of the transmission corridors.

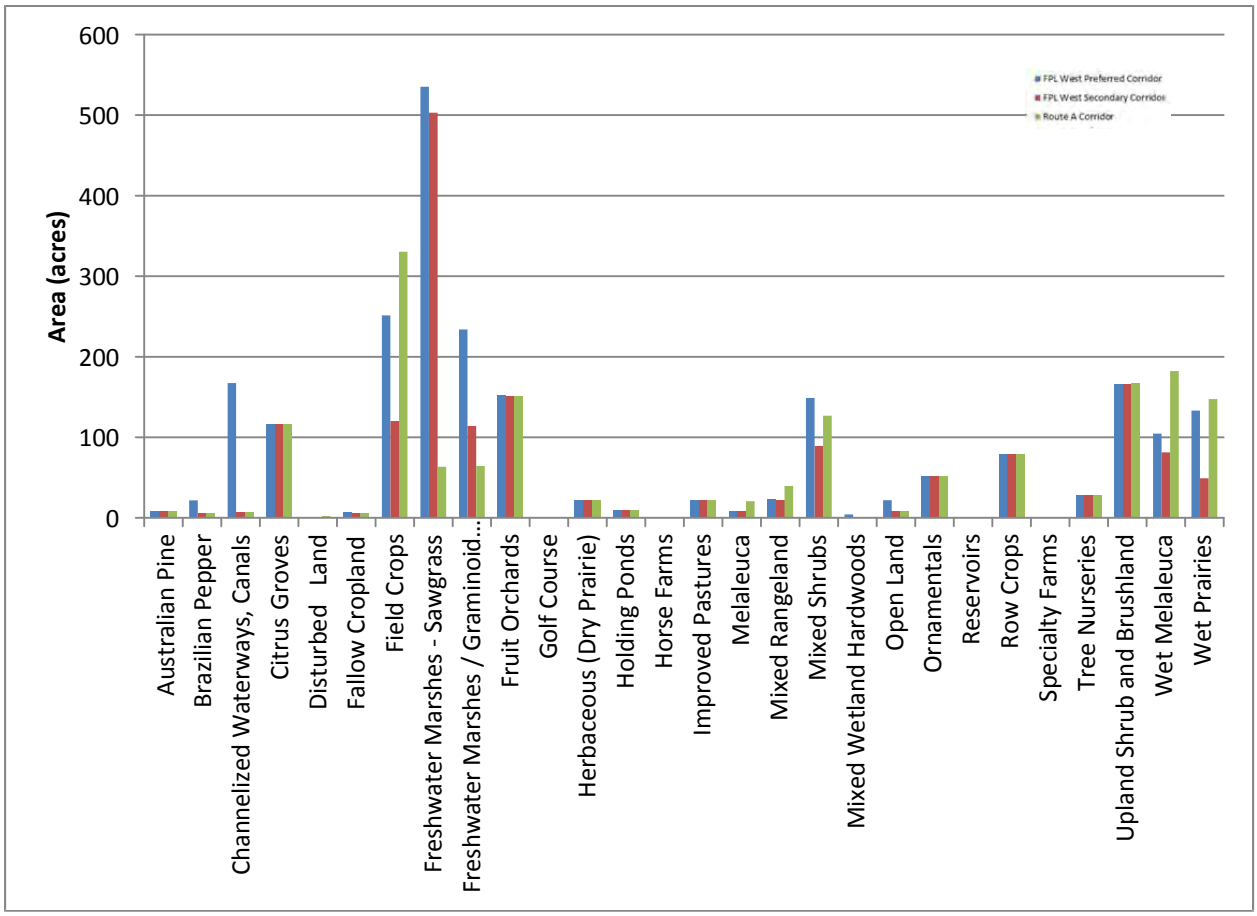


Figure 4-16. The area of each type of potential avian habitat (Level 3 land cover land use classification) located within each potential transmission corridor

Figure 4-17. USGS North American Breeding Bird Survey Routes located within the 30-mile boundary of the study area.

Tables

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

Species	Common Name	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
Accipiter cooperii	Cooper's hawk					r		r	r		X
Accipiter striatus	sharp-shinned hawk					u		u	u		X
Actitus macularius	spotted sandpiper					c		c	c		
Agelaius phoeniceus	red-winged blackbird			X	X	c	c	c	c		X
Aix sponsa	wood duck					r	r	r	r		X
Anas acuta	northern pintail					c		r	c		
Anas americana	American wigeon					u	r	u	c		
Anas bahamensis	white-cheeked pintail					r	r	r	r		
Anas clypeata	northern shoveler					c	r	c	c		
Anas crecca	green-winged teal					u		r	u	X	
Anas cyanoptera	cinnamon teal						*		*		
Anas discors	blue-winged teal					c	r	c	c	X	
Anas fulvigula	mottled duck			X	X	c	c	c	c	X	
Anas platyrhynchos	mallard					r			r		X
Anas rubripes	American black duck								*		
Anas strepera	gadwall							r	r		
Anhinga anhinga	anhinga			X	X	c	c	c	c		X
Aquila chrysaetos	golden eagle							*	*		X
Aramus guarauna	limpkin	C		X	X	u	u	u	u		
Archilochus colubris	ruby-throated hummingbird					c	r	c	c		
Ardea alba	great egret		SSC	X	X	c	c	c	c	X	
Ardea herodias	great blue heron			X	X	c	c	c	c	X	
Asio flammeus	short-eared owl					r		r	r		X
Aythya affinis	lesser scaup					c		c	c		
Aythya collaris	ring-necked duck					c		c	c		
Aythya mania	greater scaup								*		
Baeolophus bicolor	tufted titmouse					r	r	r	r		
Bartramia longicauda	upland sandpiper					*			*		
Bombycilla cedrorum	cedar waxwing					r-c		r-c			
Botaurus lentiginosus	American bittern	C				u	r	u	c		
Branta canadensis	Canada goose								*		X
Bubulcus ibis	cattle egret			X	X	c	c	r-c c	c	X	
Bucephala albeola	bufflehead					r			r		
Buteo brachyurus	short-tailed hawk	C		X		u	r	u	u		

Table 2-1. (cont.)

Species	Common Name	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
Buteo jamaicensis	red-tailed hawk			X		u	u	u	u	X	
Buteo lagopus	rough-legged hawk					*		*	*		X
Buteo lineatus	red-shouldered hawk			X	X	c	c	c	c	X	
Buteo platypterus	broad-winged hawk					u		u	u		
Buteo swainsoni	Swainson's hawk					r		r	u		X
Butorides virescens	green heron			X	X	c	c	c	c	X	
Calidris bairdii	Baird's sandpiper			,				*			
Calidris himantopus	stilt sandpiper					u	r	u	r		
Calidris melanotos	pectoral sandpiper					u	r	c			
Caprimulgus carolinensis	Chuck-will's-widow					c	c	c	r		X
Caprimulgus vociferus	whip-poor-will					u		u	c		X
Caracara cheriway	caracara, Audubon's crested	T	T			*	*			*X*	
Cardinalis cardinalis	northern cardinal			X	X	c	c	c	c		X
Carduelis pinus	pine siskin						r		r		
Carduelis tristis	American goldfinch					u-c		u-c			
Cathartes aura	turkey vulture			X	X	c	c	c	c	X	
Catharus fuscescens	veery	C				u		u			
Catharus guttatus	hermit thrush					r		u	u-c u		
Catharus minimus	gray-cheeked thrush					*		u			
Catharus ustulatus	Swainsons thrush					u		u	*		
Chaetura pelagica	chimney swift					u		r			
Charadrius vociferus	killdeer			X	X	c	u	c	c		
Childonias niger	black tern					u	u	u	r		
Chordeiles minor	common nighthawk			X	X	c	c	c	r		
Circus cyaneus	northern harrier	C				u	r	u	c		X
Cistothorus palustris	marsh wren		SSC			u		u	u		
Cistothorus platensis	sedge wren	C				u		u	u		
Coccyzus americanus	yellow-billed cuckoo	C		X	X	c	c	c	r		
Coereba flaveola	bananaquit					*			*		
Colaptes auratus	northern flicker	C		X	X	c	c	c	c		X
Columba livia	rock pigeon (dove)					*	*	*	*		X
Contopus virens	eastern wood-pewee					u		u	r		
Coragyps atratus	black vulture			X	X	c	c	c	c	X	
Corvus brachyrhynchos	American crow			X	X	c	c	c	c	X	
Coturnicops noveboracensis	yellow rail	C				*		*	*		

Table 2-1. (cont.)

Species	Common Name	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
Crotophaga ani	smooth-billed ani			X	X	u	u	u	u		
Crotophaga sulcirostris	grove-billed ani					r		r	r		
Cyanocitta cristata	blue jay			X	X	c	c	c	c		X
Dendrocygna bicolor	Fulvous whistling-duck					u	r	u	u		
Deridroica caerulescens	black-throated blue warbler	C				c		c	r		
Dendroica castanea	bay-breasted warbler					*		*			
Dendroica cerulea	Cerulean warbler							*			
Dendroica coronata	yellow-rumped warbler					u		u	c		
Dendroica discolor	prairie warbler	C		X	X	c	c	c	c		
Dendroica dominica	yellow-throated warbler					c	u	c	c		
Dendroica fusca	blackburnian warbler					u		u	*		
Dendroica magnolia	magnolia warbler					u		u	r		
Dendroica nigrescens	black-throated gray warbler					r		r	r		
Dendroica palmarum	palm warbler					c		c	c		
Dendroica pensylvanica	chestnut-sided warbler					r		r	*		
Dendroica petechia	yellow warbler			X	X	c	c	c	u		
Dendroica striata	blackpoll warbler					c		r			
Dendroica tigrina	Cape May warbler					u-c		u-c	. r		
Dendroica virens	black-throated green warbler					u		u	u		
Dolichonyx oryzivorus	bobolink	C				c		c	*		
Dryocopus pileatus	pileated woodpecker			X	X	c	c	c	c		X
Dumetella carolinensis	grey catbird					c		c	c		X
Egretta caerulea	little blue heron		SSC	X	X	c	c	c	c	X	
Egretta rufescens	reddish egret	C		X		u	u	u	u		
Egretta thula	snowy egret		SSC	X	X	c	c	c	c	X	
Egretta tricolor	ricolored heron		SSC	X	X	c	c	c	c	X	
Elanoides forficatus	swallow-tailed kite	C		X	X	c	c	r			X
Elanus leucurus	white-tailed kite			X	X	r	r	r	r		
Empidonax minimus	least flycatcher					u		u	r		
Empidonax traillii	willow flycatcher							*	*		
Empidonax virescens	Acadian flycatcher							*			
Eudocimus albus	white ibis		SSC	X	X	c	c	c	c	X	
Euphagus cyanocephalus	Brewer's blackbird					*			r		
Falco columbarius	merlin					u		u	u	X	
Falco peregrinus	peregrine falcon					u		u	u	X	

Table 2-1. (cont.)

Species	Common Name	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
Falco sparverius paulus	American kestrel		T			c		c	c	X	
Fulica americana	American coot			X	X	c	r	c	c	X	
Gallinago delicata	Wilson's snipe					u		u	u		
Gallinula chloropus	common moorhen			X	X	c	c	c	c	X	
Geothlypis trichas	common yellowthroat			X	X	c	c	c	c		X
Grus canadensis pratensis	Florida sandhill crane		T	X	X	u	u	u	u	X	
Haliaeetus leucocephalus	bald eagle			X		c	c	c	c	X	
Lemitheros vermivorum	worm-eating warbler	C				u		u	r		
Himantopus mexicanus	black-necked stilt			X	X	u	r	u	r	X	
Hirunda pyrrhonota	cliff swallow					r	r	u			X
Hirundo rustica	barn swallow			X	X	c	c	c	r		X
Hylocichla mustelina	wood thrush	C				*		r	*		
Icteria virens	yellow-breasted chat					u		u	u		
Icterus bullockii	Bullock's oriole						r	r	r		
Icterus galbula	Baltimore oriole						c	c	r		
Ictinia mississipiensis	Mississippi kite					r		r			
Ixobrychus exilis	least bittern	C		X	X	u	u	u	u		
Junco hyemalis	dark-eyed junco					*		*	*		*X*
Lanius ludovicianus	loggerhead shrike	C		X	X	u	u	u	u	X	
Larus argentatus	herring gull					c	u	c	c	.	
Larus atricilla	laughing gull			X		c	c	c	c		X
Larus delawarensis	ring-billed gull					c	u	c	c		
Larus philadelphia	Bonaparte's gull					u			u		
Laterallus jamaicensis	black rail	C				r	r	r	r		
Limnodromus scolopaceus	long-billed dowitcher					u	u	u	r		
Limnothlypis swainsonii	Swainson's warbler	C				r		r	*		
Lophodytes cucullatus	hooded merganser					r		r	u		
Megaceryle alcyon	belted kingfisher					c	r	c	c		
Megascops asio	eastern screech-owl			X	X	c	c	c	c	X	
Melanerpes carolinus	red-bellied woodpecker			X	X	c	c	c	c		X
Melospiza georgiana	swamp sparrow					c		c	c		
Melospiza melodia	song sparrow					*			r		
Mimus polyglottos	northern mockingbird			X	X	c	c	c	c		X
Mniotilta varia	black- and- white warbler					c	u	c	c		

Table 2-1. (cont.)

Species	Common Name	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
Mycteria americana	wood stork	E	E	X	X	u	r	u	u	X	
Myiorchus crinitus	great crested flycatcher			X	X	c	c	c	c		
Myiorchus tyrannulus	brown-crested flycatcher					u		u	u		
Nomonyx dominicus	masked duck							*	*		
Nyctanassa violacea	yellow- crowned night heron		.	X	X	u	u	u	u	X	
Nyctanassa nycticorax	black-crowned night heron			X	X	c	c	c	c	X	
Oporornis agilis	Connecticut warbler					*			*		
Oporornis formosus	Kentucky warbler					r		r	*		
Oporornis philadelphia	mourning warbler							*			
Pandion haliaetus	osprey		ssC - Monroe County	X		c	c	c	c	X	
Parula americana	northern parula					c	r	c	c		**X**
Passerculus sandwichensis	savannah sparrow					c		c	c		
Passerina caerulea	blue grosbeak					u		u	*		
Passerina ciris	painted bunting	C				c	*	c	u		
Passerina cyanea	indigo bunting					c		c	r		
Patagioenas leucocephala	white-crowned pigeon	C	T	X		c	c	c	u		
Pelecanus erythrorhynchos	American white pelican					c	r	c	c	X	
Petrochelidon fulva	cave swallow							r	r		
Phalacrocorax auritus	double-crested cormorant			X		c	c	c	c	X	
Phalaropus tricolor	Wilson's phalarope							*			
Pheucticus ludovicianus	rose-breasted grosbeak					u		u	r		
Picoides pubescens	downy woodpecker			X	X	u	u	u	u		
Pipilo erythrophthalmu s	eastern towhee			X	X	c	c	c	c		
Piranga ludoviciana	western tanager							*			
Piranga olivacea	scarlet tanager					r		r	*		
Piranga rubra	summer tanager					r		r	*		
Platalea ajaja	roseate spoon bill		SSC	X		c	u	c	c	X	
Plegadis chihi	white-faced ibis						*				
Plegadis falcinellus	glossy ibis			X		u	u	u	u	X	
Podilymbus podiceps	pied-billed grebe			X	X	c	u	c	c		X
Polioptila caerulea	blue-grey gnatcatcher					c		c	c		
Porphyrio martinica	purple gallinule			X	X	c	u	c	c		
Porzana carolina	sora					c		c	c		

Table 2-1. (cont.)

Species	Common Name	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
Protonotaria citrea	prothonotary warbler					u	*	u	*		
Quiscalus major	boat-tailed grackle			X	X	c	c	c	c	X	
Quiscalus quiscula	common grackle			X	X	c	c	c	c	X	
Rallus elegans	king rail			X	X		c		c	X	
Rallus limicola	Virginia rail					r		r	r		X
Regulus calendula	ruby-crowned kinglet					u		u	u		
Riparia riparia	bank swallow						uc	u	*		
Rostrhamus sociabilis	Everglade snail kite	E	E	X	Xc	r	r	r	r		
Sayornis phoebe	eastern phoebe					c		c	c		
Sayornis saya	Sah's phoebe										
Scolopax minor	American woodcock					r			r		X
Seiurus aurocapilla	ovenbird					c		c	c		X
Seiurus motacilla	Louisiana waterthrush	C				c	u	c	r		
Seiurus noveboracensis	northern waterthrush					c		c	c		X
Selasphorus rufus	rufous hummingbird							*	*		
Setophaga ruticilla	American redstart					c	u	c	c		
Sphyrapicus varius	yellow-bellied sapsucker					u		u	c		
Spindalis zena	western spindalis					*			*		
Spiza americana	dickcissel							*	*		
Spizella pallida	clay-colored sparrow					r		r	r		
Spizella passerina	chipping sparrow					u		u	u		X
Spizella pusilla	field sparrow	C				u		u	u		
Stelgidopteryx serripennis	northern rough-winged swallow					u		u	r		
Sterna caspia	Caspian tern					c	r	c	c		
Sterna forsteri	Forster's tern					c	u	c	c		
Strix varia	barred owl			X	X	c	c	c	c	X	
Sturnella magna	eastern meadowlark	C		X	X	c	c	c	c		X
Tochycineta bicolor	tree swallow					c		c	c		
Thryothorus ludovicianus	Carolina wren			X	X	c	c	c	c		
Tiaris bicolor	black-faced grassquit					*	*	*			
Toxostoma rufum	brown thrasher					u	*	u	u		
Tringa flavipes	lesser yellowlegs					c	u	c	c		
Tringa melanoleuca	greater yellowlegs					c	u	c	c		
Tringa solitaria	solitary sandpiper					u		u	r	X	
Troglodytes aedon	house wren					c		c	c		

Table 2-1. (cont.)

Species	Common Name	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
Turdus migratorius	American robin					u	*	u	u		
Tyrannus melancholicus	tropical kingbird					*			*		
Tyrannus tyrannus	eastern kingbird			X	X	c	c	c	r		
Tyrannus verticalis	western kingbird					u		u	u		
Tyto alba	barn owl	C		X	X		u		u	X	
Vermivora celata	orange- crowned warbler					u		u	u		
Vermivora chrysoptera	golden-winged warbler					r		r			
Vermivora peregrina	Tennessee warbler				u	u	u	u	*		
Vermivora pinus	blue-winged warbler					r		r	r		
Vermivora ruficapilla	Nashville warbler					r		r	*		
Vireo altiloquus	black- whiskered vireo	C		X	X	c	c	c	*		
Vireo bellii	Bell's vireo					*			*		
Vireo crassirostris	thick-billed vireo								*		
Vireo flavifrons	yellow-throated vireo					u		u	u		
Vireo griseus	white-eyed vireo			X	X	c	c	c	c		
Vireo olivaceus	red-eyed vireo					c		c	*		
Vireo	Philadelphia vireo							*			
Vireo	blue-headed vireo					u		u	u		
Wilsonia	hooded warbler					u		u	*		
Wilsonia	Wilson's warbler					r		r	r		
Zenaida	white-winged dove					r	r	r	r		X
Zenaida	mourning dove			X	X	c	c	c	c		
Zonotrichi	white-throated sparrow					*		*	r		
Zonotrichi	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 >50% of the time)
u = uncommonly observed (seen < 50% of the time)
r = rarely observed (<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
AGRICULTURE												
Cropland and Pastureland				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		
Upland Mixed Forests			X		X					X		
UPLAND NONFORESTED												
Herbaceous (Dry Prairie)			X	X					X			
Mixed Rangeland				X								
Upland Shrub and Brushland			X	X								
WATER												
Bays and Estuaries	X	X									X	
Lakes												
Ocean and Gulf												
Reservoirs												
Streams and Waterways	X	X										
WETLANDS												
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

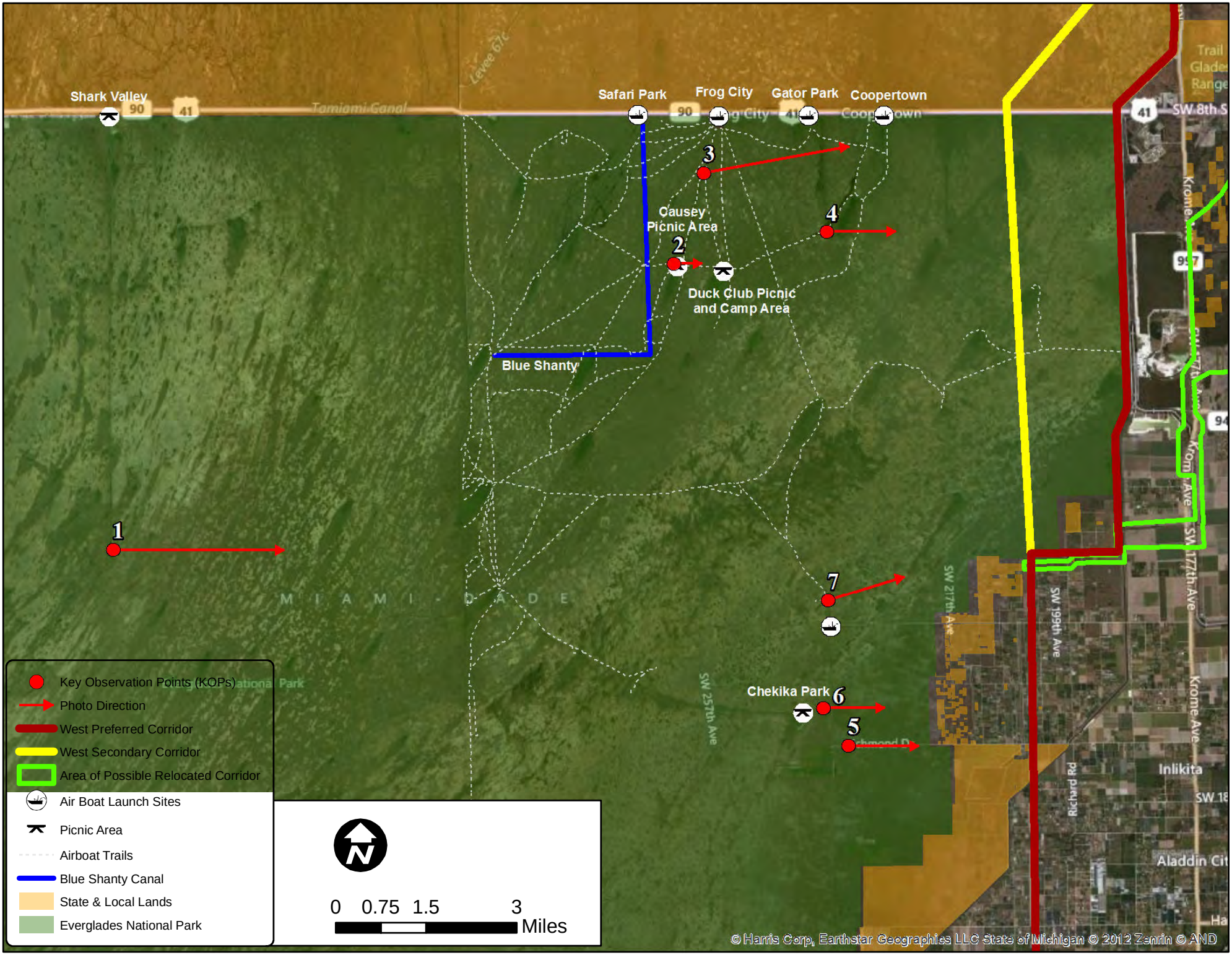
	Data-Based Relative Risk Results			Habitat-Based Relative Risk Results		
Species	FPL West Preferred Corridor	FPL West Secondary Corridor	Route A Corridor	FPL West Preferred Corridor	FPL West Secondary Corridor	Route A Corridor
Brown Pelican	ND	ND	ND	ND	ND	ND
Double-Crested Cormorant	ND	ND	ND	Intermediate	Most	**Least**
Anhinga	Intermediate	Most	**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	ND	ND	ND	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**

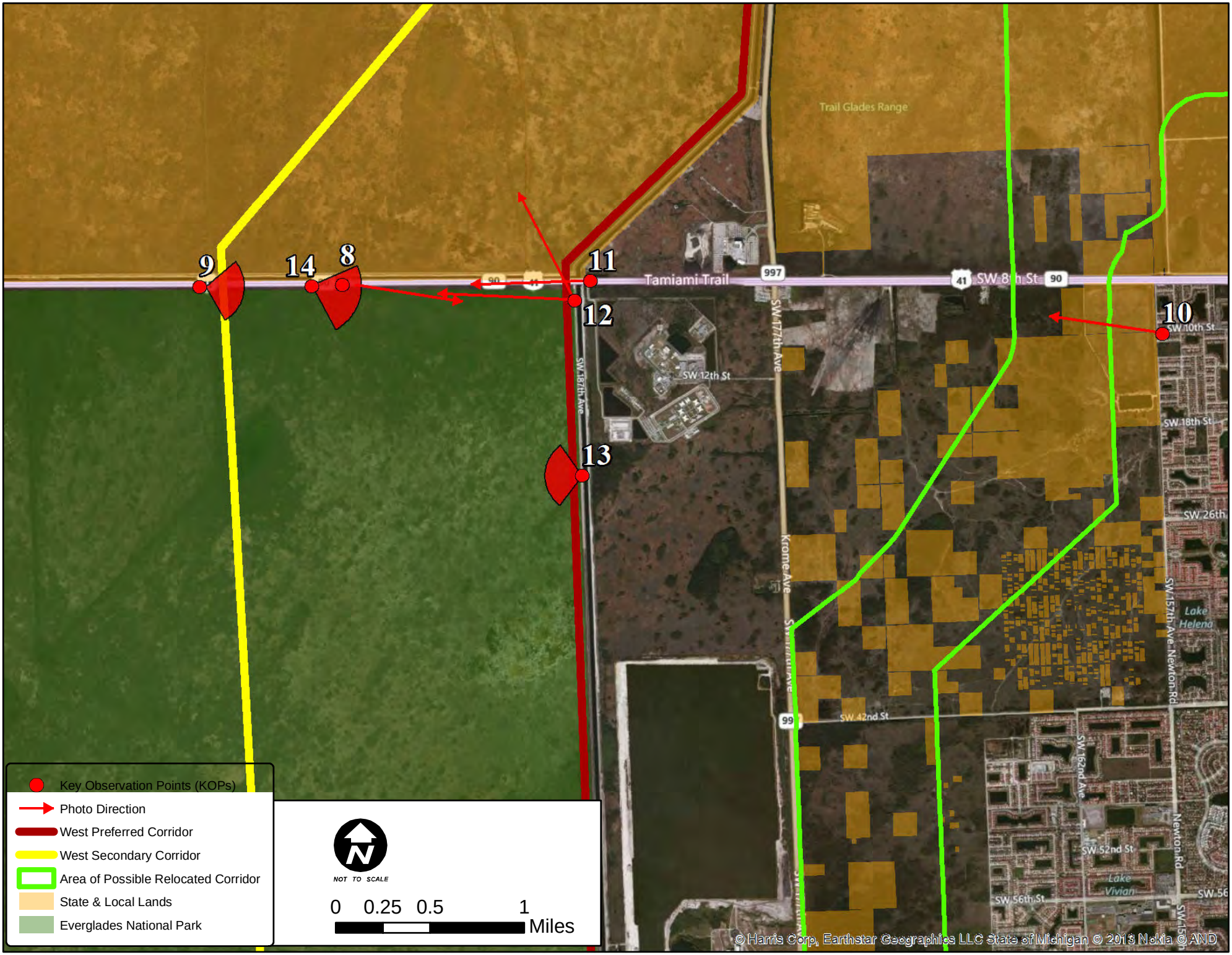
Notes:

ND = no difference

-- = data not available

APPENDIX K: EVERGLADES NATIONAL PARK PHOTO SIMULATION

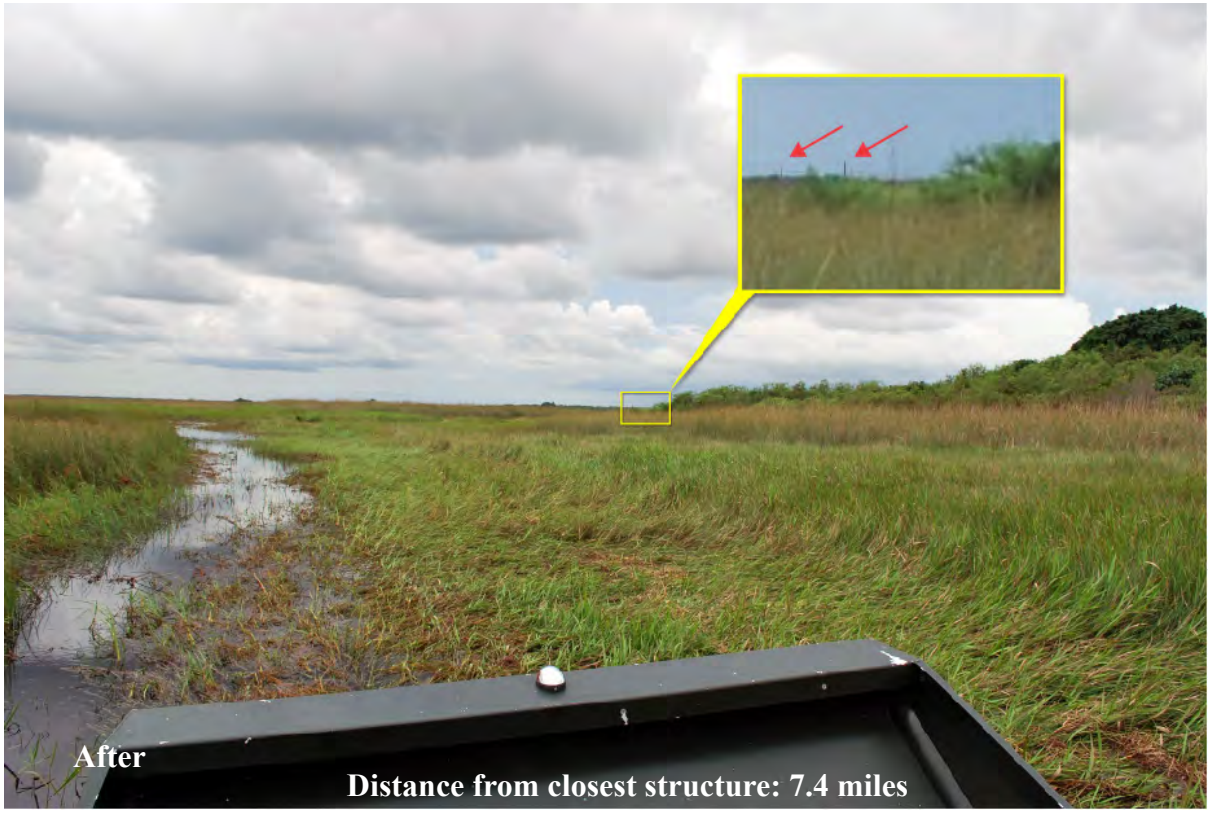

Shark Valley
Safari Park
Frog City
Gator Park
Coopertown
Tamiami Canal
Levee 67c
Causey Picnic Area
Duck Club Picnic and Camp Area
Blue Shanty
Chekika Park
1
2
3
4
5
6
7
M I A M I - D A D E
SW 257th Ave
SW 217th Ave
SW 199th Ave
SW 177th Ave
Krome Ave
Richard Rd
Inlikita
Aladdin Cit
SW 8th S
Trail Glade Range
Key Observation Points (KOPs)
Photo Direction
West Preferred Corridor
West Secondary Corridor
Area of Possible Relocated Corridor
Air Boat Launch Sites
Picnic Area
Airboat Trails
Blue Shanty Canal
State & Local Lands
Everglades National Park
0 0.75 1.5 3
Miles
© Harris Corp, Earthstar Geographics LLC State of Michigan © 2012 Zenrin © AND


9
14
8
11
12
13
10
Tamiami Trail
997
41
SW 8th St
90
Trail Glades Range
SW 12th St
SW 187th Ave
SW 177th Ave
Krome Ave
SW 10th St
SW 18th St
SW 26th
SW 157th Ave-Newton Rd
Lake Helena
SW 42nd St
99
SW 162nd Ave
SW 52nd St
Lake Vivian
SW 56th St
Newton Rd
Key Observation Points (KOPs)
Photo Direction
West Preferred Corridor
West Secondary Corridor
Area of Possible Relocated Corridor
State & Local Lands
Everglades National Park
NOT TO SCALE
0 0.25 0.5 1
Miles
© Harris Corp, Earthstar Geographics LLC State of Michigan © 2013 Nokia © AND

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.

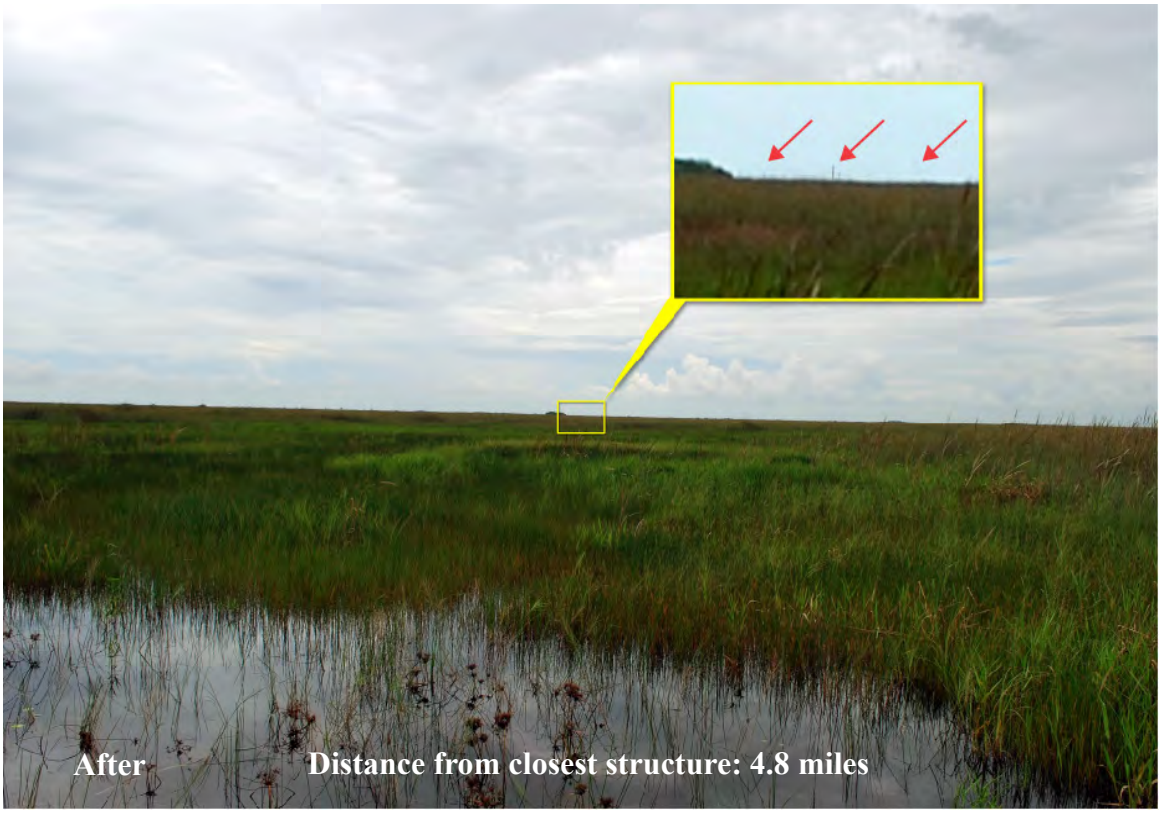
Alternative: West Preferred **KOP: 3** **Direction Taken: East**		Photo taken from an airboat trail associated with the Frog City airboat launch. The closest structures on the West Preferred Route are 7 miles to the East.

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

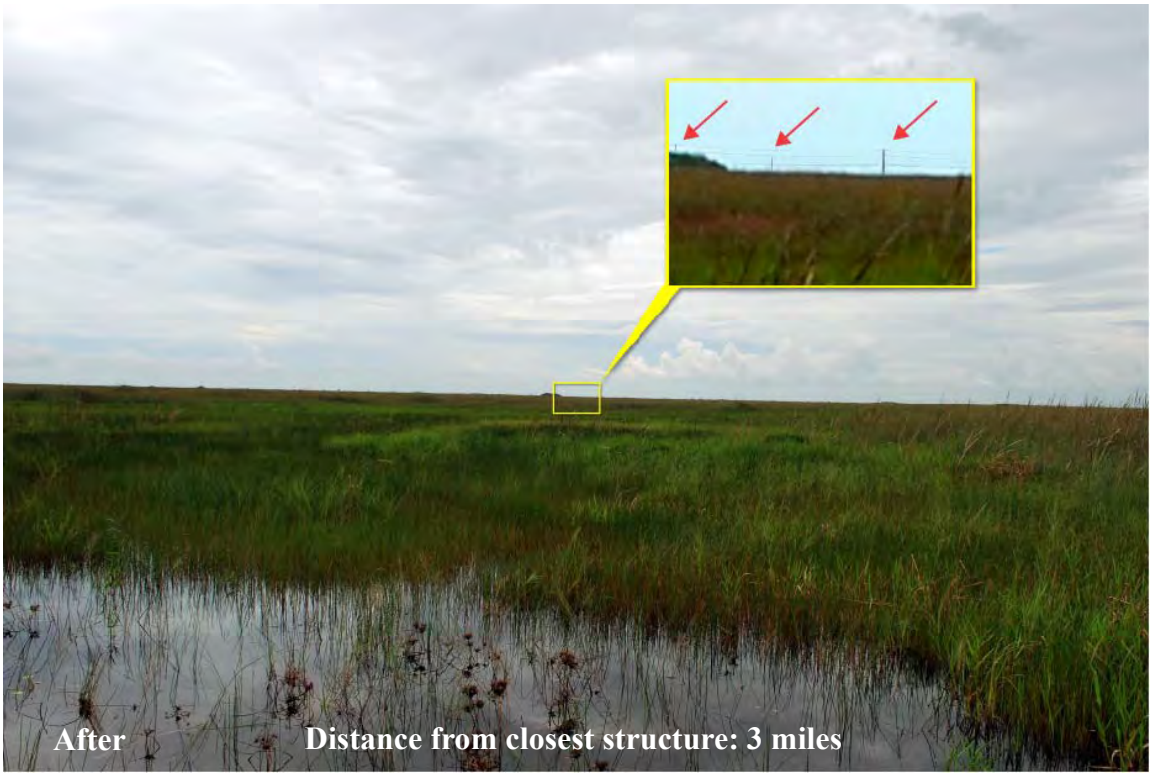
Photo taken from an airboat trail associated with the Frog City airboat launch. The closest structures on the West Secondary Route are 5 miles to the East.

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.

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.

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.

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.

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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: 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.

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.

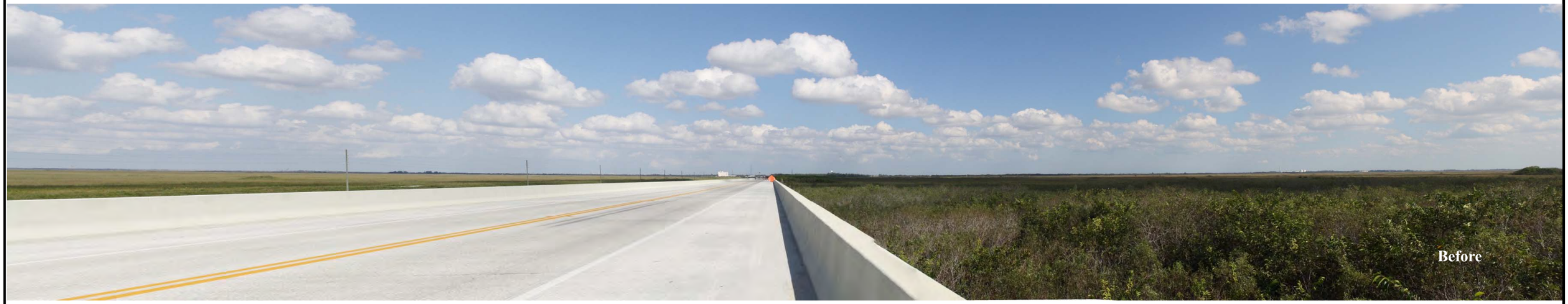
Alternative: West Preferred
KOP: 12
Direction Taken: Northwest

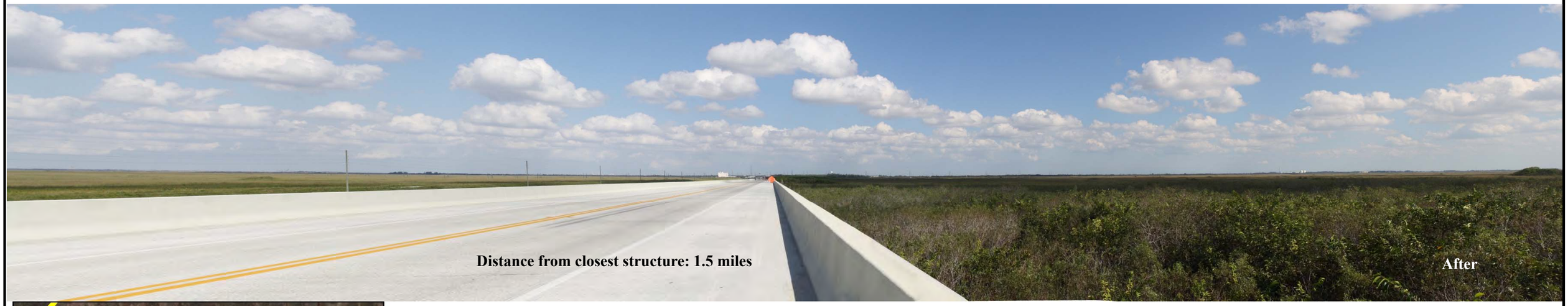
Photo taken from the L-31 Canal, just south of the Tamiami Trail. The simulations shows the construction pads, access roads, and both 500 kV and 230 kV structures. The closest structure is 223 feet away.

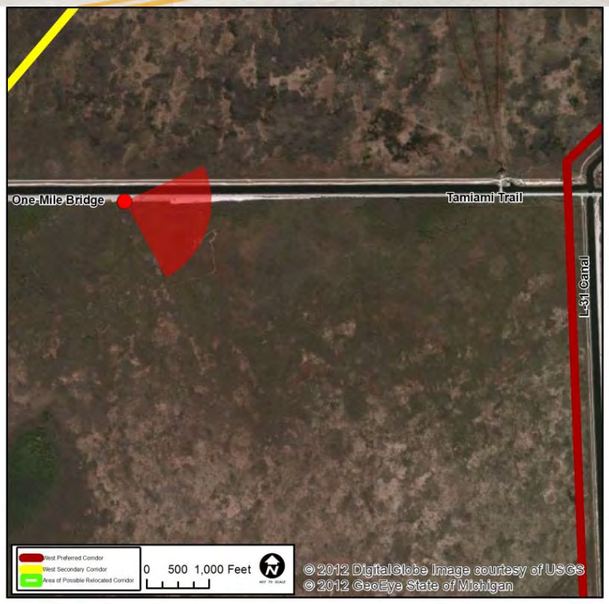
Structure placements as shown are for photo simulation purposes only. Actual structure placement will be determined during detailed design and engineering of the route selected and approved.

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.







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.

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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: 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.

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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.

APPENDIX L: CONCERN RESPONSE REPORT

Everglades National Park
Acquisition of Florida Power & Light Company Land in the East Everglades Expansion Area Draft Environmental Impact Statement

Concern Response Report

AE1400 - Affected Environment: Special-status Species

Concern ID: 50889

CONCERN STATEMENT: One commenter noted that the Bird Drive Basin area is not particularly important to wading birds because its short hydroperiod wetlands are not generally regarded as having as much value for birds when compared to long hydroperiod wetlands (sawgrass marshes) located farther west. The commenter also stated that much of Bird Drive Basin is dominated by exotic hardwood stands of low value to most birds, including most special-status birds in the Everglades region.

Response: The environmental impact statement (EIS) describes the extent and condition of various wetland habitat areas located throughout the study area. Page 235 of the draft EIS includes a description of wetlands in the Bird Drive Basin area, noting that this area contains wetlands that are characterized by existing disturbances in the form of nonnative plant infestations and all-terrain vehicle use. It goes on to state that impacts would be expected to be less in these areas because of the lack of native species and the lower functional value of the wetlands that contain these species.

The relatively short-hydroperiod wetlands of Bird Drive Basin may not support high densities of prey for wading birds that occur in other areas of the greater Everglades. However, during very wet periods, these short-hydroperiod wetlands can support wading bird foraging when most of the Everglades wetlands are inundated too deeply for wading birds to forage. As a result, the short-hydroperiod wetlands are very important in supporting the overall wading bird population of the Everglades.

Concern ID: 50890

CONCERN STATEMENT: One commenter suggests that the final environmental impact statement (EIS) should note that the Garber's spurge and tiny polygala are the only currently federally listed species, and that the Blodgett silver bush and sand flax are candidates for federal listing. The commenter also notes that state-listed species are not regulated by federal agencies reviewing the EIS.

Response: National Park Service (NPS) *Management Policies 2006* (NPS 2006a, Section 4.4.2.3) provides specific guidance for management of threatened or endangered plants and animals. These policies dictate that the NPS survey for, protect, and strive to recover all species listed under the Endangered Species Act (ESA) that are native to national park system units. The NPS meets its obligations under the NPS Organic Act and the ESA by proactively conserving listed species and preventing detrimental effects on these species. Section 4.4.2.3 also states that the NPS would inventory, monitor, and manage state and locally listed species in a manner similar to its treatment of federally listed species to the greatest extent possible.

For these reasons, all state and federally listed species, as well as candidate species, are included in the discussion.

Concern ID: 50891

CONCERN STATEMENT: One commenter saw no difference in the likelihood of occurrence of gopher tortoises along the Florida Power and Light (FPL) West Preferred Corridor, FPL West Secondary Corridor, and the area of possible relocated corridor because these areas are dominated by wetlands and not by the significant xeric areas that gopher tortoises prefer.

Response: Statements made regarding the differences in likelihood of species occurrence throughout the EIS are based on an assessment of habitat suitability within different portions of the study area. Although wetlands dominate in all areas, the extent to which they dominate varies. For this reason, the EIS states that the gopher tortoise is "not likely" to occur in the FPL West Preferred and West Secondary Corridors. Text on pages 284, 299, 307, and 315 of the draft EIS pertaining to impacts on this species has been changed on pages 281, 296, 305, and 313 in the final EIS to more clearly state that no impacts are expected because this species prefers dry, sandy habitats like longleaf pine-xeric oak sandhills.

Additionally, the missing word, "surveyed," was added to the sentence "Gopher tortoises are state threatened species and must be surveyed before any land clearing or development takes place." on page 132 of the final EIS.

Concern ID: 50892

CONCERN STATEMENT: One commenter provided multiple comments about the presence of and impacts on special-status species. The commenter stated that the draft EIS is inaccurate and the analysis was overstated with regard to the likelihood of occurrence of the Florida sandhill crane and the white-crowned pigeon.

The commenter disagreed with statements in the draft EIS that construction noise and traffic may introduce short-term, minor, and adverse impacts to the Florida sandhill crane and white-crowned pigeon because these species rarely occur in the southern Everglades region, and there is no expected loss of habitat.

Response: Because the degree of impact to a species is not directly related to the abundance of that species, the EIS must also recognize impacts occurring to individuals, regardless of species abundance. For this reason, impacts to individuals have been considered in the analysis.

Although the Florida sandhill crane and the white-crowned pigeon are not known to nest in the East Everglades Expansion Area (EEEA), they may occasionally forage within the FPL West Preferred and FPL West Secondary Corridors; therefore, short-term and temporary impacts could result in temporary displacement of birds from foraging and/or loafing grounds.

AE1800 - Affected Environment: Vegetation and Wetlands

Concern ID: 50848

CONCERN STATEMENT: One commenter suggested that the final EIS should include research conducted by Dr. Jennifer Richards on the current condition of wetland ecology in the project area.

Response: The description of vegetation and wetlands in the "Affected Environment" chapter indicates that wetlands in the EEEA are less disturbed and of higher quality than those outside of the EEEA. The NPS acknowledges that incorporating research of Dr. Richards into the description of the affected environment would improve the level of detail in the description of these resources. However, including this information would not affect the conclusion that construction of transmission lines in the FPL West Preferred Corridor would have major, adverse impacts to these resources. As a result, this information is acknowledged, but not included in the "Affected Environment" chapter.

Concern ID: 50850

CONCERN STATEMENT: One commenter noted that while Everglades National Park is an International Biosphere Reserve, a World Heritage Site, a Wetland of International Importance, and a Specially Protected Area under the Cartagena Convention, Congress approved the land exchange after those designations were determined and felt that congressional approval implies that utility construction would not be inconsistent with these designations.

Response: The U.S. Congress did expressly authorize the land exchange, although it did not mandate it. The purpose of this EIS is to analyze and disclose impacts on the park and its resources and values, many of which are related to these designations.

AE1900 - Affected Environment: Wilderness

Concern ID: 50851

CONCERN STATEMENT: One commenter noted that the chapter 3 description of wilderness does not include a discussion of the existing manmade structures present in the EEEA or the current condition of the wilderness environment.

Response: The affected environment discussion for wilderness, beginning on page 159 of the draft EIS with a discussion of untrammeled qualities, describes the current condition of the wilderness and specific NPS management plans to restore the natural conditions and improve the overall wilderness character, including the 2013 Draft General Management Plan and East Everglades Wilderness Study. On page 162 of the draft EIS, the affected environment section describes the 250 relatively small/minor structures that are currently within the 1,296,000-acre park wilderness, potential wilderness areas identified in the 1978 designation, and wilderness-eligible areas in the EEEA.

AE2000 - Affected Environment: Water Quality

Concern ID: 50936

CONCERN STATEMENT: One commenter noted that the Everglades Outstanding Florida Water designation changes the standard for a permit from "not contrary to the public interest," to "clearly in the public interest," based on a balanced consideration of factors. Findings from hearings on the proposed transmission line demonstrated that it is clearly in the public interest, and FPL should be able to obtain permits. The commenter further stated that the proposed transmission lines would not adversely affect navigation or the flow of water, or cause harmful erosion or shoaling.

Response: The National Environmental Policy Act (NEPA) analysis recognizes the decisions by the State administrative law judge associated with the State approval process, including the findings made regarding the public interest. However, the purpose of the draft EIS is not to determine whether or not permits for a transmission line should be granted, but rather to identify the indirect effects of alternatives, including the possible location of transmission lines. The draft EIS describes the effects of the construction of transmission lines on the flow of water of water and concludes that the construction would result in some degree of erosion, even if measures are adopted to minimize those impacts. The draft EIS does not identify impacts to navigation resulting from the proposed transmission lines.

While the state's findings regarding public interest may be considered in the context of the draft EIS and may also be considered by the NPS in reaching its decision, the NPS decision must be based on its federal statutory mandates, which necessarily weigh different factors than were at issue in the State process for certification.

AL1000 - Alternatives: Terms and Conditions

Concern ID: 50852

CONCERN STATEMENT: One commenter indicated that it was judgmental for the final EIS to state that terms and conditions that are significantly different than those included in the Record of Decision could result in additional NEPA analysis.

Response: The draft EIS analyzes impacts based on actions reasonably foreseeable at the time of the analysis, including draft terms and conditions. An agency decision is not made until the Record of Decision. Should terms and conditions be part of the selected alternative in the Record of Decision, the draft terms and conditions of the analysis would be included. If the terms and conditions agreed to by FPL and NPS differ greatly from those included in the EIS analysis, the adequacy of the analysis would need to be reconsidered at that time. No judgment or decision has been made regarding terms and conditions at this time.

Concern ID: 50853

CONCERN STATEMENT: One commenter recommended that the NPS review the Conditions of Certification as well as the Recommended Order completed by the Florida Fish and Wildlife Conservation Commission when evaluating alternatives.

Response: The NPS agrees. Both of these documents will be reviewed when evaluating the alternatives for the final EIS.

Concern ID: 50869

CONCERN STATEMENT: One commenter provided multiple comments about the draft terms and conditions in the draft EIS and stated that they are not consistent with the minimum requirements of the 2008 Contingent Exchange Agreement, should not duplicate state or government requirements, and must contain objectively quantifiable performance measures.

Response: With respect to the commenter's concern that the terms and conditions "be generally consistent with the spirit of the 2008 Contingent Agreement," the NPS notes that it was directed by Congress, subsequent to the 2008 Contingent Agreement, to develop terms and conditions. Any terms and conditions must reflect current research, observations, and conditions. The "spirit" of a six-year-old agreement predating Public Law 111-11 would be a vague, probably outdated, and generally unworkable basis for developing terms and conditions.

The commenter stated that the terms and conditions of any land exchange should not duplicate terms and conditions of agreements or licenses issued by state or governmental entities. The NPS generally intends to develop terms and conditions that are consistent with requirements of the State of Florida and other governmental entities, but because some of those requirements were being developed during the drafting of the draft EIS, no fixed final requirements could be incorporated into the analyses required for the draft EIS. Therefore, the NPS developed terms and conditions for analysis that may overlap with requirements of other regulatory entities to evaluate their impacts and mitigation effects.

The NPS does not agree that terms and conditions must include "objectively quantifiable performance measures." Such measures will be considered where appropriate, but terms and conditions that simply address goals and methods to achieve goals are also appropriate for consideration even if they do not have objective and quantifiable performance measures.

AL1300 - Alternatives: Alternative 1a (Substantive)

Concern ID: 50855

CONCERN STATEMENT: Two commenters stated that alternative 1a does not comply with the project's objectives, park purpose, or hydrological restoration goals. Commenters felt that if the NPS does not acquire the FPL inholding or flowage easement, critical restoration projects could not be completed.

Response: The NPS agrees; however, a no-action alternative does not have to meet the purpose, need, or objectives of a project. The no-action alternative provides a baseline analysis against which to compare the action alternatives.

AL1330 - Alternatives: Alternative 1b (Substantive)

Concern ID: 50856

CONCERN STATEMENT: Two commenters felt that alternative 1b is the true no-action alternative and questioned text in the draft EIS regarding future permitting. Both commenters recommended using alternative 1b as the true no-action alternative without any assumptions regarding the ability to permit the corridor. The commenter indicated that the EIS should not speculate about potential future permitting decisions made by other agencies. One commenter suggested that alternative 1b be regarded as an option that was considered but dismissed as a viable alternative because of FPL's withdrawal of the West Secondary Corridor for consideration under Florida's Site Certification Application (SCA) process. The commenter stated that the assumption that restoration would not occur is unrealistic and that the 2013 SCA proceeding demonstrated that the West Secondary Corridor would be in violation of local, state, and federal laws and regulations.

Response: As discussed in many places in the draft EIS, actual environmental impacts will depend in large part on factors that are beyond the control of the NPS. The alternatives and scenarios discussed in the EIS represent the best effort to describe both the range of actions the NPS could actually take and the potential environmental impacts that could occur as a result of the actions.

The Council on Environmental Quality (CEQ) NEPA regulations require the alternatives chapter in an EIS to "include the alternative of no action" (40 CFR 1502.14). The Department of the Interior's NEPA regulations (43 CFR 46.30) provide two interpretations for the term "no action." The first interpretation is that no action "may mean 'no change' from a current management direction or level of management intensity (e.g., if no ground-disturbance is currently underway, no action means no ground-disturbance)." The second interpretation "may mean 'no project' in cases where a new project is proposed for implementation." This EIS includes alternatives addressing both of these interpretations. Alternative 1b is a "no project" alternative because it analyzes a scenario in which the NPS would take no action and construction would occur in the corridor. Alternative 1a represents a continuation of the current level of management intensity because the NPS would take no action and there would be no construction.

The inclusion and designation of these alternatives is not meant to reflect any judgment or speculation by the NPS about future permitting or any other aspect of the probability of implementing alternatives 1a or 1b. These alternatives are included because the NPS believes they are important for the environmental analysis and serve as the best effort of the NPS to follow the NEPA regulations.

The no-action alternative includes no acquisition, but the reasonably foreseeable outcome is transmission line construction. FPL still owns the corridor and could still seek to build in the corridor; therefore, alternative 1b reflects a possible outcome of taking no action. The NPS believes it warrants analysis to provide a comparison of potential impacts. The NPS does not speculate about permitting, but provides a range of potential outcomes based on other agency decisions.

AL1600 - Alternatives: Alternative 2 (Substantive)

Concern ID: 50858

CONCERN STATEMENT: Multiple commenters requested that the EIS include a full analysis of the cost of each alternative, specifically the cost of acquiring the FPL property in the EEEA (alternative 2). To properly analyze alternative 2, commenters requested that the EIS include previous land appraisals, acceptable compensation, the cost of condemnation, and the cost for FPL to purchase a new corridor.

Response: A determination of the costs of alternatives requires information and assumptions regarding timing, circumstances, market forces, and other variables. Thus expert opinions regarding the potential cost of the various alternatives will vary considerably even if based on the same information. The most reliable cost information currently available is set forth in the discussion about costs of the specific alternatives found on pages 46–47 of the draft EIS.

It is not the intention of the NPS to use a cost-benefit analysis in reaching its final decision on land acquisition. The discussion of costs in the draft EIS is intended only to "indicate those considerations, including factors not related to environmental quality, which are likely to be relevant and important to a decision" (40 CFR 1502.23). For each of the alternatives, the draft EIS provides information on the relative costs to the government for land acquisition, but notes that considerable uncertainties exist regarding valuation. Some commenters asserted that just compensation for the direct acquisition of the FPL property would be limited to the prices of vacant land. The draft EIS discussion of costs for direct acquisition acknowledges that the determination of just compensation would depend on a determination of the highest and best use for the FPL property and its fair market value, and that such a determination could limit the value to a vacant land value.

Some commenters offered cost estimates. Federal agencies use guidelines including the Uniform Standards for Professional Appraisers Practice and the Uniform Appraisal Standards for Federal Land Acquisition to appraise properties. It would be inappropriate for the draft EIS to endorse or adopt studies of costs that were not prepared for the purpose of establishing fair market value of a specific acquisition using these federal standards.

Concern ID: 50859

CONCERN STATEMENT: One commenter stated that alternative 2 does not provide FPL with a viable corridor and would delay restoration efforts, noting that NPS money spent on acquiring the corridor would be better spent on ecosystem restoration efforts. The commenter requested that such lost opportunities be fully addressed in the EIS.

Response: The NPS action is to acquire FPL land in the EEEA. The purpose and need of the action does not obligate the NPS to provide FPL with a viable corridor. Additionally, the FPL corridor is not the only remaining inholding in the EEEA, and this EIS is not delaying restoration activities. The discussion on page 16 of the draft EIS provides details about the associated restoration projects, plans, and timing of those actions.

Concern ID: 50860

CONCERN STATEMENT: One commenter stated that alternative 2 should be selected as the preferred alternative because all other alternatives would result in impairment of park resources.

Response: The impairment determination for the selected alternative will be completed at the time of the Record of Decision. The NPS will not select an alternative that would result in impairment to park resources, in accordance with the 1916 Organic Act. Also refer to the response to Concern ID 50834.

AL1800 - Alternatives: Alternative 3 (Substantive)

Concern ID: 50861

CONCERN STATEMENT: One commenter recommended that the final EIS should include the cost and benefits of alternative 3. Additionally, the commenter felt that the draft EIS overstates the adverse impacts associated with alternative 3 because the analysis ignores that the exchange corridor consists primarily of previously disturbed lands and ignores the potential for FPL to avoid, minimize, and mitigate adverse impacts. The commenter requested that the EIS acknowledge existing transmission lines in the vicinity of the EEEA that have not resulted in significant adverse impacts.

Response: The final EIS includes information related to the various costs of the alternatives (chapter 2) as well as several conclusions of benefits to the NPS and overall public from the various alternatives. For example, the final EIS concludes that alternative 3 would enhance conservation of the resources and values of the park, including hydrologic resources. Alternative 3 is anticipated to have a substantial long-term beneficial impact to the hydrology of the park. In several places throughout the document, the final EIS concludes that the terms and conditions placed on FPL as part of any exchange would serve to avoid, minimize, and mitigate potential environmental impacts from transmission line construction and operation.

Regarding the comment about impacts of existing transmission lines, there are no major transmission lines in or adjacent to the project area, and the NPS has no data on impacts of other transmission lines in South Florida. There are distribution lines along roads in the project area, but these are not of the scope or scale of the transmission lines being proposed, and there are no data on their effects on area resources. Information about the presence of these distribution lines has been added to the “Adjacent Land Uses and Policies” section of the “Affected Environment” chapter of the final EIS.

Concern ID: 50862

CONCERN STATEMENT: Several commenters noted that alternative 3 sets a dangerous precedent for trading federal lands for private interests. The commenters also felt that the beneficial impacts under alternative 3 were overstated and that the adverse impacts should not be considered a viable management alternative. Commenters felt that impacts to resources under alternative 3 were unacceptable and would result in impairment to park resources. One commenter also requested that any exchange of lands only be completed after all necessary permitting has been secured.

Response: In the Omnibus Public Lands Management Act of 2009, Congress authorized the land exchange with FPL, specific to the exchange corridor at Everglades National Park. The NPS has reviewed all adverse and beneficial impacts for the final EIS and ensured that impacts meet the intent of the appropriate intensity threshold for each impact topic and alternative. Impairment will be addressed at the time of the Record of Decision for the selected alternative. Either exchange alternative will include specific terms and conditions (see appendices G and H) that will address broad resource and land protection goals of the NPS. The purpose and need for the project is to acquire FPL land to facilitate

hydrologic restoration of this portion of the Everglades. Waiting to acquire those interests until after FPL has secured all future permits for the transmission lines, given the unknown timeframe for receiving those permits, would not meet the purpose and need of the NPS for this action.

AL4000 - Alternatives: New Alternatives or Elements

Concern ID: 50863

CONCERN STATEMENT: One commenter suggested a new alternative that would allow the NPS to work with nonfederal partners to provide a land exchange of the FPL corridor for proprietary rights outside the Everglades National Park boundary.

Response: Although such an exchange was not made, on May 19, 2014, Florida's Governor and Cabinet, sitting as the Siting Board, issued a Final Order (FO) of Certification approving FPL's application to construct and operate two new nuclear generating units within FPL's Turkey Point plant property, as well as new electrical transmission lines and other off-site facilities. The location, construction, and operation of electrical transmission lines were certified for the West Consensus Corridor as the primary corridor and the FPL West Preferred Corridor as a backup if an adequate right-of-way within the West Consensus Corridor could not be secured in a "timely manner" and at a "reasonable cost." Information about the West Consensus Corridor is contained in the final EIS, and the impacts of such a corridor are analyzed as part of alternative 2.

AL5200 - Alternatives: Alternative 4 (Substantive)

Concern ID: 50854

CONCERN STATEMENT: One commenter stated that the analysis for alternative 3 should be the same as the analysis for alternative 4. If alternative 4 were selected, the commenter stated that the only environmental difference would occur if there were more stringent terms and conditions applied than are currently proposed.

Response: The NPS generally agrees with this comment. The basis for the difference in analysis for alternatives 3 and 4 is that the NPS would maintain the underlying ownership in alternative 4. The difference in environmental impacts between the two alternatives is not great.

AP2000 - Adjacent Land Use and Policies: Methodology and Assumptions

Concern ID: 50864

CONCERN STATEMENT: One commenter provided multiple comments about the study area and methodology for analyzing impacts to adjacent land owners. The commenter felt that the half-mile study area was not supported by literature and that the presence of transmission lines would not alter existing land use or patterns. The commenter requested that the final EIS be revised given that impacts to adjacent lands have no bearing on the NPS legal duties or obligations in deciding whether to pursue alternative 3.

Response: The NPS considers not only the direct impacts of its decision, but also the indirect impacts, which include impacts to adjacent lands from the connected action of transmission line construction, operation, and maintenance. The study area for the adjacent land uses and policies topic includes the entire area east of the park to the urban development boundary, but the discussion is focused on areas that fall within about one-half mile of the corridors because that is where the most intense impacts are from visual and noise impacts associated with transmission line construction and presence, as noted

in the analysis sections of chapter 4, in the "Viewshed (Visual Resources)" and "Soundscapes" sections.

Concern ID: 50879

CONCERN STATEMENT: One commenter noted that any easements for lands north or south of the NPS lands would need to come from the South Florida Water Management District (SFWMD) because the U.S. Army Corps of Engineers (USACE) has deeded those lands to the SFWMD.

Response: The NPS will coordinate with SFWMD should any easements on those lands be needed in the future.

AP4000 - Adjacent Land Use and Policies: Impact of Proposal and Alternatives

Concern ID: 50865

CONCERN STATEMENT: One commenter provided multiple comments about adjacent land use compatibility. Specifically, the commenter disagreed that adjacent land use was incompatible with transmission line construction, stating that construction of towers in a park-like setting was an inaccurate description because existing manmade structures, are compatible with the County Comprehensive Development Master Plan and the Comprehensive Everglades Restoration Plan (CERP). Additionally, the commenter stated that Florida has preempted the location and siting of transmission lines to the state level and prohibits local government regulation (through comprehensive plans, land development regulations, zoning regulations, or similar land use policies) of the location and siting of transmission lines. The commenter felt that there would not be major impacts because adjacent land uses would not change, and the analysis is not supported by literature.

Response: The draft EIS only notes when transmission lines would be in conflict with existing land use plans and does not make any judgment on those conflicts or state that transmission line siting could not occur as a result of a conflict. A major impact, based on the intensity definitions provided on page 388 of the draft EIS, is not determined based solely on land use conflict or a change in land uses, but also if "Adjacent property owners would experience readily measurable effects and changes would be of substantial consequence that would be noticed on a regional scale." Based on this intensity definition, the NPS concludes that a major, adverse impact determination is appropriate.

Concern ID: 50866

CONCERN STATEMENT: One commenter disagreed with the adjacent land use analysis completed under alternatives 3 and 4 and stated that retaining NPS land under alternative 4 would reduce land use incompatibilities.

Response: Transmission lines located in the exchange corridor would cause impacts, regardless of land ownership. The NPS believes that retaining ownership of the exchange corridor with an easement granted as opposed to exchanging it in fee could provide more control over activities on the corridor by both the NPS and others, and this could reduce land use incompatibilities.

Concern ID: 50867

CONCERN STATEMENT: One commenter provided multiple comments about alternative 2, including a comment noting that the draft EIS incorrectly describes the existing land uses in the area of the possible relocated corridor. The commenter felt that alternative 2 does not consider the uncertainty and risk associated with siting and obtaining property rights for transmission lines.

Response: Agricultural uses exist within the area of the possible relocated corridor and at the southernmost portion of the West Consensus Corridor and are described in chapter 3 of the final EIS. Agricultural uses were inadvertently left out of the discussion noted on page 391 of the draft EIS. The final EIS was revised to correct this error. Uncertainty and risks associated with transmission line siting are not applicable to the NPS action and are not be included in the final EIS.

Concern ID: 50868

CONCERN STATEMENT: One commenter noted that the potential for major impacts to adjacent land use under alternative 2 should be specifically described. The commenter felt that the existing text could be interpreted to mean that major impacts could be expected under the National Parks Conservation Association corridor, but agricultural land and transmission lines are compatible.

Response: The draft EIS goes into a more in-depth discussion than the public meeting banner that was referred to by the commenter. The draft EIS does not imply that the National Parks Conservation Association corridor would be a conflicting use.

APP1000 - Appendices: Appendix F

Concern ID: 50801

CONCERN STATEMENT: One commenter suggested that there are several incorrect assumptions in appendix F. The commenter noted that the land exchange does not in itself mean that power transmission lines will be constructed for Turkey Point Units 6 & 7, and that transmission lines could be designed in various configurations within the Fee Property or Exchange Property. The commenter further suggested that vegetation maintenance inspections will take place twice yearly, with vegetation maintenance undertaken as necessary, and that the dimensions and size of the structure pads could change.

Response: Information presented in appendix F was taken from the FPL's SCA, and it is recognized that final design will change configurations of the line and structure pads. For the purposes of the EIS, it was assumed that transmission lines would be constructed following the land exchange, and this was analyzed as a connected action for each alternative. The acreages presented for the pad sizes were inadvertently transposed on page F-10, although they were used correctly in the acre calculations presented in the document. These acreages have been corrected in the final EIS. Also, information about line maintenance was modified to clarify that inspections occur twice a year and maintenance actions would occur as needed (page F-18).

APP3000 - Appendices: Appendix J

Concern ID: 50893

CONCERN STATEMENT: One commenter provided four concerns about using the Avian Risk Assessment (ARA) as a basis for decision-making for the proposed land exchange. Ranked in order of their impact on the validity of the ARA, with the most significant first, these concerns include the following.

1. The nature of the bird-miles variable used is structurally flawed and therefore uninformative with respect to the risk of birds colliding with transmission line structures. The flaw in the bird-miles variable is evident in the hypothetical examples given the risk assessment.
2. The understanding of the relationship between bird flight speed and maneuverability contained within the ARA is the opposite of the scientific consensus view.
3. The habitat-based component of the ARA reaches an apparently erroneous conclusion using methodology that cannot be evaluated because of insufficient description, which may be based on including all habitats within 30 miles. The commenter asserted that the habitat based relative risk results in the analysis contradicts the potential avian habitat acreage results, and that the following concluding statement is inaccurate: "the FPL West Preferred Corridor poses intermediate level or risk to all species."
4. The use of technical literature to contextualize the principal risk issues and the results is incomplete and largely undocumented, and the authors failed to incorporate information on bird flight altitudes into the risk assessment. The commenter questioned missing references with poor documentation of technical literature. The commenter stated that without the full reference information, it is impossible to confirm the content and technical facts within the document.

Response: Responses are provided to coincide with the specific concerns 1 thorough 4, listed above.

1. The authors of the ARA concur with the commenter that the derivation of the relative risk used in the ARA as the primary measure of potentially adverse impacts to birds in relation to transmission lines is structurally flawed. The commenter suggested that the combination of distance and number of birds is sound, but instead of multiplying number of birds by distance, the number of birds should have been divided by the nearest distance to the corridor. However, this approach is also incorrect. The correct calculation of relative risk uses inverse distance weighting, and is described by the following formula:

$$P_{\mathrm{a}}(S_{\mathrm{i}}) = \sum_{j}^{n} \frac{1}{(D_{\mathrm{aj}})\text{^}2} \times S_{\mathrm{ij}}$$

Where $P_a(S_i)$ is the risk from transmission alternative *a* to species S_i as a function of the inverse distance D from colony ^2 (or bird location) *j* to transmission-line alternative *a*. D is the distance in miles, and S is the number of individuals for species S found in colony, or foraging area, *j*. Using this formula, an addendum to the ARA that includes results based on this correct formula for calculating risk has been appended to the final EIS.

With the change in the formula to an inverse distance weighting approach, the example calculations, shown in the table below, illustrate that the clusters of birds that are closest to the transmission lines and have the most birds, also have the highest relative risk, compared to the clusters that are further away with fewer birds.

Population (#)	Distance to Line (mile)	Weight (Multiplier)	Relative Risk
100	1	1	100
100	5	0.04	4
100	10	0.01	1.0
100	25	0.0016	0.2
200	1	1	200
200	5	0.04	8
200	10	0.01	2
200	25	0.0016	0.3
1000	1	1	1000
1000	5	0.04	40
1000	10	0.01	10
1000	25	0.0016	1.6
2000	1	1	2000
2000	5	0.04	80
2000	10	0.01	20
2000	25	0.0016	3.2

2. The ARA does not suggest that flight speed alone is what causes bird collisions. It is true that both wading birds and raptors are biologically more vulnerable than many other bird species and have greater risk of electrocution by and collision with electric utility structures and lines. Flight speed is only one aspect of flight behavior, and as discussed in the ARA, it is not the only indicator of risk. Specifically, APLIC (2012, page 36) states "Different bird species have different collision risks based on their biology, behavior, habitat use, and inherent ability to avoid risk [e.g., Savareno et al. 1996]." Presented in APLIC (2012) is research that describes an evaluation of different species and their collision susceptibility using wing loading and wing aspect ratio. Wing loading is the ratio of body weight to wing area, and with aspect ratio is the ratio of the square of the wingspan to the wing area. Specifically, the following is stated on page 37 of APLIC, "High wing loading birds are frequently reported as collision casualties, including large, heavy bodied birds with large wing spans such as herons, cranes, swans, pelicans, and condors. These and similar species generally lack the maneuverability to quickly avoid obstacles." Additionally, as specifically stated in the most recent APLIC Collision Manual (APLIC 2012), three orders of birds that are prevalent in the Everglades are reported to be most susceptible to collisions with transmission lines. These orders include the Pelecaniformes (pelicans and cormorants), the Ciconiiformes (storks, ibis, herons), and the Falconiformes (hawks, eagles) (APLIC 2012, page 32). Also according to APLIC 2012, "the reasons for this susceptibility are functions of species characteristics, in particular the birds' body size, weight, wing shape, flight behavior, and nesting habits." Therefore, the information presented in the ARA is consistent with and reflects the scientific consensus regarding avian risks resulting from stationary objects such as transmission lines.

3. The acres of habitat for each corridor presented in the ARA are based on total corridor width, which can vary for each corridor. In particular, the West Preferred Corridor

expands to about 900 feet wide in some places, and so the acreage figures for this corridor reflect that greater area; a direct comparison cannot be made to the other corridors that are not of the same width. An addendum to the ARA explains this and corrects the comparison that was made. However, this results in no change to the overall conclusions regarding relative risk of the FPL West Secondary and FPL West Preferred Corridors for focal bird species.

4. All references are documented in the final version of the ARA that is appended to the final EIS. Regarding the component of this concern about the incomplete incorporation of data on bird flight altitudes because both the wood stork and snail kite have had nests and can potentially nest in the future in the areas within and adjacent to the transmission line corridors, flight related to nesting behavior can increase collision risk if nests are near transmission lines. According to APLIC (2012), such behavior includes courtship (e.g., aerial displays and pursuit), nest building, fledgling flights, flights to and from the nest for feeding, territorial defense, and general flying around the nest or colony. These behaviors are most important for birds that nest in colonies, such as herons and egrets. Increased risks can also be associated with the age of a bird (i.e., adults and juveniles). Fledgling birds have less control of their flights and are more vulnerable to collisions than adults (APLIC 2012, page 41). There may also be risks for birds crossing a transmission line from the nesting site to a foraging area. Again, this is most important for colonial birds that will travel together to feed (APLIC 2012, page 44). For nonmigrating birds, flight altitude is likely to be within the range of transmission line height. Their flight is a function of their feeding, reproductive, and foraging behaviors. These behaviors usually occur within approximately 200 meters (660 feet) of the ground, which can expose birds to collision risk when in the proximity of transmission lines (APLIC 2012, page 39).

   In addition, the species that are using the Everglades and that are considered in the ARA are not only flying over the transmission lines, but are also using habitats for foraging, nesting and breeding, and raising young that are in the vicinity of the transmission lines. Because of this, even if wood storks or snail kites (both listed species) or other species typically fly or soar at heights predominantly above the transmission lines, their flight altitudes are variable especially within the corridors because they may land or take off from the areas adjacent to the transmission lines. As a result, there is a range of flight heights for the kites and storks that could potentially intersect the transmission lines during flight to and from the nest or foraging areas. As a result, the flight altitudes are variable for nesting and foraging birds that use areas within and adjacent to the corridors, which can translate into risk.

   Finally, as mentioned above, the wood stork and snail kites are considered threatened and endangered, respectively. Transmission line collisions may be significant to very small or declining populations and they may not be capable of compensating for this loss, resulting in biologically significant risk from (APLIC 2012, page 32). Therefore, for all reasons presented here, flight altitudes at which various species of birds typically fly were not included in the ARA.

APP4000 - Appendices: Appendix K

Concern ID: 50776

CONCERN STATEMENT: One commenter suggested that technical errors were made in the photographic simulations to include the locations of key observation points does not correspond to the key map and location where photographs were taken.

Response: The text in figure 23 on page 148 of the draft EIS has been revised for consistency between the key observation points represented and the various photos and simulations provided throughout the document.

Concern ID: 50777

CONCERN STATEMENT: One commenter suggested that the assumption used for the photographic simulations is incorrect and overstates the visual impacts of the transmission lines. One commenter suggested that the methodology used to develop the photo simulations resulted in an overstatement of the visual impacts of the proposed transmission lines.

Response: The NPS does not believe that impacts were misrepresented or overstated in the draft EIS; therefore, impacts in the final EIS remain as presented in the draft EIS. Key observation points were developed by the project team and represent the most visible or high use areas within this portion of Everglades National Park. Photographs were taken to best represent the views from the newly constructed one-mile bridge, airboat paths, and the existing L-31N canal levee road.

By comparing the existing conditions with the post-construction appearance via photo simulations, visual impacts have been accurately and reasonably presented throughout the visual analysis. Photo simulations were created using information provided in the SCA, and the methodologies employed have a proven record of accurately representing the impacts of transmission towers.

CC1000 - Consultation and Coordination: General Comments

Concern ID: 50802

CONCERN STATEMENT: Commenters suggested that the public comment process did not obey the procedural requirements for EISs or the Administrative Procedure Act because the cover sheet did not disclose the date by which public comments must be received and did not include a one-paragraph abstract of the EIS. One commenter suggested that the cover sheet and abstract are too extensive and not in keeping with 40 CFR 1502.1.

Response: The cover sheet was longer than usual because it sought to explain some of the complexities of this project, such as the exchange legislation and other historical background, and the combination of alternatives and build scenarios that appear in the EIS. The NPS agrees with the commenter, though, that this summary could be more concise and it is revised in the final EIS as possible.

Due to the printing schedule, the printed cover sheet in the draft EIS simply referred readers to the EPA Federal Register notice for information on commenting. NPS does not believe that this interfered with anyone’s ability to comment. Moreover, the draft EIS was also accompanied by a transmittal letter from the park superintendent, which included the comment deadline and generally conformed to the other cover sheet requirements.

Concern ID: 50803

CONCERN STATEMENT: Commenters suggested that the EIS should acknowledge that additional NEPA documents may be needed to address any discrepancies, and the NPS should provide additional consultation opportunities to further comply with Section 106 compliance.

Response: The State Historic Preservation Office (SHPO) was notified during the public scoping period and at the release of the draft EIS. The draft EIS is the vehicle to determine if additional Section 106 compliance is required. The SHPO has stated that the draft EIS complies with Section 106. However, consultation with multiple agencies will continue to be an ongoing process. Future NEPA documentation and permitting will be the responsibility of the USACE as it seeks to permit the corridor. If alternative 4 is selected, the NPS would be the responsible party for Section 106 consultation moving forward once the final design is identified and approved. A previous cultural resources survey was completed in the exchange corridor and found no cultural resources. Full surveys, in consultation with the SHPO, would be completed before construction.

Concern ID: 50805

CONCERN STATEMENT: One commenter suggested that the NPS should provide the public with a revised document that includes any updated information and the selection of a preferred alternative, so that the public has an opportunity to examine the most recent information and to provide comments to inform the selection of the preferred alternative.

Response: The NPS will release the final EIS to the public, in accordance with NEPA regulations. Given the development of the West Consensus Corridor as part of the SCA process, there will be no additional comment period for the selection of the preferred alternative.

Concern ID: 50832

CONCERN STATEMENT: One commenter suggested that before the location of the transmission lines is determined, the Nuclear Regulatory Commission (NRC) EIS for the Turkey Point should be completed and approved, noting that the transmission lines would not be needed without that expansion.

Response: The NPS action and decision are related to acquiring FPL lands in the EEEA and are not solely related to FPL transmission line construction or any future actions at Turkey Point. The inclusion of transmission line scenarios in the EIS was done based on the state siting certification and the need to consider connected actions. The construction of transmission lines depends on factors that are not fully within the control of the NPS.

FP4000 - Floodplains: Impact of Proposal and Alternatives

Concern ID: 50937

CONCERN STATEMENT: The commenter stated that proposed transmission lines can be appropriately engineered under any of the draft EIS alternatives to avoid adverse impacts to floodplain function or values and to avoid increasing flood risks. FPL can design the transmission structures, pads, and access roads to accommodate an increase in water levels that might result from restoration efforts in the Everglades. Impacts on groundwater recharge and downstream hydroperiods would be negligible and also would have negligible impacts, if any, on storage capacity within Everglades National Park, and storage capacity would depend primarily on hydrological restoration projects, such as the Modified Water Deliveries (MWD) project.

Response: The draft EIS analysis considers construction of features as described in appendix F. We recognize that transmission line construction may not be a certain outcome of this action, and that some of the potential impacts may be avoided through design of the transmission line. However, FPL has made no commitment to design transmission infrastructure in a manner that is consistent with Everglades restoration objectives, and the NPS consequently assumes impacts that would result from the design in appendix F. This includes impacts to floodplain function.

Concern ID: 50938

CONCERN STATEMENT: One commenter stated that the assertion of long-term, adverse impacts of transmission line construction is incorrect, and that impacts to floodplains under all alternatives are incorrect in the draft EIS. The commenter also indicated that the description and assumptions about the flowage easement are incorrect. The commenter stated that it was misleading to assume that the lack of a flowage easement would mean that increased restoration flows would not be accommodated or that ownership by NPS would ensure accommodation of restoration flows, as neither an easement nor ownership by NPS is a requirement for construction of a transmission line that can accommodate restoration flows.

Response: The NPS concludes that construction of structure pads and access roads that form a linear barrier to flow over a significant portion of the EEEA has the potential to have major, adverse impacts to floodplain natural resources or functions. In the absence of finalized plans that demonstrate impacts can be mitigated as described by the commenter, the NPS does not agree with the conclusion that impacts would be localized and negligible or that construction of transmission lines would protect, preserve, and restore floodplain natural resources.

Additionally, the commenter appears to assume that the United States can implement projects that increase flooding of private property without acquiring the property or obtaining a flowage easement. Statutory obligations on uniform real estate acquisition practices obligate federal agencies to acquire property needed for federal projects prior to federal use of the property. See 42 USC 4651.

GA1000 - Impact Analysis: Impact Analyses

Concern ID: 50806

CONCERN STATEMENT: One commenter suggested that the final EIS should note that there would be no impacts or negligible impacts to cultural resources, due to the project design and mitigation measures that would be employed.

Response: Beginning on page 31 of the draft EIS, the document provides an in-depth discussion of all cultural resources in and around the project area. The draft EIS cannot state that there would be no impacts or negligible impacts without final design and SHPO consultation.

Concern ID: 50807

CONCERN STATEMENT: One commenter suggested that hazardous, toxic, and radioactive waste should be discussed in the EIS. The commenter notes that high levels of naturally occurring arsenic can be found in otherwise pristine Everglades soils. Although this may not present an environmental or health risk, the presence of arsenic should be mentioned in the EIS.

Response: There are no reasons to assume that hazardous, toxic, or radioactive waste is present in Everglades National Park because there are no nearby sources that could introduce these chemicals into the park. By contrast, chemicals from agricultural practices upstream (south of Lake Okeechobee) and east (Homestead Agricultural Area) of the park have the potential to be of concern. However, a comprehensive ecological risk assessment recently conducted by the Everglades National Park in collaboration with Florida International

University (Contaminant Assessment and Risk Characterization CARE for Everglades National Park, Biscayne National Park, and Big Cypress National Preserve; Piero Gardinali, Joffre Castro, Natalia Quinete, and Gary Rand, in progress), which included 31 organochlorine pesticides, 20 polychlorinated biphenyls, 46 polynuclear aromatic hydrocarbons, 17 organonitrogen herbicides, 29 organophosphorus pesticides, 12 phenoxy acid herbicides, 20 pharmaceuticals, and 20 trace metals found that ecological risk to aquatic fauna was none to minimal. The study found that arsenic occurs naturally in soils, mostly as organic non-toxic compound and arsenic was not identified as a potential concern in the freshwater ecosystem of the park.

Concern ID: 50808

CONCERN STATEMENT: One commenter suggested that the NPS should provide the title of the New South Report that shows an archeological site that is within the west corridor location, so that the findings can be verified.

Response: The title of the 2009 New South Associates archeological report cited on page 31 of the draft EIS (page 32 of the final EIS) and included in the references on page 444 of the final EIS is shown in the following citation:

New South Associates

> 2009 Phase 1 Archaeological Survey for a 6-Mile Florida Power and Light Corridor, Everglades National Park, Miami-Dade County (Final Report). August 27, 2009.

The previous investigations discussion on pages 17–19 of this report includes a map of previously recorded sites in the project vicinity including Florida Master Site File # 8DA2104 located east of the L-31N canal. This site, called the Levee Cut, appears to be located within or adjacent to the West Consensus Corridor on the east side of the canal. The text states:

"New South Associates (Koski et al. 2005) conducted a Phase I Cultural Resources Survey east of the present study area for the proposed L-31N Seepage Management Area and performed a Phase II archaeological site evaluation of the Levee Cut site (8DA2104)…Results indicated that the site contained pre-Glades and Glades I Late through Glades IIIc materials and was deemed eligible for the National Register of Historic Places."

The citation for the 2005 report is shown below:

Koski, S., M., Sheffield, and J. Loubser

> 2005 Phase I Cultural Resources Survey of the L-31N Seepage Management Area and Phase II Archaeological Site Evaluation Study of the Levee Cut site (8DA2104), Dade County Florida. Report prepared for the US Corps of Engineers, Jacksonville, Florida., by New South Associates, Inc., St. Augustine, Florida

In 2009, Janus Research, Inc. completed a Preliminary Cultural Resources Report for the Turkey Point Units 6 & 7 and Associated Linear Facilities. The report provides a preliminary assessment of known cultural resources within and adjacent to the FPL West Preferred and Secondary Corridors for the proposed transmission lines. The discussion of previously recorded archaeological sites on page 18 of this report includes the following text regarding the Levee Cut site:

"Levee Cut (8DA2104) is a prehistoric midden with the potential for human remains that has not been evaluated for NRHP eligibility by the DHR/SHPO. Site 8DA2104 has been locally designated by the Miami-Dade County Historic Preservation Board (MDCHPB) and is located within the Nickernut Archaeological Zone. A Certificate to Dig and/or a

Certificate of Appropriateness may be required prior to commencement of work in a designated archaeological zone. Also note that many designated archeological sites include a buffer zone surrounding the identified resource that is also subject to protection."

The citation for the 2009 report is shown below:

> Preliminary Cultural Resources Report for the Turkey Point Units 6 & 7 and Associated Linear Facilities. Prepared for Florida Power and Light Company by Janus Research, Inc., Tampa, Florida, in cooperation with Golder Associates, Inc., Tampa, Florida, Revised June 2009.

Concern ID: 50809

CONCERN STATEMENT: One commenter suggested that a uniform mitigation assessment method should be conducted on the mitigation measures and impact sites.

Response: The NPS anticipates that a Uniform Mitigation Assessment Method or similar methodology will be used to determine the appropriate mitigation for impacts that may ultimately occur as a result of construction of transmission lines and associated infrastructure as part of the Section 404 permit review process by the USACE. Conducting this type of analysis is outside the scope of this EIS. For the purposes of this analysis, the NPS determined that mitigation within the Hole-in-the-Donut Wetland Mitigation Bank as compensation for potential wetland impacts represents a reasonable assumption until additional information becomes available.

Concern ID: 50810

CONCERN STATEMENT: One commenter suggested that the EIS should avoid making comparisons of impacts and instead focus on the actual impacts associated with each individual alternative.

Response: The draft EIS compares each alternative to the existing baseline and sometimes makes comparisons among alternatives to help explain the differences among alternatives. Text in the summary table was revised for clarity.

Concern ID: 50811

CONCERN STATEMENT: One commenter suggested that the public cost of acquisition is a socioeconomic factor that should properly be evaluated in the EIS.

Response: The cost incurred by the United States is not considered to be a socioeconomic impact, but it is a factor that is relevant and important to the overall decision, which will be considered by the NPS. Information related to the different costs of the alternatives is provided in chapter 2.

GA2000 - Impact Analysis: Use Trends and Assumptions

Concern ID: 50812

CONCERN STATEMENT: One commenter suggested that the estimated size of structures and corresponding amount of fill is a conservative estimate, and that this should be noted in the EIS. Additionally, the final amount of wetlands impacted may be reduced through avoidance and minimization in the selection of the final right-of-way and engineering design.

Response: The assumptions used to estimate the amount of fill and acres disturbed are presented in the draft EIS in chapter 4, page 195, and were taken from the FLP SCA as well as from other information provided by FPL (pad and road dimensions). These are not necessarily the most conservative assumptions (e.g., span length was estimated at 500 and 1,000 feet) but were considered reasonable assumptions to use at this stage of design. It is noted that the acres of wetlands lost as presented are based on preliminary design and are

subject to change with final design and site-specific mapping.

Concern ID: 50813

CONCERN STATEMENT: One commenter suggested that all alternatives except for alternative 2 are in opposition to the Fifth Amendment of the U.S. Constitution.

Response: The Fifth Amendment is not relevant to the commenter's concerns about an inequitable result for the public. The commenter otherwise simply appears to be stating a belief that previously stated estimates of the corridor's value have been too high, which is not a substantive comment about the analysis in the EIS. The "Takings" clause in the Fifth Amendment prohibits taking private property (such as FPL's) for public use without payment of just compensation, but it does not somehow require the selection of alternative 2, as the commenter suggests. In addition, there would not be a "taking" because FPL would be compensated for any land that would go to the United States under that alternative.

GA3000 - Impact Analysis: General Methodology for Establishing Impacts/Effects

Concern ID: 50814

CONCERN STATEMENT: One commenter suggested that the intensity of beneficial impacts should be disclosed in the EIS.

Response: Generally the NPS does not use intensity thresholds for beneficial impacts. Instead, the NPS uses qualitative and quantitative (if possible) descriptions and general descriptions of the beneficial impacts that would result from the alternatives.

Concern ID: 50815

CONCERN STATEMENT: One commenter suggested that the terms "noticeable impacts" and "appreciable" should be defined in the EIS.

Response: These terms are defined on page 197 of the draft EIS in the "Cumulative Impacts Analysis" section.

Concern ID: 50833

CONCERN STATEMENT: One commenter suggested that the Tribal cumulative impacts section does not discuss how the NPS made its determination that there were no cumulative projects to consider. Further, the commenter recommended that the NPS better describe the process or methodology used in determining the cumulative scenario.

Response: None of the past, present, or foreseeable future projects would impact tribal lands in the project area. Construction of the western corridor segment above the park is already accounted for within the EIS alternative analysis. Other projects are either water-related, located within the park boundary, existing operations, or not located near tribal lands.

GA4000 - Impact Analysis: Impairment Analysis-General Methodology

Concern ID: 50834

CONCERN STATEMENT: One commenter suggested that every alternative except for alternative 2 would result in an impairment of resources and, accordingly, the NPS is precluded from selecting any alternative other than alternative 2. One commenter suggested that alternative 3 would result in impairment of park resources. Another commenter suggested that alternative 3 would not result in an impairment of park resources.

Response: The procedural duty to take a "hard look" at the environmental consequences of a proposed action and its alternatives, and to prepare an EIS if there is the potential to cause significant impacts, is separate from the substantive prohibition against impairment of park resources and values found in the NPS Organic Act. It is NPS policy to analyze impairment in conjunction with the NEPA process, so that the NPS may be informed by the NEPA analysis. The requirements of the two statutes are nonetheless quite distinct. The non-impairment determination is not itself subject to NEPA procedural requirements. Pursuant to the Guidance for Non-Impairment Determinations and the NPS NEPA Process, a non-impairment determination will be attached to the Record of Decision, thus complying with the Organic Act and NPS *Management Policies 2006* regarding impairment findings.

Concern ID: 50888

CONCERN STATEMENT: One commenter suggested that the NPS should consider the results of the Line Route Evaluation in its entirety in the final EIS.

Response: The Line Route Evaluation has been overcome by events, as informed by the state certification process. The final EIS has been revised to reflect the updated status.

HD4000 - Hydrology: Impact of Proposal and Alternatives

Concern ID: 50918

CONCERN STATEMENT: One commenter stated that the EIS should do a better job explaining that FPL construction, operation, and maintenance of transmission lines under any of the alternatives would not obstruct hydrological restoration projects because FPL has specifically committed to coordinate with SFWMD regarding planned projects. Furthermore, the adverse impacts from transmission line construction on hydrology are overstated because FPL could design other utility facilities in this area to similarly avoid obstruction of hydrologic restoration projects.

Response: The NPS analysis of hydrologic impacts from transmission line construction presumes that hydrologic disruptions would be minimized through adherence to terms and conditions. However, transmission line construction, operation, and maintenance would result in hydrologic alteration to some extent. Because of the significance of the needed investment in restoration, assurances of compatibility with restoration in advance are needed to allow restoration to proceed.

Concern ID: 50940

CONCERN STATEMENT: One commenter stated that alternatives 3 and 4 reduce potential impacts on Northeast Shark River Slough (NESRS) by moving transmission line impacts adjacent to more developed areas east of the park. The commenter stated that construction, operation, and maintenance of transmission lines under any of the transmission line alternatives evaluated in the draft EIS would not obstruct restoration projects, including the goal of restoring NESRS, or otherwise adversely impact hydrology, including changes to overland or surface flows, regardless of land ownership.

Response: We agree that alternatives 3 and 4 may reduce impacts to hydrology compared to the potential for construction within the FPL West Secondary Corridor. However, transmission line construction within Everglades National Park increases hydrologic impacts compared to construction outside of the park, both with and without restoration. Land ownership, or a right to flow water over such lands, is an essential component to allow restoration efforts to proceed.

HD5000 - Hydrology: Methodology and Assumptions

Concern ID: 50941

CONCERN STATEMENT: One commenter stated that although all lands in the EEEA are needed for restoration, the 1991 Land Protection Plan does not specifically state what will be restored. To the extent that restoration is hydrologic restoration, the EIS ignores the fact that the exchange alternatives allow restoration of flows more rapidly than acquisition options because of the congressional action that would be required for the acquisition, whereas Congress has already authorized an exchange.

Response: The FPL corridor is not the only inholding in the EEEA (there are five other properties), and this EIS is not delaying restoration activities. On page 16 of the draft EIS, the document describes the associated restoration projects, plans, and the timing of those actions. The completion of the acquisition or exchange does not automatically mean water will flow. Alternative 2 would delay restoration of Everglades hydrology only if all other prerequisites have been completed in the restoration area, and sufficient interests in FPL lands have not been acquired (currently projected to be complete in 2018). Also refer to the response to Concern ID 50859.

II1000 - Irretrievable Impacts: General Comments

Concern ID: 50778

CONCERN STATEMENT: One commenter suggested that the EIS incorrectly asserts that the park would lose the ability to control all actions in the corridor pursuant to an easement agreement. The commenter further notes that a fee-for-easement is not acceptable for FPL and would not provide FPL with a like-for-like exchange of property rights or contiguous corridor.

Response: The arrangement by which a land exchange is consummated and the terms and conditions for that exchange are subject to negotiation between the NPS and FPL. It is not uncommon for utility corridors to be located on easements, and the West Primary Corridor would use property for which FPL has an easement and not a fee interest. A small portion of the FPL property is held as an easement and not in fee. It is not necessary to have a like-for-like exchange if the end result is agreeable to both parties and serves the purposes of the exchange. Text on page 421 of the draft EIS has been modified to state that NPS would have a reduced ability to control actions in the corridor with a fee-for-easement agreement, compared to owning the land outright with no encumbrance. The fee-for-easement exchange would provide the NPS with approval rights for actions occurring within the easement, but certain uses would be permitted, which is an irretrievable commitment of those lands.

Concern ID: 50779

CONCERN STATEMENT: One commenter suggested that conclusions relating to irreversible and irretrievable impacts are incorrect, including:

- prolonged continuation of altered hydrology in the area;
- irreversible or irretrievable loss of vegetation and wetlands; and
- irreversible or irretrievable loss of special-status species (individuals) and wildlife habitat.

Response: Impacts that are considered irretrievable include losses of production or use of natural resources and irreversible impacts are those that involve permanent losses of resources or values. The EIS states that the change of land use from current conditions to transmission line structures and roads would result in irreversible or irretrievable loss of vegetation and wetlands, and special-status species (individuals) and wildlife habitat.

Based on the impacts analysis presented for those topics, the NPS considers this to be correct. Mitigation would not fully offset impacts and there may be long-term effects on species, depending on the species present and area affected. Hydrology would be permanently altered by the construction and presence of pads and roads.

Concern ID: 50780

CONCERN STATEMENT: One commenter suggested alternative 2 would result in unprecedented commitments of resources as a result of FPL's cost to acquire a replacement corridor in privately owned land east of the park.

Response: Costs to purchase additional right-of-way outside the park are not lost resources. Funds for the acquisition of the FPL corridor in the park would not have been earmarked for other resource projects and are considered essential to the protection of the EEEA ecosystem.

Concern ID: 50781

CONCERN STATEMENT: One commenter suggested that permanent loss of soils from structure pads and access roads are based on conservative estimates and are expected to be refined based on final design, as noted on pages 219, 221, and 224 of the draft EIS. Additionally, while soils may be permanently lost within the construction footprint of the transmission lines, a greater acreage of wetlands would be restored in Everglades National Park.

Response: It is not unusual for there to be scales of magnitude associated with adverse impacts but not with beneficial impacts. Although purchasing credits from a mitigation bank offsets adverse impacts, the practice does not negate the proposed impact at the point of impact. Therefore, the NPS concludes the statements made on this topic in the draft EIS are valid and should not be changed.

Concern ID: 50782

CONCERN STATEMENT: One commenter suggested that the transmission lines and associated construction activities under alternatives 1b, 2, 3, 4, or 5 would not have long-term or more than negligible impacts on water quality because FPL has committed to various measures to avoid impacts and best management practices would protect against sediment and nutrients in nearby waters. The commenter also suggested that the alternatives would not have long-term or more than negligible impacts on hydrology because design of the transmission lines would:

- ensure construction, operation, and maintenance activities maintain existing hydrologic flows;
- not create artificial impoundments;
- accommodate projected or design flows that are known at the time of transmission line design;
- use culverts to maintain existing unimpeded flow patterns, hydroperiods, and pool equilibrium on either side of culverts for transmission line access roads and structure pads; and
- include implementation of erosion and sediment control best management practices throughout the work area.

Response: Although the transmission line structure pads and culverts could be configured to minimize impacts to both hydrology and water quality, and FPL proposes to use erosion control best management practices, the tower pads and culverts would still permanently alter the area, which in turn would permanently affect flows and water quality to more than a negligible degree. See response to Concern 50942.

Concern ID: 50785

CONCERN STATEMENT: One commenter suggested there are extra costs associated with constructing transmission lines within Everglades National Park, including permitting costs and litigation fees that were not considered.

Response: Permitting costs would be incurred by FPL and are not part of the alternatives analysis for land acquisition by the NPS. The nature and extent of any litigation fees cannot be reasonably foreseen at this time and therefore cannot be included for the purposes of analysis.

PN12000 - Purpose and Need: Relationship to other Projects and Plans

Concern ID: 50835

CONCERN STATEMENT: One commenter suggested that the term "critical" should be defined when referring to the FPL West Secondary and FPL West Preferred Corridors and ecosystem restoration efforts. The commenter further stated that FPL construction, operation, and maintenance of transmission lines under any of the alternatives evaluated in the EIS would not obstruct or impede hydrologic restoration projects.

Response: Congress expanded the park to include the entire boundary of the EEEA stating that "the existing boundary of Everglades National Park excludes the contiguous lands and waters of the Northeast Shark River Slough that are vital to long-term protection of the park and restoration of natural hydrologic conditions within the park" Impacts regarding hydrological restoration are addressed in the "hydrology" section in chapter 4.

Concern ID: 50836

CONCERN STATEMENT: One commenter noted that the EIS overstates the connection between the land exchange decision and the transmission line construction. The commenter stated that the FPL-owned corridor has independent utility from the proposed expansion of the Turkey Point Power Plant, and the land exchange has independent utility from the transmission lines.

Response: The NPS acknowledges that transmission line construction and the Turkey Point Expansion are separate projects with independent utility. The NPS action is a land acquisition decision, and as a result of that decision, transmission line construction is a reasonably foreseeable connected action. Impacts from transmission line construction are based on the SCA submitted by FPL, the Siting Board's non-appealable Final Order, and the ultimate outcome of the NRC/FPL EIS. The NPS EIS and the NRC/FPL EIS (for which the NPS is a cooperating agency) are two separate planning and decision-making actions.

Concern ID: 50837

CONCERN STATEMENT: One commenter suggested that alternative 3 is inconsistent with the restoration goals and objectives of the CERP. The same commenter suggested that the EIS assumes that the final disposition of FPL inholdings is the only obstacle preventing additional water from flowing into the park, but the EIS does not provide any basis for this conclusion.

Response: The FPL property in the EEEA is not the only remaining inholding and is not the final step in the CERP. As noted on page 17 of the draft EIS, CERP includes more than 60

elements and could take more than 30 years to complete. The NPS agrees that alternative 3 is inconsistent with the CERP. Table 2 (page 57 of the draft EIS) notes that the removal of 260 acres of wetlands and transmission line development would impede hydrologic functions, which would be inconsistent with CERP.

Concern ID: 50838

CONCERN STATEMENT: One commenter suggested that the EIS was developed during a time when supporting information related to FPL's stated intent to construct a utility corridor was rapidly changing, and as a result, portions of the EIS are out of date.

Response: The final EIS has been updated to reflect the latest information from the site certification process and other project-specific developments that have occurred since release of the draft EIS.

Concern ID: 50839

CONCERN STATEMENT: One commenter noted that the Everglades Restoration Transition Plan was not designed to improve habitat for the Cape Sable seaside sparrow. The same commenter suggested that text regarding the MWD project should be appropriately revised because the final determination regarding the remaining efforts to complete the MWD project has not been completed.

Response: The EIS has been changed to address these comments. On page 15, in the "Central and Southern Florida Project" section, the Everglades Transition Restoration Plan item has been revised to read: "This plan incorporates more flexible operating criteria than were used in the Interim Operational Plan to better manage WCA 3A, with objectives that include improving conditions in WCA 3A for the endangered Everglade snail kite, wood stork and wading bird species and their habitat, while maintaining protection for the endangered Cape Sable seaside sparrow."

Concern ID: 50840

CONCERN STATEMENT: One commenter suggested that the combined operational plan for the MWD project and the C-111 South Dade project would not be addressed in the Central Everglades Planning Project, but rather through a separate operational study. The commenter also suggested that the EIS cite the environmental benefits to the park that were associated with the seepage reduction function of the detention basins.

Response: The operations of the C-111 South Dade project and MWD project will be addressed through future planning efforts, but the specific project has not been determined.

Concern ID: 50841

CONCERN STATEMENT: One commenter suggested that the statement that a 3 to 5 mile extension of the Lake Belt Mitigation cutoff wall would "essentially complete a portion of the original CERP seepage management project" should be deleted because the final functional efficiency has not yet been determined.

Response: The seepage wall "is expected to" functionally complete a portion of the CERP seepage management project, pending certification of performance; therefore, the statement referred to by the commenter is accurate.

Concern ID: 50842

CONCERN STATEMENT: One commenter suggested that the EIS should add text to clarify that the C-111 Spreader Canal Project is being operated by the South Florida Water Management District.

Response: This change has been made to the section titled "Relationship to Other Projects and Plans" in chapter 1 on page 18 of the draft EIS.

Concern ID: 50843

CONCERN STATEMENT: Commenters suggested that the conveyance/acquisition of land easements to FPL has not yet been completed, and that this should be clarified in the EIS. Additionally, the commenter noted that any land easements would now need to come from South Florida Water Management District, rather than the USACE.

Response: The NPS concurs. No conveyance or easements have been completed. The final EIS has been revised for clarity.

PN3000 - Purpose and Need: Scope of the Analysis

Concern ID: 50845

CONCERN STATEMENT: One commenter suggested that a list of the alternatives should also include the alternatives outside of the park.

Response: The NPS action is a land acquisition decision. As a result, alternative transmission corridors are not alternatives to the proposed action.

PN4000 - Purpose and Need: Park Legislation/Authority

Concern ID: 50844

CONCERN STATEMENT: Commenters suggested that some of the alternatives are inconsistent with the Everglades National Park Protection and Expansion Act of 1989. One commenter suggested that the Tamiami Trail, the East Everglades, and the NESRS are treasured areas for millions of Floridians and, as such, these locations are inappropriate for inclusion within the project area. Another commenter suggested that the proposed project would not violate any potential wilderness designations, and that management of wilderness areas should be subject to existing private property rights.

Response: The NPS shares the commenter's concern for these resources but notes that these concerns apply to the FPL corridor lands as well as to the rest of the EEEA. If the NPS cannot acquire the corridor, then it is possible that lines could be constructed within the existing corridor. If the NPS cannot acquire the corridor, the NPS may be unable to proceed with the MWD project, which would benefit the entire park ecosystem, including the areas noted by the commenter. Chapter 1 explains the purpose and need for this project; the EIS considers a range of alternatives that could possibly meet that purpose and need. Management of wilderness is not subject to existing private property rights but is in the purview of the NPS, as described in chapter 3. Impacts on the resources and on wilderness referenced by the commenter are addressed in the EIS in chapter 4.

PN5000 - Purpose and Need: Regulatory Framework

Concern ID: 50818

CONCERN STATEMENT: One commenter suggested that the EIS fails to adequately recognize the valid existing rights of FPL, and instead asserts that previous planning documents restrict FPL from using its 50-year-old property rights. This conflicts with the 1989 Expansion Act and other congressional enactments.

Response: The NPS acknowledges that FPL possesses valid existing rights in the form of its ownership of the corridor. The goal of the EIS is to analyze a range of alternatives to meet the purpose and need for action, and the environmental impacts of those alternatives. The terminology used in the EIS is simply intended to further that goal and is not intended to diminish or otherwise suggest any particular characterization of FPL's property interest. In any event, the EIS is neither a regulation nor a deed, and statements in the EIS cannot alter that property interest.

Concern ID: 50819

CONCERN STATEMENT: One commenter suggested that Congress approved the fee-for-fee land exchange during the passage of the 2009 Omnibus Lands Act, and that the discussion on that statute should be revised in the EIS. The commenter also suggests that the fee-for-fee exchange fulfills the purposes of the 2009 Omnibus Lands Act by securing private land in the expansion area needed for MWD project flow restoration.

Response: The NPS agrees that the 2009 statute authorized a fee-for-fee exchange, and that such an exchange, as described under alternative 3, could meet the purpose and need for action.

Concern ID: 50820

CONCERN STATEMENT: One commenter provided reasons why constructing transmission lines would be incompatible with the Land Protection Plan. Another commenter suggested that the final EIS should explain why all of the alternatives except for alternative 2 fail to meet the requirements of the Land Protection Plan and of the Expansion Act, beyond a statement that they are indeed inconsistent. The same commenter suggested that the final EIS must analyze how each alternative is consistent with the NPS Organic Act, the United States obligations under the World Heritage Convention, and the United States obligations under the Ramsar Convention.

Response: The commenter's interpretation of the applicable authorities either ignores or somehow would nullify the 2009 statute expressly authorizing a land exchange. Although the NPS agrees that it is important to protect park resources and values as part of any alternative that is selected, the commenter's legal interpretation is incorrect.

The NPS will prepare a determination of non-impairment in compliance with the NPS *Organic Act*, as required by NPS policy, for the selected alternative.

The NPS is not aware of any conflicts between any of the alternatives and the World Heritage Convention or the Ramsar Convention, and accordingly does not discuss them. The comment does not name any specific conflicts that would require a response. Neither of those international conventions imposes any specific procedural requirements on the NPS; therefore, no further discussion is needed in the EIS.

Concern ID: 50821

CONCERN STATEMENT: One commenter suggested that FPL cannot expect to secure dredge and fill permits to construct its transmission lines and has no reasonable assurance that it would be able to secure a dredge and fill permit. Additionally, the commenter suggested that the final EIS must include a technical summary document, and consider the low likelihood that FPL could ever build the transmission lines in this area because it is unlikely that it would be able to obtain a dredge and fill permit from the USACE.

Response: The NPS does not make assumptions about whether any corridor can secure the necessary permits but provides the range of possibilities based on other agency decisions.

PN8000 - Purpose and Need: Objectives in Taking Action

Concern ID: 50870

CONCERN STATEMENT: One commenter provided multiple comments stating that transmission line construction under any of the alternatives would not obstruct hydrologic restoration projects and would avoid adverse impacts to hydrology, and would therefore be in line with all of the project objectives, including restored hydrology.

Response: Please see response to Concern 50918 and 50940 under the impacts to hydrology. Transmission line construction within the EEEA would not fully meet the objective to facilitate implementation of the MWD project, the Tamiami Trail Next Steps Project, and the CERP, as described in detail in table 2 of the draft EIS.

PO4000 - Park Operations: Impact of Proposal and Alternatives

Concern ID: 50871

CONCERN STATEMENT: One commenter stated that adverse impacts described in the draft EIS related to aerial park operations and fire management were overstated or inaccurate, including the potential electrical hazard. The commenter felt that the height of transmission lines would not impact aerial operations.

Response: The NPS disagrees with the commenter. Everglades National Park personnel routinely use aircraft to access remote areas of the park, conduct resource surveys, conduct fire suppression, and perform similar activities. Helicopters transport personnel to field sites on lands in Everglades National Park, and consequently operate at low altitudes. Similarly, helicopters used for wildfire suppression and prescribed fire management frequently fly at low altitudes during fire operations. Some wildlife surveys also require landing in the marsh and flying transects at less than 200 feet. In all of these cases, the addition of transmission lines would represent an increase in aerial hazards and would require changes in aerial operations and therefore would require changes in prescribed fire practices and would introduce additional obstacles to prescribed fire.

Concern ID: 50872

CONCERN STATEMENT: One commenter stated that the EIS was inaccurate in stating that NPS contractors would not have access to the land. Additional concerns expressed by this commenter were that access from the L-31N canal is off of NPS managed land and should not be considered as part of the analysis in this EIS.

Response: Although contractors and personnel may be able to access FPL land and Everglades National Park through FPL lands, there are proposed restrictions on access that have not been withdrawn by FPL. Consequently, the NPS cannot not assume that unrestricted access would be allowed, but recognizes that FPL may allow access in the future.

Concern ID: 50873

CONCERN STATEMENT: One commenter disagreed with the discussion of the potential for illegal activities, stating that standard operating procedures would be in place to prevent illegal access to the structures.

Response: Mitigation measures, including standard operating procedures, can reduce the potential for illegal activities. However, the introduction of the structures and access roads would allow for the potential for illegal activities where currently no structures exist.

Concern ID: 50874

CONCERN STATEMENT: One commenter stated that beneficial impacts to park operations and management, such as increased access by NPS officials, were not included in the analysis. The commenter also felt it was inaccurate to state that alternative 4 would provide more control over management of the land because of NPS ownership.

Response: The NPS disagrees. The NPS would have more control over land that it owns as opposed to FPL-owned land. There is the potential for benefits from increased ease of access by NPS officials.

SE4000 - Socioeconomics: Impact of Proposal and Alternatives

Concern ID: 50875

CONCERN STATEMENT: Several commenters stated the draft EIS failed to include the cost to taxpayers for alternative 2 versus alternative 3, the costs and benefits of reliable electricity for south Florida, and the costs and benefits of each alternative. Commenters also questioned the cost estimate for acquiring the right-of-way included in the site selection study and the property value analysis in the draft EIS. Commenters requested a larger cost analysis in the final EIS.

Response: Costs of the alternatives could vary considerably, depending on the acquisition alternative selected and how the FPL property is valued. The most reliable cost information currently available is set forth in the discussion on costs of the specific alternatives found on pages 46–47 of the draft EIS. The analysis found on pages 404–409 of the draft EIS concludes that there would be no socioeconomic impacts on the resources being analyzed for each alternative land acquisition action. Additionally, NEPA does not require a cost benefit analysis; seethe response to concern 50858.

Additionally, a commenter noted that there would not be adverse impacts to property values. The draft EIS socioeconomic analysis finds only the potential for negligible to minor adverse impacts on property values because very few homes are within a close distance to the planned transmission structures. Generally, the NPS agrees with this comment.

The NPS does not endorse the cost estimate of the right-of-way in the area of possible relocated corridor and would conduct its own analysis consistent with federal requirements, as further described in the response to comment 50858.

Concern ID: 50876

CONCERN STATEMENT: One commenter provided multiple comments requesting that the EIS remove discussion on the impact to FPL customer rates. The commenter also requested that the EIS should include a discussion on the final agreements with federal and state agencies to build transmission lines in the exchange corridor because the costs associated with building in the exchange corridor would be less than those associated with right-of-way acquisition. The commenter requested that the socioeconomic impact analysis include the cost differences between acquiring a new right-of-way versus construction of transmission lines in the exchange corridor.

Response: FPL notes that the footnote on page 406 of the draft EIS is outdated and irrelevant; as a result, it was deleted from the final EIS. However, the impact of the right-of-way acquisition on rates is uncertain because there are many other costs and information on which the Florida Public Service Commission bases rate increases.

SO4000 - Soils: Impact of Proposal and Alternatives

Concern ID: 50786

CONCERN STATEMENT: One commenter suggested that impacts from the construction of transmission lines under certain alternatives would not result in major, adverse impacts to soils in Everglades National Park because best management practices and terms and conditions of certification would minimize impacts. Additionally, wetland mitigation and restoration of an area greater than the acreage of soil lost would offset impacts.

Response: Best management practices for avoiding and minimizing construction-related impacts as well as soil and wetland mitigation and restoration measures are outlined in appendix F and in the current draft terms and conditions for both the FPL Fee Property and the FPL Vegetation Easement Area. Although mitigation measures would be imposed under permit conditions, the permanent loss of about 182 acres of wetland soils in the EEEA would constitute a long-term, major, adverse impact under alternatives 1b, 3, 4, or 5.

Concern ID: 50787

CONCERN STATEMENT: One commenter suggested that impacts to soils would include effects of the use of fill (nonnative soil) and would impact vegetation and the wildlife that depend on the vegetation and soils.

Response: Within the "Soils" section of chapter 4 of the draft EIS, it is clearly stated that clean fill would be obtained. This implies that, to the extent practicable, the fill material used at pad and access road locations would be free of seeds and other vegetation material of invasive species.

Concern ID: 50788

CONCERN STATEMENT: One commenter suggested that FPL's properly designed culverts would not lead to channelization or scour under any of the transmission line alternatives, and that related adverse impacts to soils, if any, would be localized and negligible. The commenter further suggested the description of the culverts may be misleading with respect to the placement of the culverts.

Response: The discussion of impacts to soils in the draft EIS (pages 215–227) states, in every reference to culverts, "Culverts along the length of the transmission line would, through channelization, contribute to some scour and subsequent erosion and resulting loss of additional soils." The text in the draft EIS, although not specifically stating such, infers that best management practices used in culvert construction would minimize impacts to soils from culverts. However, the cumulative permanent impacts to soils from the proposed alternatives would still be sufficient enough that the reported thresholds would not change. The commenter suggests that the statement, "'along the length of the transmission line' may be misleading." The exact location and spacing of the culverts is not known at this time, but it is expected that they would be required along most of the length of the transmission line and impacts would occur along the entire length of the line.

Concern ID: 50789

CONCERN STATEMENT: One commenter suggested that construction laydown areas would be placed in uplands to the fullest extent possible, and if laydown areas must be located where no uplands exist, such laydown areas would be permitted as a temporary impact and then fully restored.

Response: Although laydown areas would be placed in uplands, to the extent practicable, most of the construction area is wetlands; therefore, wetlands would be affected by these areas.

These impacts of construction disturbance are discussed as short term in the EIS. However, this does not affect the impact threshold analysis because the pads and towers would still be placed in wetlands and would result in permanent impacts, exceeding 145 acres. Thus, the impact thresholds to soils remain the same as reported in the draft EIS.

Concern ID: 50790

CONCERN STATEMENT: One commenter suggested that installation of the new transmission lines would not diminish soil productivity within Everglades National Park.

Response: Construction of an overhead transmission line would have long-term, adverse impacts on soils in Everglades National Park. Chapter 4 of the draft EIS describes the potential impacts to soils by the activities proposed under each alternative. Removing soil, compacting soil, or replacing soil reduces or removes soil productivity for decades to hundreds of years. Best management practices would be used to minimize the adverse impacts to soil; however, potential adverse impacts to 182 acres of soil would still be anticipated from the construction.

SP1000 – Special-status Species: Guiding Policies, Regulations, and Laws

Concern ID: 50895

CONCERN STATEMENT: One commenter indicated that the draft EIS incorrectly states that the ESA and Organic Act used the term “preserve” or “protection” instead of “conserve” because if preservation were the goal, takings or permit activities would never be authorized.

Response: While these words have had differing historical associations and meanings at various times, the NPS does not agree that the use of the word “preservation” (which appears in NPS Management Policies) would somehow preclude all permit activities. In any event, the use of one or the other of these words in the EIS is not intended to change the meaning of any of the applicable statutes or other authorities, nor could it do so.

Concern ID: 50896

CONCERN STATEMENT: One commenter indicated that the final EIS, especially chapter 4, should discuss statutory duties and purposes, instead of focusing on agency policies, planning guidelines, and Executive Orders, since statutes take precedence. The commenter added that policies, such as NPS Management Policies and Executive Orders, do not have the binding force and effect of statutes and cannot supplant Congressional enactments. Furthermore, this commenter stated that agencies have the latitude to broadly interpret their policies and waive them where they deem appropriate and therefore the NPS has considerable latitude to determine how it will act, consistent with the letter and spirit of applicable executive orders. Also, the final EIS should also include a discussion of the 1989 Expansion Act, a Congressional NEPA waiver, and the 2009 Omnibus Public Lands Management Act because they all have some bearing on the proposed land exchange.

Response: Although the NPS is aware that statutes generally have higher precedence, all of the authorities discussed by the commenter are relevant to the EIS. The purpose of chapter 4 is to discuss environmental impacts, not to provide a legal explanation for the agency's action, so that chapter generally focuses on the authorities most relevant to those impacts.

In any event, the CEQ regulations clearly state that an EIS should consider consistency with all of these authorities. For example, 40 CFR 1502.16 requires and EIS to discuss "[p]ossible conflicts between the proposed action and the objectives of Federal…land use plans, policies and controls for the area concerned."

Consistent with that mandate, the 1989, 2009, and other statutes applicable to the park are discussed extensively in chapter 1.

SP4000 – Special-status Species: Impact of Proposal and Alternatives

Concern ID: 50898

CONCERN STATEMENT: One commenter states that the construction of the transmission lines under alternatives 1b, 3, 4, and 5 would not have long-term, major, adverse impacts on special-status species and other wading birds because the majority of habitat within the corridor would remain undisturbed. This commenter noted that any loss of wetland habitats would have to be mitigated at an equal or increased value, and any potential impacts to listed plant and wildlife species would have to be avoided, minimized, or mitigated. Another commenter asserted that the draft EIS overstates the impacts to avian species of the proposed alternatives because the ARA and Exponent ARA contain significant flaws in the assumptions and analysis comparing the alternatives, based on sworn statements from an expert ornithologist, accepted and relied upon by an administrative law judge. Also, a commenter asserted that the draft EIS misrepresents the general relationship between flight speed and transmission line collision susceptibility, and thus indicates a weakness in the technical basis for the interpretation of risk contained within the ARA. The commenter asserted that any impacts to listed species would be short term (during construction) and minor.

Response: As noted in chapter 3, wood storks are federally threatened. There are currently only about 11,000 nesting pairs, down from about 20,000 pairs in the 1930s.). The decline is believed to be due primarily to the loss of suitable feeding habitat, especially in south Florida rookeries, where repeated nesting failures have occurred. Therefore, the introduction of a new barrier (transmission line) would partially fragment the ground and airspace between preferred wood stork habitats. This action would result in long-term, major, adverse impacts to wood storks and their fledglings, because the transmission line locations presented in alternatives 1b, 3, 4, and 5 would be constructed within proximity of known nesting and foraging areas.

Another example of an adverse impact on an avian special-status species is the effect on the Everglade snail kite, whose population is currently estimated to be fewer than 1,000 birds, and fewer than 20 nests that have successfully fledged young. Transmission lines presented in alternatives 1b, 3, 4, and 5 would be in proximity to known Everglades snail kite nesting and foraging areas, which would introduce a new barrier and could have a detrimental effect on this limited population.

Although habitats and wetlands impacted during construction would be mitigated to the maximum extent practicable, construction and the presence of the transmission lines and associated guy wires would result in potential long-term, major, adverse impacts in those proposed locations on these two listed and limited bird populations and other avian special-status species.

Concern ID: 50900

CONCERN STATEMENT: One commenter stated that alternative 3 would have substantial long-term impacts on wildlife, especially on endangered species (particularly wood storks), since a NPS letter to the Nuclear Regulatory Commission stated, "the construction of a large complex of transmission lines in this area creates a perpetual risk to birds that is inconsistent with the goals of Everglades restoration projects." This commenter also indicated that the draft EIS fails to mention the U.S. Fish and Wildlife Service "Habitat Management Guidelines for the Wood Stork in the Southeast Region," which states that a transmission line corridor should not be built within a colony, or its foraging habitat, since juvenile wood storks are at the greatest risk as they learn to avoid obstacles. A second commenter requested that the final EIS further investigate potential ultraviolet corona impacts on the federally endangered wood stork because it is unknown whether the proposed lines would interfere with their reproduction or feeding.

Response: As discussed in the response to Concern ID 50898, the NPS agrees that there is potential for significant impacts to wood storks from the construction of transmission lines, as well as some remaining uncertainty that may be addressed in the future through additional research or monitoring. The uncertainty in the ways storks may be affected by transmission lines is part of what led to the NPS determination that long-term, adverse impacts may range from moderate to major. Regarding potential ultraviolet corona discharges, the NPS agrees that corona discharges may affect some avian species, but in these cases, it is unclear how, and to what degree, these species may respond. Since the greatest impact would be expected to occur at night, most of the diurnal avian species may not be affected.

Concern ID: 50902

CONCERN STATEMENT: One commenter indicated that the draft EIS contains significant flaws in the assumptions and analysis and overstates impacts to wood storks and their foraging habitats. The commenter asserted that the final EIS should consider U.S. Fish and Wildlife Service Habitat Guidelines, the Turkey Point testimony, Dr. Cook's hearing testimony, and other relevant wood stork collision literature. Second, the commenter stated that impacts during construction of alternatives 1b, 2, 3, 4, and 5 would be minimal because construction would not occur during the breeding season near active colonies. Third, the discussion in the draft EIS on the overall growth of the wood stork population could be augmented by focusing discussion on how the growth occurred along increased economic development in this species range and in proximity to human actions. This commenter noted the success of the Tamiami West wood stork colony, which is adjacent to the Tamiami Trail roadway. The commenter stated that table 3 is inaccurate and has disputable statements because impacts would be fully mitigated and asserted that construction of transmission lines in the FPL West Preferred or West Secondary Corridors would not have a relatively high risk of impacting nearby nesting and foraging avian species because construction would not occur during the breeding season, and no nesting habitat and a small amount of foraging habitat would be lost.

Response: In analyzing impacts to wood storks and other species, the NPS considered a wide variety of information, including published scientific studies, agency reports, management guidelines, unpublished information, and several other sources. The NPS also consulted with species experts, and considered how the specific design of proposed infrastructure identified in the draft EIS would interact with these species. This evaluation included specific consideration of specific habitat associations, behaviors, and morphological differences among the different avian species. Based on consideration of all of these sources of information, the NPS continues to support the analysis and determinations in the draft EIS, while recognizing that individual reports and pieces of information may not be consistent with its analysis.

Concern ID: 50909

CONCERN STATEMENT: One commenter asserted that snail kite habitat would not be impacted, regardless of land ownership, because snail kites have low susceptibility to transmission line strikes and electrocution under all of the alternatives analyzed. Two commenters suggested that the discussion of impacts on the Everglade snail kite population is overstated and inaccurate regarding effects of collisions, electrocutions, noise, filling of wetlands, and flowage, and the discussion should recognize that hydrologic disturbances and recent management practices have reduced abundance of the prey snail species in the Everglades National Park area where transmission lines are considered. Therefore, several commenters stated that adverse habitat impacts would be minimal to negligible (because impacts would be mitigated and that snail kites do not have as restrictive a diet as once believed) and snail kites have low susceptibility to transmission line collisions (because they are extremely buoyant flyers).

Response: As discussed in the response to Concern ID 50898, adverse impacts to snail kites are expected to result from the reduced habitat suitability for foraging and nesting that would result from construction and presence of transmission lines. Although the draft EIS does not identify electrocution of snail kites as a primary concern, collisions are expected to occur. Kites may be generally less susceptible to collisions than some other avian species, but this does not remove the risk of collision or diminish the potential impacts to the population that may result from the consistent loss of a few individuals. The NPS also acknowledges that there are uncertainties that prevent the analysis team from accurately predicting the outcome of interactions between snail kites and transmission lines, and through rigorous monitoring the NPS hopes to learn more. Even recognizing these uncertainties, the NPS continues to support the analysis included in the draft EIS.

Concern ID: 50911

CONCERN STATEMENT: One commenter asserted that impacts under alternatives 1b and 5 to southern frog fruit, Bahama ladder brake, pineland allamanda, Everglades pencil flower, and meadow joint-vetch are overstated because these populations would recover and continue to thrive in these locations. This commenter also stated that FPL would perform listed species surveys within the right-of-way prior to construction, and work with respective agencies when any listed species are documented within the proposed right-of-way. Therefore, impact levels for these species should be changed to “negligible to minor, short term, and adverse.”

s ***Response:*** This comment includes two assertions: (1) that a numerical increase of a listed plant species mitigates impacts or duplicates a similar, naturally occurring population; and (2) that impacts were incorrectly characterized. The NPS agrees that southern fogfruit, Bahama ladder brake, and pineland allamanda could respond to an increase in disturbance by increasing numerically in both the FPL-owned corridor and in the corridor being considered for exchange. These species have been observed forming opportunistic populations in disturbed fill elsewhere in southern Florida. The NPS does not agree that meadow joint vetch and Everglades pencil flower would respond by increasing numerically to filling relatively undisturbed wetlands. These species generally occur in high quality wetlands with minimal disturbance and are not known to occur in areas with significant disturbance. The NPS does not consider a numerical increase in individuals of a listed plant species to necessarily constitute a benefit unless populations are considered to be below historic levels due to human influence in the area being considered. Given the general lack of data for these species in the area under consideration, the impacts of construction are not quantifiable. If naturally occurring populations of any of these species are present and highly restricted within either corridor, impacts from construction of transmission lines and associated infrastructure would be considered negligible. If naturally occurring populations are widespread within either corridor, impacts would be considered moderate.

Concern ID: 50912

CONCERN STATEMENT: One commenter asserted that the impacts are overstated for the Everglades mink under alternatives 1b, 2, 3, 4, and 5, because this species tends to use habitats farther west of the FPL West Preferred Corridor. Also FPL would be required to comply with permit conditions to protect this mink from some short-term disturbances under alternative 1b.

Response: Recent and comprehensive information on the distribution of Everglades mink in Everglades National Park is limited. While the NPS has relatively recent records of mink farther west, these records do not lead to a conclusion that mink do not occur in the vicinity of the proposed transmission lines, and they are historically known to occur in many parts of the park and surrounding lands. Permit conditions to protect mink and other species may reduce impacts to mink, but are unlikely to avoid impacts to mink entirely.

Concern ID: 50913

CONCERN STATEMENT: One commenter asserted that the impacts are overstated for eastern indigo snakes under alternatives 1b, 2, 3, 4, and 5, because there have been no recorded observations of this snake in the corridors. Furthermore, protective measures for this snake would be in place, and impacts should be short term and minor under any of the alternatives evaluated.

Response: In assessing the potential for impacts to indigo snakes, the NPS considered a wide variety of information, including published scientific studies, agency reports, management guidelines, unpublished information, and several other sources. The NPS also consulted with species experts, and considered how the design, operation, and maintenance of proposed infrastructure identified in the draft EIS would interact with this species. Based on this information, the NPS believes that indigo snakes do occur in the area and may be affected by the construction.

Concern ID: 50914

CONCERN STATEMENT: One commenter stated that the impacts on the Florida bonneted bat from alternatives 1b, 2, 3, 4, and 5 are overstated and there would not be “long-term moderate adverse impacts,” because this species is rare and there is a lack of suitable habitat in these corridors, and because FPL would avoid the removal of preferred habitat to the extent practicable. Furthermore, surveys would be conducted before construction, and both Florida Fish and Wildlife Conservation Commission and the U.S. Fish and Wildlife Service may impose additional avoidance or mitigation measures. Therefore the likelihood of occurrence in any corridor is low to moderate at best, and the potential impacts to roost sites should be minimal. One commenter disagreed with the draft EIS conclusion that the Florida bonneted bat has “a high probability” of occurrence in the vicinity of the FPL West Preferred Corridor, or “a moderate probability” of occurrence in the vicinity of the FPL West Secondary Corridor because very few sightings have been documented in Miami-Dade County in recent years. This commenter also believed the Florida bonneted bat sighting along L-31N canal levee was not substantiated and that most Florida bonneted bat sightings are in urbanized areas.

Response: Based on standard acoustic monitoring methods, Everglades National Park staff have documented the occurrence of bonneted bats along the L-31N canal, and this information has been adopted by the U.S. Fish and Wildlife Service. To date, there is no documentation of roosting in the immediate area, but foraging and occurrence of bonneted bats has been confirmed. Mitigation measures are expected to reduce potential impacts, but some impacts are expected to remain, and the NPS continues to support the analysis and conclusions included in the draft EIS.

Concern ID: 50917

CONCERN STATEMENT: One commenter stated that alternatives 1b, 2, 3, 4, and 5 would not have long-term adverse impacts to Florida panther or its habitat connectivity because no fragmentation or loss of habitat would occur due to construction under any of the transmission line alternatives, nor has any evidence surfaced that panthers have used the existing elevated berms along the eastern boundary of the EEEA. Also, only four sub-adult males have wandered into the general project area. Furthermore, FPL has specifically committed to coordinate with SFWMD regarding planned projects, including ecosystem restoration projects. Because Florida panthers are expected to adjust to the presence of the new transmission lines and maintenance activities, and they are likely to reoccupy affected areas once construction is complete, and road shoulders are expected to quickly revegetate, impacts to the Florida panther would equate to a "may affect, not likely to adversely affect" determination under ESA Section 7 consultation rules under alternatives 1b, 2, 3, 4, and 5. Also, construction of a new utility corridor and associated patrol road are not expected to result in a long-term, minor, adverse impact; instead the potential for impact is negligible. Finally, one commenter stated that the draft EIS should contain more than three literature citations pertaining to Florida panthers because there is a much larger body of scientific literature on panthers since 2008.

Response: In considering impacts to Florida panthers, the NPS considered a wide variety of information, including published scientific studies, agency reports, management guidelines, unpublished information, and several other sources. The NPS also considered information on panther occurrence and distribution from the network of wildlife cameras within Everglades National Park. Based on these data sources, the NPS has concluded that both male and female panthers occur in the project area, and based on information about habitat use in similar settings, the NPS would expect panthers to use levees along the periphery of Everglades National Park, especially during wet periods when the Everglades marshes are flooded. Consequently, construction, operation, and maintenance of transmission lines in these areas are likely to affect panther habitat and use in the area. The NPS continues to support the conclusions and analyses included in the draft EIS.

Concern ID: 50919

CONCERN STATEMENT: One commenter asserted that impacts on wildlife as a result of construction are overstated because temporary construction activities would enable much of the wildlife to escape direct impacts and would be timed to avoid sensitive times of the year. Furthermore, FPL could design other utility facilities to avoid adverse impacts and barriers to these species. Therefore, any impacts to wildlife from the noise and disturbance of construction would be minor and short term.

Response: The NPS disagrees with the commenter. The introduction of construction equipment and associated construction noise would likely disrupt wildlife behaviors and travel patterns in the selected alternative. Depending on the timing of the construction, the impacts to wildlife would range from minor (if construction occurs during noncritical periods) to moderate (if construction occurs during breeding or nesting seasons); however, it is impossible to completely avoid all species. For example, the avian nonbreeding season occurs when amphibians and reptiles are less active during colder and drier periods; thus making them most vulnerable to construction impacts. While temporary habitats to foraging and nesting habitats would be restored, full restoration areas could take years to match adjacent undisturbed habitats. Furthermore, line maintenance would occur about once every two years via helicopter or vehicle on an access road. While these impacts may be short term and minor to moderate, they introduce an adverse impact that is not currently occurring.

The construction would also introduce barriers (e.g., a transmission line) that could result in major, adverse impacts because of the proximity to many known nesting and foraging

locations, the potential loss or degradation of existing habitat, and the increased risk of line strikes and electrocutions on certain avian species (e.g., wood storks), regardless of which route is chosen for line installation. Less mobile or dormant species may not be able to move out of the construction area and may be injured or killed during construction activities.

Finally, the "escaping" of wildlife could result in injury or death to individuals, including, but not limited to, moving into an adjacent home range of the same species, crossing paths with a predator, vehicle or transmission line collisions, and an increase in stress.

Concern ID: 50921

CONCERN STATEMENT: One commenter disagreed that impacts to special-status species from transmission line construction would be the same for alternatives 1b and 5, because construction under alternative 5 would not result in permanent habitat loss for species or fragment habitat nor would it result in a net loss of wetlands. Additionally, the commenter notes that FPL could design other utility facilities to avoid adverse impacts to these species.

Response: Impacts to habitat and to listed species under alternatives 1b, 3,4, and 5 that would occur in the FPL West Preferred Corridor or FPL West Secondary Corridor are described in the EIS and include fragmentation of habitat and creation of edge, as well as permanent loss of habitat along access roads and in structure locations. Wetland mitigation and avoidance of particular sites would offset some impacts to wetland function and reduce impacts. However, mitigation and avoidance would not replace the wetland value to the species that occur in the project area or avoid adverse impacts. Based on the assumptions and method of evaluating impacts, the NPS continues to support the analysis and conclusions in the draft EIS.

Concern ID: 50922

CONCERN STATEMENT: One commenter disagreed that alternatives 1b, 3, 4, and 5 would contribute appreciable adverse impacts to the overall cumulative effects on special-status species. The commenter stated that FPL would be required to mitigate any loss of wetland habitats at an equal or increased value and, in any case, post-construction, the transmission line right-of-way would serve as suitable habitat for numerous species.

Response: The NPS disagrees with the commenter because alternatives 1b, 3, 4, and 5 would add appreciable adverse impacts to the overall cumulative impacts of several special-status species described in chapter 4 and in tables 27 and 28. Specifically, construction of the transmission lines would create a permanent electrocution and strike hazard for bird species, particularly wading birds (e.g., wood stork) because they are behaviorally more likely than other birds to take evasive action when confronted with flight obstacles. Also birds of prey are especially vulnerable to electrocution because of their size, relative rarity as top-of-the-food chain predators, hunting behavior, and habits of perching at the top of poles.

Additionally, regardless of the selected alternative, there are nearby nests of special-status avian species, including wood storks, Everglade snail kites, little blue herons, snowy egrets, tricolored herons, white ibises, and roseate spoonbills (see figures in draft EIS). Although impacts on wetland habitats may be mitigated through off-site wetland bank credits, habitats within the EEEA may be disturbed or permanently cleared to install and maintain the line.

SS4000 - Soundscapes: Impact of Proposal and Alternatives

Concern ID: 50823

CONCERN STATEMENT: One commenter suggested that the noise from transmission line construction activities would not disturb the natural soundscapes in Everglades National Park. The same commenter suggested that the draft EIS is incorrect regarding corona noise and baseline noise data, and finally stated that the statement that noise impacts would be greatest in winter, pointing out that there would be no construction activities during the winter.

Response: One commenter stated that construction noise for construction in land adjacent to the park would be attenuated by the berms associated with the L-31N canal levee. As noted in the "Assumptions, Methodology, and Impact Intensity Definitions" section, a conservative approach was used to compare the relative impacts of the alternatives disregarding attenuation from terrain and ground cover. To be effective and substantially reduce noise, berms would have to be tall enough to completely block line of sight between construction equipment and the residences, which is unlikely. Thus inclusion of the berms would not alter the analysis or conclusions regarding the alternatives with the least and greatest potential for temporary construction noise impacts. Attenuation due to distance was accounted for in the analysis.

The commenter incorrectly summarized the conclusion of the Tamiami Trail Next Steps Project EIS, which stated "the proposed project would cause short-term, moderate, adverse, localized, effects to the park's soundscape associated with project construction." Therefore, the conclusions of the Tamiami Trail Next Steps Project EIS and the Everglades FPL land acquisition EIS are identical with respect to temporary construction impacts being "moderate" and adverse.

Regarding the assumptions, the commenter correctly identified the fact that masking of corona noise due to weather noise was not accounted for in the analysis. This limitation of the analysis (making the results more conservative) has been acknowledged in the final EIS. However, it does not change the conclusions of the draft EIS because the corona noise impact was already considered "minor" and limited to foul weather events. Similarly, the commenter incorrectly stated that existing manmade noise was ignored. The "Soundscapes" section in the "Affected Environment" chapter discusses the sources of manmade sounds in the project area, with reference to ambient monitoring data.

Finally, the commenter suggested the location of the existing conditions monitoring site is not representative of the entire area where potential transmission corridors could occur. This is true and it is for this reason that a separate background level of 55 dBA L_{dn} was estimated for the residential areas. The Shark Valley background level was used for areas inside the park boundaries only. It is also true that the Shark Valley monitoring site levels would not be the same in other areas of the park, such as adjacent to a roadway. However, it would not be practicable to estimate existing noise levels for every portion of the study area and not necessary given the objective of the analysis to provide a reasonable comparison of the relative impacts of the alternatives.

Concern ID: 50824

CONCERN STATEMENT: One commenter suggested that the soundscapes analysis is incorrectly based on the maximum potential effect.

Response: The soundscapes analysis was based on reasonably foreseeable effects and included both quantitative and qualitative information. The conservative (over predicting as opposed to under predicting) nature of the quantitative assessment was acknowledged and supplemented with additional qualitative information, such as the relative length of time construction would occur near the park (see draft EIS page 256).

Concern ID: 50825

CONCERN STATEMENT: One commenter suggested that the draft EIS concluded that the Tamiami Trail Next Steps Project, which has very similar types of construction noise as the proposed project, has short-term, localized, minor adverse impacts. They suggested that the proposed FPL project also should be characterized as having short-term, localized, and minor adverse impacts.

Response: The Tamiami Trail Next Steps Project was different from the FPL project, both in location and the changes in soundscapes. While some aspects are similar, others are different, and consequently, it is not appropriate to adopt the assessment from another project.

TL4000 - Tribal Lands: Impact of Proposal and Alternatives

Concern ID: 50880

CONCERN STATEMENT: One commenter who represents the Miccosukee Tribe disagreed with comments attributed to the Miccosukee Tribe in the draft EIS and asserted that there would be adverse impacts to the casino property from the impact of transmission lines to the viewshed. Additionally, the commenter stated that the alternatives will adversely impact the Everglades, and that the transmission lines would "unreasonably impact the view-shed of not only the Miccosukee Resort, but of the Everglades National Park as well." The same commenter disagreed with the finding of moderate, adverse impacts on Indian Trust Resources and tribal lands, stating that there would be no economic impact to casino or hotel operations. The commenter stated that impacts should be revised for the final EIS.

Response: The NPS has updated the analysis to incorporate the concerns raised in the public comment letter from the Miccosukee Tribe.

UP1000 - Short Term/Long Term Use and Productivity: General Comments

Concern ID: 50791

CONCERN STATEMENT: One commenter suggested that long-term benefits to productivity would occur as a result the land exchange, better management of exotic species, wildlife, and special-status species by the NPS in the interior of the park, and facilitation of regional restoration goals.

Response: These benefits are recognized in the draft EIS on page 419 under the alternative 3 discussion. Alternative 4, which also includes the land exchange, refers back to this discussion.

Concern ID: 50792

CONCERN STATEMENT: One commenter suggested that impacts to threatened and endangered species would be avoided or minimized through:

- preservation of all habitats identified as critical to threatened and endangered species to the greatest extent practicable;
- preclearing surveys prior to construction to ensure adequate avoidance and minimization; and
- adoption of mitigation measures to address any unavoidable impacts.

The commenter further suggested that unavoidable impacts to wetland habitat would be fully mitigated and that the acreage of restored wetlands within the park would be several times greater than the acreage of the wetlands impacted, providing substantial benefit to the park.

Response: The mitigation measures and conditions of certification would minimize impacts to the extent possible, which is recognized in the analysis. However, construction and presence of the transmission lines have impacts that cannot be avoided. The presence of pads and access roads means that there would be a permanent loss of habitat for wildlife and listed species and a loss of wetland acreage in the EEEA; this cannot be fully mitigated by off-site wetland mitigation bank credits. See also the response to concerns 50826 and 50781.

Concern ID: 50793

CONCERN STATEMENT: One commenter suggested that there would be environmental benefits as a result of the land exchange under alternative 3 because the exchange property is on the eastern edge of the park, located parallel to a major artificial manmade flood control canal and levee system, and in the middle of numerous other manmade structures.

Response: The nature of the area in the exchange corridor is described and considered in the impacts analysis for alternatives 3 and 4. However, the exchange corridor is still valuable habitat for many species and is located close to several nesting locations for wood storks and other wading birds that are listed species. Impacts related to these qualities are identified and discussed. Although some impacts may be slightly different or less than impacts that would be experienced in the FPL West Secondary Corridor, this is not a net benefit but only a lessening of adverse effects.

VS1000 - Viewsheds: Guiding Policies, Regulations, and Laws

Concern ID: 50794

CONCERN STATEMENT: One commenter suggested that the two applicable statutory enactments providing the primary standards governing NPS action on the proposed exchange are (1) the Omnibus Public Lands Management Act of 2009, and (2) the 1989 Expansion Act, which take precedence over any NPS policy or guidance regarding scenic views and visual resources and acknowledge a degraded condition of the landscape in the area of the land exchange.

Response: These authorities are described extensively in chapter 1, but as indicated in the response to concerns 50818 and 50819, the EIS must discuss other authorities as well, including NPS policies.

VS4000 - Viewsheds: Impact of Proposal and Alternatives

Concern ID: 50795

CONCERN STATEMENT: Several commenters suggested that impacts to visual resources and park resources from the proposed transmission lines in the western corridors would be negligible to minor as a result of the existence of manmade structures in the area, which limit the incremental impacts of any proposed transmission lines and the distance of the transmission lines from key visitor areas of the park. One commenter provided multiple comments disagreeing with the level of adverse impact to visitor experience as a result of transmission line construction in the EEEA or area of possible relocated corridor. The commenter objected to the finding that there would be major, adverse impacts under alternatives 1b or 3, stating that there are no key visitor use areas in the vicinity, no key observation points nearby, and visitors would likely be unable to see the transmission line structures. The commenter also requested revising the EIS to state that the Chekika area is currently closed to visitor use with no plans to reopen it, and to reduce all impacts discussed under all alternatives to negligible to minor adverse impacts. Commenters suggested that potential impacts to viewsheds, soundscapes, and visitor experience is overstated for several reasons:

- the existence of manmade structures in the area;
- transmission lines would not be visible to any visitors at the Shark Valley Visitor Center or other key visitor areas in the park;
- there is not a significant concern regarding aesthetic impacts to park visitors along the L-31N canal;
- these areas are not key Everglades National Park visitor areas; and
- the setting is already degraded.

Response: The NPS does not believe that impacts were misrepresented or overstated in the draft EIS and, therefore, impacts remain as included in the draft EIS. Key observation points were developed in conjunction with the NPS and represent the most visible or high-use areas within this portion of Everglades National Park. Photographs were taken to best represent the views from the newly constructed one-mile bridge, airboat routes and trails, and the existing L-31N canal levee road.

By comparing the existing conditions with the post construction appearance via photo simulations, visual impacts have been accurately and reasonably presented throughout the visual analysis. Photo simulations were created using information provided in the SCA and the methodologies employed have a proven record of accurately representing the impacts of transmission towers.

Concern ID: 50796

CONCERN STATEMENT: One commenter suggested the final EIS should provide a citation of the discussion between NPS and the Miccosukee Tribe that supports the statement that the Tribe is not concerned about viewshed impacts.

Response: This statement has been removed from the document. The updated analysis considers the public comments provided by the Miccosukee Tribe during the draft EIS public review process.

Concern ID: 50798

CONCERN STATEMENT: One commenter suggests that there is no basis for the assumption that impacts on visual resources under alternative 4 are the same as those described for alternative 3, with the potential for slightly reduced adverse impacts.

Response: While the impacts remain within the same range of effect as described under alternative 3, impacts are by no means identical. The text of the EIS describes these impacts in detail.

VW4000 - Vegetation and Wetlands: Impact of Proposal and Alternatives

Concern ID: 50826

CONCERN STATEMENT: One commenter suggested that the proposed project would not reduce the integrity or the connectivity of wetlands within the project area, primarily because the majority of wetlands would remain undisturbed; their vegetative composition would be improved through exotic vegetation control; mitigation measures would be employed to prevent adverse impacts to wetlands; and because the amount of wetlands in the park would increase by 60 acres.

Response: The draft EIS describes the location of the impacts to wetlands as localized, which the commenters are inferring to mean that the impact intensity levels should be below those reported in the draft EIS. However, although the impacts would be localized, individually they would each affect up to an acre of wetlands because of the necessary area of the pads (appendix F, page F-10). As such, the cumulative area disturbed from each of the localized impacts contribute to the impact threshold reported in the draft EIS. The preparers of the draft EIS acknowledge that FPL would purchase credits to mitigate for impacts; however, purchasing credits only satisfies the need to maintain no net loss of wetland area within watersheds and would have no direct mitigation at the point of the proposed impacts. Similarly, the acres gained on a net basis do not negate the impacts that would occur from construction in the area exchanged.

Concern ID: 50827

CONCERN STATEMENT: One commenter suggested that vegetation management under the proposal would not impact wetlands because the vegetation management activities would be focused on the removal of nuisance exotic species of vegetation, resulting in beneficial impacts to wetlands.

Response: The presence of fill and other disturbance is likely to create conditions that are conducive to infestation of these areas by nonnative species that are already in the area or may recruit into the area following disturbance. Even if all nonnative species are controlled, the presence of this infrastructure in otherwise high-quality wetland areas would increase the likelihood of infestation of both the corridor and surrounding wetlands. The NPS determined that management of wetlands in the vegetation management easement may lead to minor, adverse impacts as described in the draft EIS. The NPS agrees that impacts from treatment of invasive species would be similar to those that occur when the NPS conducts similar activities. However, the NPS does not control wetland plant species that are incompatible with transmission lines. Control of vegetation on the basis of height is not a practice that ensures that wetland vegetation represents, to the extent possible, historic wetland and vegetation conditions in the area. As a result, the NPS does not agree that the vegetation management in the easement represents equivalent or better management of natural wetland plant communities.

Concern ID: 50828

CONCERN STATEMENT: One commenter suggested that some of the tree islands mentioned in the draft EIS are composed of exotic vegetation. Further, the commenter suggested that impacts to these tree islands would be minimal.

Response: The NPS did not find evidence demonstrating that construction activities could be constrained to the exact footprint of the fill pads and other infrastructure associated with construction of transmission lines in either corridor. In general, impacts from soil compaction and other disturbance within wetland plant communities of Everglades National Park would remain on the landscape for many years. This includes laydown areas for construction and use of low ground pressure vehicles. Although these impacts can be minimized to some extent, they cannot be prevented or eliminated. Until finalized construction plans are developed to demonstrate that impacts outside the areas of fill can be completely avoided, the NPS considers it reasonable to assume that impacts are likely to occur. These impacts would be localized and long term and would contribute to the overall impact level to wetlands and vegetation.

The NPS agrees with the commenter that there are very few areas of tree islands in the FPL West Secondary Corridor. However, if tree island vegetation within the corridor exceeds 14 feet within the wire management zone, it is assumed for the purpose of this analysis that FPL would trim that vegetation as part of maintenance as described earlier in the passage referenced by the commenter and those potential impacts are included in the analysis. The commenter also indicated that tree islands in the FPL West Secondary Corridor were largely composed of exotic species. For the purpose of conducting this impact analysis, the NPS assumed that the actual species composition of any area classified in the Florida Land Use, Cover and Forms Classification System (FLUCFCS) vegetation map was consistent with the written description of the habitat in the classification. The NPS considered this shortcoming when determining the best data source available and concluded that the FLUCFCS classification was the most suitable to conduct the impact analysis despite some shortcomings.

Concern ID: 50939

CONCERN STATEMENT: One commenter stated that the area of possible relocated corridor east of the Park varies considerably in vegetation cover depending on land use and proximity to highways and developments. The commenter requested that the final EIS include a summary of wetlands impacts associated with transmission corridors east of the park

Response: This issue raised by the commenter is more related to the draft EIS not identifying a line on the map for the corridor east of the park than to lacking information on vegetation in the area of possible relocated corridor. The draft EIS contains a generalized description of vegetation outside of the park that recognizes the variability in vegetation in the area of possible relocated corridor. The final EIS analyzes the West Consensus Corridor and includes acres of wetlands along a route that follows the eastern edge of that corridor.

VW5000 - Vegetation and Wetlands: Methodology and Assumptions

Concern ID: 50829

CONCERN STATEMENT: One commenter suggested that the draft EIS incorrectly infers that there is no ability to fill wetlands in the NESRS area under the federal Clean Water Act. The commenter further notes that the 1993 study that was used in the analysis suggests that permitting of wetland impacts within the study area would be subject to stringent review by the U.S. Environmental Protection Agency and the USACE, and that the study does not say no permits can be issued under the Clean Water Act or the guidelines issued under Section 404 of the Clean Water Act.

Response: The USACE and EPA will review the project based on the current design and analysis of impacts based on current conditions. Text relating to the 1993 document has been removed. Currently, it is not known whether the project as proposed would receive permits and, if so, under what conditions.

Concern ID: 50830

CONCERN STATEMENT: One commenter suggested that the draft EIS includes incorrect assumptions on the required amount of fill, such that the estimated 180.8 acres in the "area of analysis" in the "Nexus to Nexus" area is approximately 33 acres greater than currently estimated.

Response: Once certified designs are available, the estimates of fill can be finalized. However, the estimates of fill in the draft EIS are based on assumptions that include route locations, size of pads, and access roads as described on pages 195 of chapter 4 and page F-10 of appendix F of the draft EIS. A transposition of two numbers caused an error in the reporting of assumed acres of fill for pads on these pages of the EIS, but the calculations of acres as reported on pages 19, 20, and 21 of the draft EIS are correct based on the assumptions made. The corrected text in chapter 4 and appendix F now reads: "it is assumed that larger pads (where there are both 500-kV and 230-kV structures) would be 1 acre in wetlands and 0.63 acres in uplands. Smaller pads (where there are 230-kV structures only) are assumed for estimating purposes to cover about 0.35 acres in wetlands and 0.05 acres in uplands."

The 180.8 acres reported from nexus point to nexus point in the draft EIS may be reduced following final design. However, even if it were 33 acres less, this would still result in over 145 acres of wetland lost. Thus, the analysis of the impact thresholds would not change, even though the acres of impact would be somewhat lower that the current draft EIS reports.

WD1000 - Wilderness: Guiding Policies, Regulations, and Laws

Concern ID: 50884

CONCERN STATEMENT: One commenter provided multiple comments about the wilderness suitability in the EEEA. The commenter stated that the EEEA does not meet wilderness designation criteria. Additionally, the commenter stated that the NPS should not manage the lands as if already designated wilderness by Congress. As a result, the commenter stated that adverse impact findings under alternatives 1b, 3, and 4 should be revised in the EIS due to the existing development and lack of wilderness values in the EEEA.

Response: The NPS disagrees. Most of the lands in the EEEA meet wilderness eligibility criteria as described in the Everglades National Park Draft General Management Plan/East Everglades Wilderness Study/EIS (February 2013) and is considered potential wilderness. Under the NPS *Management Policies 2006* (Section 6.3.1), the NPS is required to manage all potential wilderness as wilderness until the legislative process of wilderness designation has been completed.

Concern ID: 50886

CONCERN STATEMENT: One commenter stated that because the majority of the EEEA has been determined to contain wilderness values and characteristics and is eligible for a wilderness designation, per the NPS *Management Policies 2006*, utility lines cannot be installed in wilderness-eligible locations until the legislative process of wilderness designation has been completed.

Response: The exchange corridor is not being proposed for wilderness designation, as described in the Everglades National Park Draft General Management Plan/ East Everglades Wilderness Study/EIS (February 2013). There is a quarter-mile buffer around the north and east boundaries of the EEEA, which includes the FPL West Preferred Corridor. The FPL West Secondary Corridor is within the potential wilderness designation area in the EEEA as described in the Draft General Management Plan/East Everglades Wildlife Study. However, because FPL owns these lands and because the corridor not under NPS management, these lands cannot be managed as wilderness at this time.

WH4000 - Wildlife and Wildlife Habitat: Impact of Proposal and Alternatives

Concern ID: 50925

CONCERN STATEMENT: One commenter asserted that the draft EIS description of avian impacts should be better described because the text currently seems vague and lacks specific details.

Response: We recognize that the impacts to avian species are somewhat general in the EIS. However, after reviewing the description of avian impacts, including updates to the Avian Risk Assessment, we do not believe that additional specificity is appropriate because of the degree of uncertainty of future events that will affect the magnitude of impacts. For example, we recognize benefits through hydrologic restoration in the area that will likely improve habitat suitability for wading birds, but the amount of increased use will depend on many factors, such as water regulation schedules and the condition of the surrounding landscape. Impacts resulting from collision with transmission lines is similarly uncertain because the final design of transmission lines is not complete, therefore the specific collision risk mitigation features have not been specified (the terms and conditions specify use of state-of-the-art methods at the time of construction). Additionally, the risk of collision with transmission lines, as well as other impacts, depends partially on the amount of increased use of the area that may result from hydrologic improvements. These uncertainties illustrate why we could not confidently make specific predictions of impacts.

Concern ID: 50926

CONCERN STATEMENT: One commenter asserted that the draft EIS overstates the impacts to wildlife (particularly listed species) because FPL has agreed with comply with various certification conditions and has coordinated with various agencies. Another commenter asserted that alternative impact conclusions are overstated and incorrect because measures and conditions would be put in place to protect wildlife species, regardless of who owns the FPL corridor in the park.

Response: FPL compliance with the various conditions of certification does not equate to the complete absence of adverse impacts. While adherence to the terms and conditions would minimize the severity, location (e.g., sensitive habitats), and timing (e.g., breeding seasons) of the impacts, the impacts would still occur.

Concern ID: 50928

CONCERN STATEMENT: One commenter asserted alternative 3 would not result in a loss of 260 acres of suitable habitat for wildlife, because there would be a long-term net positive impact on wildlife because alternative 3 would result in a net gain of 60 acres of undisturbed habitat and additional flowage over the FPL West Secondary Corridor to restore Everglades habitats.

Response: Alternative 3, including transmission line construction, would result in a loss of habitat because in the baseline condition, all habitat, both in the park and in the FPL-owned corridor is available to wildlife because these areas are not developed and are in a relatively natural condition. Although the EIS does not address ownership, just habitat availability, it recognizes the indirect benefit to wildlife resulting from the ability to conduct hydrologic restoration under alternative 3.

Concern ID: 50929

CONCERN STATEMENT: One commenter asserted that there would not be long-term, moderate, adverse impacts from the construction of the transmission lines and access roads under alternatives 1b, 2, 3, 4, and 5 because the transmission line rights-of-way would not create barriers to animal movement and would not result in agricultural or wetland habitat losses. Individual losses of small animals would not affect local or regional populations, displacement of individuals would be temporary, and construction could be timed to avoid sensitive times of the year. Also, the post-construction right-of-way would serve as suitable habitat for many species.

Response: The NPS disagrees with the commenter; species that are less mobile or dormant at times may not be able to climb to the elevation of the access road, pass under the access road (e.g., where there is no culvert), or fly past the transmission lines or guy wires. Furthermore, the construction of the line and access roads increases the likelihood that early successional nonnative plants would replace native habitats, which would result at a minimum in temporary displacement during construction and the permanent introduction of habitat fragmentation.

Additionally, it is impossible for the project to avoid sensitive time frames of all species. Birds may be less abundant during the cooler and drier weather, but reptiles and amphibians would be most vulnerable during this time because they could be less active or dormant. Therefore, individual impacts to special-status species could adversely affect the entire population, depending on the size of the local population.

Concern ID: 50930

CONCERN STATEMENT: One commenter stated that the draft EIS is not accurate in its description that FPL would build some transmission lines in the area of possible relocated corridor because neither the 2008 Contingent Agreement nor the 2009 Omnibus Land Management Act place those limitations on FPL.

Response: The NPS disagrees with the commenter. The 2009 Omnibus Land Management Act, § 7107(b)(3)(B) states, “The Land exchange under subparagraph (A) shall be subject to such terms and conditions as the Secretary may require.” Further, the 2008 Contingent Agreement states that FPL also conditioned negotiations with the USACE, and obtained agreements with all other parties necessary to complete the exchange. The terms and conditions in these agreements do place such limitations on FPL.

Concern ID: 50931

CONCERN STATEMENT: One commenter noted that the draft EIS does not address the time value of hydrological benefits and subsequent impact on wildlife of any alternative, and that alternative 2 would delay hydrological restoration for years because the NPS would have to obtain a Congressional appropriation to pay for FPL property.

Response: The NPS disagrees with the commenter. Alternative 2, the direct acquisition alternative, was identified as the environmentally preferable alternative by the NPS. All other action alternatives (alternatives 1b, 3, 4, and 5) would result in construction of transmission lines within the EEEA boundary and would disrupt the hydrologic and ecologic restoration efforts within and around the park and/or cause adverse impacts on park wildlife.

Regarding alternative 2, land acquisitions would facilitate Everglades restoration efforts by removing an obstacle that prevents hydrologic restoration in the NESRS. Restoration currently planned under the MWD project would result in ecological benefits across 109,000 acres of Everglades National Park. This alternative would not necessarily delay restoration for years. See response to concern 50837. The EIS assumes, for the purpose of this alternative, the NPS would in fact be able to carry out the acquisition. Information about costs and the availability of appropriated funds will be relevant to the decision, but is not part of the environmental impact analysis.

The FPL property in the EEEA is not the final remaining inholding and its acquisition is not the final step in the CERP. Once completed, this action would fully meet the hydrologic objective and would have long-term, beneficial effects on species with aquatic-based habitats.

Concern ID: 50932

CONCERN STATEMENT: One commenter noted that the draft EIS does not define exactly what are “indirect long-term benefits to wildlife,” but does discuss adverse impacts in alternative 1a. The commenter requested that the final EIS should provide a balanced discussion of the benefits and impacts of each alternative.

Response: The NPS disagrees with the commenter. Indirect, long-term benefits to wildlife are discussed in table 3 and chapter 4, under alternatives 2 and 5. These indirect benefits include transferring the FPL property or flowage easement rights of the FPL West Secondary Corridor to the NPS and acquisition of flowage easements by the NPS. These actions have immediate, indirect, long-term benefits to wildlife because a transmission line would not be built in a location that would fragment the habitat. Instead, these actions would put the initial hydrologic pieces in place that would provide the flexibility required to directly benefit and restore wildlife populations, habitats, and water quality for the long term.

Concern ID: 50933

CONCERN STATEMENT: One commenter asserted that the draft EIS overstates impacts to wildlife under alternatives 1b-5 because FPL would manage vegetation on the transmission line right-of-way by a variety of methods that would enhance wildlife use potential.

Response: The NPS disagrees with the commenter. Numerous species in the project area would be disturbed in the short term during construction and would be affected by the presence of transmission lines, guy wires, and roads in what is now undisturbed wetland habitat. Furthermore, the transmission line and access roads would result in the fragmentation of existing habitat. The text recognizes that impacts would vary among species and alternatives.

Concern ID: 50935

CONCERN STATEMENT: One commenter asserted that proposed culverts would not affect a number of large fish or disrupt the natural fish community because a combination of various sizes and types of culverts are expected to be used to maintain existing unimpeded flow patterns, hydroperiods, and pool equilibrium.

Response: The text on page 269 of the draft EIS states that "The impacts… on movement of aquatic wildlife are expected to be long term, moderate adverse, depending on culvert or wildlife crossing design" and the NPS believes that is an accurate assessment of potential impacts based on the current level of design and the effects that can occur. The NPS maintains that culverts can alter native habitats by creating areas of warmer water temperatures and longer hydroperiods, and that these factors can alter native fish populations in ways that would be outside the range of natural variability.

WQ4000 - Water Quality: Impact of Proposal and Alternatives

Concern ID: 50942

CONCERN STATEMENT: Commenters stated that the construction, operation, and maintenance of transmission lines, including access roads and structure pads, would avoid adverse impacts to water quality under any alternative in the draft EIS. Impacts in the draft EIS are overstated because adverse impacts to water quality under any alternative would be no more than short term and negligible. FPL has committed to using measures to avoid impacts, including use of clean fill where required, and implementation of industry accepted best management practices (BMPs) for sedimentation and erosion control. Additionally, the transmission lines would be designed to preserve flows and hydroperiods. FPL would not contribute to drying and wetting periods in the wetlands that could impact phosphorus concentration or methylation of mercury.

Response: Although the transmission line structure pads can be configured to minimize impacts to both hydrology and water quality, and FPL may design transmission lines as stated, the tower pads would still permanently alter the area, which would in turn permanently affect flows and water quality. Impacts during construction can be mitigated but residual impacts would still be noted along the length of the line and are characterized as negligible up to moderate in intensity, meaning that impacts would be measurable and regional. In addition, without a flowage easement under alternative 1b, it is not possible to assume that enhanced flows would be accommodated. Therefore the NPS must assume that associated impacts to water quality would occur, including extended periods of drying and rewetting and associated production of methyl mercury. Under alternatives 2, 3, 4, and 5, the NPS would ensure that enhanced flows could be accommodated and impacts related to drying and wetting would be reduced.

Concern ID: 50943

CONCERN STATEMENT: One commenter disagreed with the statement in the draft EIS that the fill typically used in the region has higher levels of phosphorus and suspended solids that would affect surface runoff, even with the use of BMPs. The commenter stated that the FPL would implement such BMPs to protect against sediment and any sorbed nutrients that may reach nearby waters and vegetation. These BMPs are accepted standards in the industry for controlling sedimentation, turbidity, and erosion where construction would otherwise impact waterways. The commenter also stated that the use of a personal communication as the basis for a finding in an EIS is not appropriate.

Response: Implementation of BMPs is a good engineering practice to control sediment transport. In many construction projects, BMPs are effective in preventing adverse effects from sediment mobilization. In the Everglades, adverse effects from construction activities are

much more difficult to control or mitigate. A change in vegetation, from sawgrass to cattails or woody vegetation, is typically observed near sites where roads, canals, or levees have been built. While a change in vegetation is readily observed, the cascading adverse effects in the rest of the flora and fauna is not always apparent. For example, cattail/wood vegetation often blocks sunlight and hinders photosynthesis in the aquatic system, depressing oxygen levels. Without adequate oxygen levels, fish densities decrease, which decreases the value of the habitat for sustaining upper level trophic species, such as wading birds. The personal communication cited only identifies a potential impact and was included to robustly consider the potential effects of the project. This information was not the sole basis for the NPS evaluation of impacts. The personal communication was from a local expert in water quality in the Everglades, and the NPS believes it is appropriate to at least consider this information and cite its source.

Concern ID: 50944

CONCERN STATEMENT: The commenter disagrees with the statement in the impact analysis that dewatering in connection with the use of the auger truck and hole would create localized, minor to moderate impacts on water quality because FPL would use industry standard management practices to prevent or minimize adverse impacts on water quality. Additionally, returning the groundwater to the park would not cause water quality impacts because it is the same groundwater that is currently returned to the park from the levee systems.

Response: The NPS disagrees with the commenter because localized, adverse impacts to water quality may result from discharge of sediment-laden water, ground disturbance resulting from driving an auger truck to drill sites, and the activity associated with drilling. Following industry standard measures would reduce potential impacts and prevent them from becoming widespread, but these standards would not avoid all impacts. Returning groundwater from augering is expected to include sediment and different or elevated levels of chemical constituents that result from the augering and would not otherwise be present in groundwater. These impacts would result in localized, minor to moderate impacts, although they are not expected to be extensive.

Concern ID: 50945

CONCERN STATEMENT: One commenter stated that the cumulative impacts and conclusions sections for water quality impacts focus on the corridors and not on the broader Everglades area and do not appropriately consider the regional hydrologic benefits from alternatives 1b, 3, 4, and 5.

Response: The projects considered as contributing cumulative impacts to water quality under all the alternatives, including alternatives 1b, 3, 4, and 5 are the same, and they are all regional in magnitude. The placement of the transmission line corridor and whether or not a flowage easement is in place that would legally allow for the enhanced flows, are considerations in the magnitude of the impact of the alternative and the relative contribution of the impacts of that alternative to the overall cumulative scenario. Beneficial effects from the flowage under alternatives 1b, 3, 4, and 5 are recognized in the cumulative impact analyses. The farther west the transmission line is located, the more potential it has to affect the success of the restoration efforts regionally. This factor is also included in the cumulative impacts analysis.

Concern ID: 50946

CONCERN STATEMENT: One commenter questioned the conclusion that alternative 1b would have “appreciable long-term impacts” because the conclusion is vague and does not comply with the EIS thresholds for adverse impacts. The commenter also disagreed that the impacts would be appreciable and stated that impacts on water quality from alternative 1b would be short term and negligible. Similarly, the commenter stated that impacts under alternative

5 would be short term and negligible because of the management practices that would be used during construction and the overall design of the transmission line.

Response: The use of the terms "noticeable" and "appreciable" when discussing cumulative impacts is to give the reader an idea of the relative contribution of impacts from a given alternative to the overall cumulative scenario, with "appreciable" being greater in magnitude than "noticeable." These terms are not used to quantify the impacts. See an explanation of this terminology in the draft EIS, chapter 4, page 197. See also the response to concern statement 50942 concerning impact analysis for this alternative.

Concern ID: 50947

CONCERN STATEMENT: One commenter disagreed with text in the EIS regarding impacts of construction of transmission lines in the FPL West Preferred Corridor and stated that the preferred corridor would be designed with water conveyance systems such as culverts to avoid compartmentalization and additional water quality impacts between the transmission lines and the levee.

Response: Although the proposed culverts would allow surface water conveyance across a proposed access road, the hydrologic conveyance/connectivity would be reduced relative to the fully connected marsh. Consequently, the NPS concludes that the EIS accurately characterizes the condition after construction of an access road in the marsh as "more compartmentalized."

Concern ID: 50948

CONCERN STATEMENT: One commenter stated that the FPL proposed corridor would stop sheetflow and create point sources that adversely affect water quality, as indicated by Dr. Richards in his testimony. The final EIS should incorporate details from Dr. Richards' work and hearing testimony.

Response: In assessing expected impacts on water quality, the NPS considered published literature, technical reports, unpublished reports, and professional experience, including testimony provided. The NPS agrees that at some scale, construction of transmission lines and infrastructure would alter sheetflow and potentially result in point-source discharges, such as with the use of culverts. These results may affect water quality. This information has been included in the final EIS.

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 wise use of our land and water resources, protecting our fish and wildlife, 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. The department also promotes the goals of the Take Pride in America campaign by encouraging stewardship and citizen responsibility for the public lands and promoting 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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