OPERATING AGREEMENT BETWEEN THE JACKSONVILLE DISTRICT OF THE U.S. ARMY CORPS OF ENGINEERS, THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION, NORTHWEST FLORIDA WATER MANAGEMENT DISTRICT THE SOUTH FLORIDA WATER MANAGEMENT DISTRICT, THE ST. JOHNS RIVER WATER MANAGEMENT DISTRICT, THE SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT, AND THE SUWANNEE RIVER WATER MANAGEMENT DISTRICT CONCERNING REGULATORY PROGRAMS FOR ACTIVITIES IN WETLANDS AND OTHER SURFACE WATERS, INCLUDING WATERS OF THE UNITED STATES

I. PARTIES, PURPOSE AND GOALS

A. The Parties

The Parties to this Agreement are the Jacksonville District of the United States Army Corps of Engineers (Corps), Florida Department of Environmental Protection (Department), Northwest Florida Water Management District (NWFWMD), South Florida Water Management District (SFWMD), St. Johns River Water Management District (SJRWMD), Southwest Florida Water Management District (SWFWMD), and Suwannee River Water Management District (SRWMD) (collectively referred to as "Districts"). Where the Department or a District has delegated responsibilities to a local government in accordance with section 373.441, Florida Statutes (F.S.), this Agreement shall also apply to those local governments that have been delegated such authority as of the effective date of this Agreement.

B. Purpose

The purpose of this Agreement is to coordinate the permitting, compliance and enforcement programs of the Parties concerning regulation of activities that affect waters of the United States (WOUS) under the jurisdiction of the Corps, and wetlands and other surface waters under the jurisdiction of the Department or the Districts within the state of Florida. This Agreement shall apply to Department of the Army permits ("DA Permits") issued by the Corps pursuant to Section 404 of the Clean Water Act, Section 10 of the Rivers and Harbors Act of 1899 or Section 103 of the Marine Protection, Research and Sanctuaries Act and to permits issued by the Districts or the Department pursuant to part IV of chapter 373, F.S. ("State permits"). This Agreement describes the interaction between the Parties and is subject to the respective laws and implementing regulations and policies of the Parties.

This Agreement supersedes the Agreement entered on November 30, 1998, entitled "Operating Agreement Between the U.S. Army Corps of Engineers, the Florida Department of Environmental Protection, the South Florida Water Management District, the St. Johns River Water Management District, the Southwest Florida Water Management District, and the Suwannee River Water Management District Concerning Regulatory Programs for Activities in Wetlands

and Other Surface Waters."

C. Goals

It is a goal of the Parties to this Agreement to effectuate efficient, streamlined regulatory programs that govern activities affecting wetlands and other surface waters, including jurisdictional WOUS. Towards this goal, the Parties have established joint application forms and agree, where possible, to coordinate the distribution and review of information received during the permit application review process. Other streamlining measures to be explored and further developed by the Parties include joint field inspections and pre-application meetings, coordinated, complementary enforcement efforts, and the Corps's state programmatic and regional general permits. Additionally, in order to further streamline the permitting process, the agencies agree to continue to jointly review the wetland delineation methodologies of the state and the Corps to identify any differences and explore ways to further resolve or overcome these differences. Further, the Parties may explore methods to integrate the principles of ecosystem management within their existing legal authority in order to achieve more effective environmental protection.

II. WATER QUALITY CERTIFICATION

By letter dated January 15, 1998, to the Secretary of the Department of Environmental Protection, the Governor of the State of Florida, under the authority in 33 U.S.C., Sections 1341 and 1362 (the Clean Water Act), and 40 C.F.R. 121.1(e), designated the Department as the agency responsible for certifying compliance with applicable state water quality standards for federal licenses or permits issued by the Corps under Section 404 of the Clean Water Act, 33 U.S.C. 1344. That letter granted the Department the authority to issue, deny, or waive certification of compliance with water quality standards, the authority to identify categories of activities for which water quality certification is waived, and the authority to establish categories of State permits or other authorizations for which the issuance (or denial) of the permit or authorization constitutes a certification (or denial of certification) that the permitted or authorized activity complies with (or fails to comply with) applicable state water quality standards. By letter dated February 2, 1998, to the Administrator of the Environmental Protection Agency, the Secretary of the Department of Environmental Protection, as delegated by the Governor of the State of Florida, designated certain permits under part IV of chapter 373, F.S., and other authorizations as constituting state certification of compliance with state water quality standards unless the permit or other authorization specifically states otherwise, established categories of activities for which water quality certification is waived, and delegated concurrent authority to issue, deny or waive water quality certifications to a District created under section 373.069, F.S., or to the head of a county, municipality or local government local pollution control program where such county, municipality, or local government pollution control program has received delegation of the permitting authority from the Department or a District under section 373.441, F.S. In accordance with these letters, the Parties agree to the following regarding water quality certification.

A. Grants or Waivers of Water Quality Certification

1. Each of the following will constitute the granting of water quality certification by the Department or Districts, unless a State permit is issued pursuant to the net improvement provisions for water quality provided by section 373.414(1)(b), F.S., or unless otherwise specifically stated in the State permit or authorization.

   (a) Noticed general environmental resource permits and wetland resource general permits under part IV of chapter 373, F.S.

   (b) Standard, general, standard general, individual, or conceptual approval environmental resource permits, and individual wetland resource permits issued under part IV of chapter 373, F.S.

   (c) Management and storage of surface waters permits for agricultural activities or agricultural water management systems issued under part IV of chapter 373, F.S.

   (d) Joint coastal permits issued under section 161.055 and part IV of chapter 373, F.S.

   (e) Individual and conceptual mitigation bank permits issued under part IV of chapter 373, F.S.

   (f) A written final order granting “certification" under one of the following siting acts by the Governor and Cabinet as the Siting Board, the Florida Land and Water Adjudicatory Commission, or by the Department of Environmental Protection, as appropriate:

      (1) The Florida Electric Power Plant Siting Act, sections 403.501- .519, F.S. (2011), as amended;

      (2) The Florida Transmission Line Siting Act, sections 403.501 - .5365, F.S., together with sections 403.537-.539, F.S. (2011), as amended; or

      (3) The Natural Gas Transmission Pipeline Siting Act, sections 403.9401-.9425, F.S. (2011), as amended.

   (g) Consent decrees, orders, or agreements issued by the Department, a District, or a delegated local government under section 373.441, F.S. (hereinafter the term “Department or District’ shall also include local governments delegated in accordance with Section 373.441, F.S.), where such consent decree, order, or agreement authorizes activities which would otherwise require a permit under part IV of chapter 373, F.S.

2. Water quality certification will be considered waived for the following:

(a) Activities, other than agricultural activities or agricultural water management systems, exempt by rule or statute from the requirement to obtain an environmental resource permit and a wetland resource permit under part IV of chapter 373, F.S., including activities that fall below permitting thresholds;

(b) Agricultural activities or agricultural water management systems exempt by rule or statute from the requirement to obtain an environmental resource permit and a management and storage of surface waters permit under part IV of chapter 373, F.S., including activities that fall below permitting thresholds;

(c) Activities permitted or authorized, as described in Sections II. A. 1(a) through (g), when the permit or authorization is issued pursuant to the net improvement provisions for water quality provided by paragraph 373.414(1)(b), F.S.;

(d) Activities permitted or authorized in Sections II. A. 1(a) through (g) when the permit or authorization expressly waives water quality certification.

B. Denial of Water Quality Certification

Unless otherwise stated in the denial document, the denial of the State permit or authorization, listed in Section II.A.1. of this Agreement shall constitute denial of the state water quality certification. Where a final Department or District action on an application for a permit listed in Section II.A.1. of this Agreement cannot be made within the time frames specified in Section II.C. of this Agreement and the application otherwise does not meet the criteria for issuance of a permit, the Department or District may deny water quality certification for the activity described in the permit application in order to meet the time clock requirements in Section II.C.

C. Time Frames

Once the Department or the District determines that an application for a permit listed under Section II.A.1. of this Agreement is complete, the Department or District shall have 365 days to act on the certification, or the certification shall be considered waived.

D. Corps Nationwide Permits

For nationwide permits that have received water quality certification by the Department, or where water quality certification has been waived by the Department or District, no individual water quality certification is necessary. For those Corps nationwide permits that were conditioned upon individual review of the water quality certification by the Department or District, or that have been denied water quality certification by the Department or District, state water quality certification for an individual proposed activity shall be made in accordance with

Sections II. A - C.

III. COASTAL ZONE CONSISTENCY CONCURRENCE (CZCC)

In accordance with section 373.428, F.S., final agency action by the Department or District on a permit application submitted under part IV of chapter 373, F.S., that is subject to a consistency review under section 380.23, F.S., shall constitute the state's determination as to whether the activity is consistent with the federally approved Coastal Management Program. The Parties agree to the following procedures regarding coastal zone consistency determinations.

A. Determination of Concurrence

The following will constitute a finding of concurrence with the state's coastal zone management program for the activity authorized thereby:

1. Noticed general environmental resource permits and wetland resource general permits under part IV of chapter 373, F.S.;

2. Standard, general, standard general, individual, or conceptual approval environmental resource permits and individual wetland resource permits issued under part IV of chapter 373, F.S.;

3. Joint coastal permits issued under section 161.055 and part IV of chapter 373, F.S.;

4. Individual and conceptual mitigation bank permits issued under section 161.055 and part IV of chapter 373, F.S.; and

5. Management and storage of surface waters permits for agricultural activities or agricultural water management systems issued under part IV of chapter 373, F.S.

B. Determination of Inconsistency

The denial of a permit listed in Section III. A. of this Agreement shall constitute a finding that the activity is inconsistent with the state's coastal zone management program.

C. Time Frames

The time frame for a coastal zone concurrence begins upon a determination by the Department or the District that an application for a permit listed in Section III.A. of this Agreement is complete. The coastal zone consistency decision must be made within 180 days after the application is considered complete by the Department or District and in accordance with the procedures in 15 C.F.R. 930

Subpart D. At the end of 180 days, if a determination of coastal zone consistency has not been made, concurrence will be conclusively presumed, unless the applicant and the Department or District have agreed to waive the 180-day time clock pursuant to 15 C.F.R. 930.60(b).

D. **Corps Nationwide Permits**

For nationwide permits that have been determined to be consistent with the state's coastal zone management program, no individual coastal zone consistency concurrence determination is necessary. For those Corps nationwide permits where consistency with the state coastal zone management program is conditioned upon individual review of the coastal zone management consistency by the state of Florida, or has been denied by Florida, the final consistency concurrence determination for a proposed activity shall be made in accordance with Sections III A - C.

E. **Exemptions**

Pursuant to section 380.23(7), F.S., applications for federally permitted or licensed activities that qualify for an exemption under section 373.406 or 403.813(1), F.S., are not eligible to be reviewed for federal consistency with part IV of chapter 373, F.S. For purposes of this Agreement, the Corps or any designated Federal, State or local agency administering general permits on behalf of the Corps under 33 C.F.R. § 325.2(b)(2) may presume CZCC by operation of Section 380.23(7), F.S., for such exempt activities, provided the activity receives the applicable authorization to use and occupy state-owned submerged lands under chapter 253, F.S., and, as applicable, chapter 258, F.S., and the rules of the Florida Administrative Code adopted thereunder. For purposes of this agreement, the Corps or any designated Federal, State or local agency administering general permits on behalf of the Corps shall not be precluded from acting on the DA permit before the applicable authorization under chapter 253, F.S., and, as applicable, chapter 258, F.S., is obtained or granted, because it is understood such authorization must be obtained prior to persons using or occupying state-owned submerged lands.

IV. PERMIT APPLICATION COORDINATION

A. Joint Application Forms

The Parties have developed comprehensive, integrated joint permit application forms to initiate processing of permit applications required by each of the Parties. For activities that require a DA Permit and an environmental resource permit under part IV of chapter 373, F.S., the "Joint Application for Environmental Resource Permit/Authorization to Use State Lands/Federal Dredge and Fill Permit," the "Application for a Joint Coastal Permit," or the "Joint Application Forms and Instructions for Wetland Resource Alterations (Dredging & Filling) in the Waters of Florida" will be used. For activities that require a DA Permit and a wetland resource permit under the provisions of Section 373.4145(6) or

373.414(11) - (16), F.S., the "Joint Application For Works in the Waters of Florida" and the "Notice of Intent to Construct Works Pursuant to a Wetland Resource General Permit" will be used.

B. Processing of Applications

Except as provided below for E-permitting, for activities that do not qualify for processing as “green” under the State Programmatic General Permit, once a joint application, a request for permit modification, or a request for verification of exempt status is submitted by an applicant to the Department or District, the responsible agency (in accordance with the division of responsibilities in the Operating Agreements in effect between the Department and Districts) will, forward the following information to the Corps office with responsibility for processing the corresponding DA Permit application. All forwarded materials will include a Department or District application processing number

1. Forwarding Received Applications;

   Within five working days of receipt, the Department or District, as applicable, will forward to the Corps, either by mail or electronically via a mutually agreed upon protocol:

   (a) For WRP applications, a copy of the application, all submitted maps, drawings, and any other information accompanying the application or request;

   (b) For ERP applications, including mitigation banks, that have one or more of the following items provided or identified, one copy of the Notice of Receipt of the Application (Section C of the Joint Application) with its accompanying maps, drawings and any other information accompanying the application or request:

      (1) A completed Corps’ Data Entry Sheet;

      (2) Any indication in the application that work is occurring, or appears to be occurring, in, on, or over wetlands and other surface waters.

      (3) A type of DA Permit or enforcement action is requested or is identified as pending, issued or denied at the location of the activity. The Corps number starts with an “SAJ” and the four digit year (prior to 1990 the number started with a two digit year); the number also may include staff initials.

      (4) An indication in the application that a member of the Corps has attended a pre-application meeting.

2. Forwarding of Applications and Material Received During Processing:

(a) For WRP and ERP applications, including mitigation banks, that meet the criteria of IV.B.1., the Department or District, as applicable, will, within five working days of sending to the applicant, forward one copy of all Requests for Additional Information (RAIs) to the Corps.

(b) For those applications not copied to the Corps in which either state or federal wetlands within the proposed activity or future phases are discovered during the evaluation, the Department or District, as applicable, will, within five working days of this discovery, forward the Corps one copy of the Notice of Receipt of the Application (Section C of the Joint Application) with its accompanying maps, drawings, and activity descriptions, together with a copy of any RAIs that have been generated.

(c) A copy of materials subsequently submitted. Individual Corps offices will coordinate with individual Department and District offices to identify the manner in which the Corps wants such documents forwarded to it.

3. Forwarding Modifications and Materials:

Within five working days of receipt of a modification request, the Department or District, as applicable, will forward to the Corps, either by mail or electronically via a mutually agreed upon protocol, a copy of the request with all attached maps, drawings, and any other information accompanying the request.

4. E-Permitting — For Department or District offices that electronically post applications, RAIs, modifications, and related materials to the Internet, an .ftp site, or another site accessible to the Corps, the Department or District shall first coordinate with the Corps to ensure the electronic posting procedure is compatible with the needs of the Corps. If the Department or the District's electronic posting procedure is not compatible with the Corps's requirements, the Department or District shall continue to mail materials to the Corps.

5. In those cases where the Corps receives a copy of the joint application, an application to modify a permit, a notice to use a noticed general permit, a request to verify qualification for an exemption, or a request to verify that an activity does not require a permit directly from an applicant, the Corps shall retain one copy of the application and all accompanying materials and send all other copies and materials to the appropriate office of the Department or District. The Corps shall include its processing number with this information.

6. The Department or District shall not be obligated to forward documents or materials to the Corps that are confidential under chapter 119, F.S. In such cases the Corps will request the applicant, permittee, or sponsor to provide such information directly to the Corps as needed.

7. In those cases where the Corps has made a "no permit required" (NPR) determination on an application that is under review by the Department or District,

the Corps will furnish a copy of the determination to the Department or District. The Corps will include the applicant's name, location, brief project name/description, and, if known, the Department or District application file number. The Department or District will no longer be required to provide information to the Corps subsequent to receiving this notification unless the project is modified to include additional impacts to wetlands or other surface waters.

C. Mitigation Bank and In-lieu Fee Review

1. Interagency Review Team

Interagency review of mitigation bank applications and establishment of in-lieu fee programs is required by 33 C.F.R. § 332.8(b) and serves to facilitate a more efficient and effective review of such applications. The Corps's District Engineer will establish an Interagency Review Team (IRT) to review documentation for the establishment and management of mitigation banks and in-lieu fee programs. He or his designated representative serves as Chair of the IRT. In cases where a mitigation bank or in-lieu fee program involves an activity that is proposed to satisfy state statutory requirements, it may be appropriate for either the Department or District to serve as Co-Chair of the IRT. For purposes of this Agreement, the "administering agency" is defined as a member of either the Department or the applicable District. The IRT may include representatives from tribal, state, and local regulatory and resource agencies when such agencies have authorities or mandates directly affecting, or affected by, the establishment, operation, or use of the mitigation bank or in-lieu fee program. The District Engineer will give full consideration to any comments and advice received within time limits specified at 33 C.F.R. § 332.8. The Department and the Districts will give full consideration to any comments and advice received within the time limits specified in chapter 120, F.S. The District Engineer retains final authority for the approval of the instruments and other documentation required by the Corps. The Department and the Districts retain final authority for the approval of state permits or other documentation required by the state.

2. Team Coordination

An application to the Department or Districts for a mitigation bank shall be coordinated with the Corps in accordance with the Permit Application Coordination section IV. B. of this Agreement. When the Corps receives a mitigation bank or in-lieu-fee prospectus or draft prospectus, copies shall be provided to the Department or applicable District, along with other IRT members. In addition, the IRT shall coordinate, review, and take action on the items required by 33 C.F.R. § 332.8.

D. Distribution of Agency Actions

For applications that meet the criteria of section IV.B.1, IV.B.2, or IV.B.3 above,

the Department or District, as applicable, will, within five working days of sending to the applicant/permittee, forward to the Corps a copy of all final permitting actions, including copies of permits, formal or major permit modifications, permit denials, application withdrawals, exemption verification letters, and the cover letter for formal determinations.

The Corps shall forward to the Department or Districts, as appropriate, copies of notices of intent to issue standard permits, final actions on standard permits, and "no permit required" determinations within five working days of taking such actions.

V. MITIGATION FINANCIAL ASSURANCE

A. When the type and amount of the financial assurance obtained or required by the Department or District for compensatory mitigation, including mitigation banks, as part of a permit issued under part IV of chapter 373, F.S., adequately addresses the financial assurance requirements of the Corps, the Corps may determine that additional financial assurance is not necessary for that compensatory mitigation project or mitigation bank.

B. The Corps's concurrence with the Department's or District's financial assurance mechanism shall be subject to the applicant, sponsor, or permittee agreeing to the following requirements:

1. The Corps shall notify the Department or District in all cases where the Corps is relying on the financial assurance mechanism accepted by the Department or District so that the Department or District can coordinate with the Corps prior to modification, amendment, partial release, termination, or revocation of the financial assurance instrument.

2. The financial assurance instrument shall be in place prior to commencement of the permitted activity.

3. Disbursements from these financial assurance instruments can only be made with direction and approval of the Department or District as applicable after prior notice has been given to the Corps in accordance with 4., below.

4. The Corps permit shall require that the permittee shall provide the Corps written notice at least 120 days in advance of any termination or revocation of any financial assurance instrument by the financial institution, and notice at least 30 days in advance of modifications, amendments, and partial releases.

C. If, at any time, the Corps determines that the type or amount of the financial assurance mechanism being proposed for a State permit under part IV of chapter 373, F.S., is not sufficient to meet the Corps' requirements for a DA Permit or a mitigation banking instrument or in-lieu fee instrument and those requirements are

within the scope of such state permit, the Corps may require the applicant, sponsor, or permittee for the DA Permit to request that the Department or District modify the permit under part IV of chapter 373, F.S., as applicable, to require an additional amount or alternative type of financial assurance mechanism to meet the Corps' requirements. In such a case:

1. The financial assurance instrument shall be in place prior to commencing the permitted activity;

2. Prior to any disbursements under the financial assurance instruments, the Department or District shall coordinate with the Corps at least 30 days prior to such disbursement being made, but the final decision on the disbursement shall be made by the Department or District;

3. Notification of such disbursements shall be provided to the Corps within 10 days after the disbursement;

4. The Corps permit shall require that the permittee shall provide the Corps written notice at least 120 days in advance of any termination or revocation of any financial assurance instrument by the financial institution, and notice at least 30 days in advance of modifications, amendments, and partial releases.

Notwithstanding the above, the Department or District is not obligated to accept financial assurance mechanisms that are not required to satisfy the permit requirements under part IV of chapter 373, F.S.

D. If the Corps requires an alternative type or an additional amount of financial assurance to meet Corps mitigation requirements outside of the scope of the State permit, the Department or District is not obligated to be a party to any instrument related to that assurance.

VI. MITIGATION SITE PROTECTION

Long-term protection of a mitigation site or preservation to prevent secondary impacts for a State permit, mitigation bank instrument, or as the result of an enforcement action under part IV of chapter 373, F.S., may be provided through the conveyance of a conservation easement or restrictive covenants in accordance with Section 704.06,
F. S., or by transfer of title to the Department or District (hereinafter all referred to as "site protection instrument").

In accordance with 33 C.F.R. § 332.7(a)(1), when such a site protection instrument meets the Corps' requirements for mitigation site protection for the corresponding DA Permit for the same activities, the Corps may agree that the site protection instrument granted to the Department or District provides sufficient site protection, and not require an applicant, sponsor, or permittee to provide an amended, additional, or duplicative mitigation site protection instrument. When the Department or District accepts a site protection instrument in the form of a restrictive covenant or deed

restriction, the Corps may determine that an applicant needs to execute a conservation easement.

A. When the Department or District agrees to hold or amend a site protection instrument which provides rights to the Corps, the Department and District agree to accept a site protection instrument containing, or that is amended to contain, the following language, unless alternative language is needed on a case-specific basis:

> "WHEREAS, the U.S. Army Corps of Engineers Permit No. _____ (Corps Permit) authorizes certain activities in the waters of the United States and requires this site protection instrument over the lands identified in Exhibit XX as mitigation for such activities;
>
> "Rights of the U.S. Army Corps of Engineers ("Corps"): The Corps, as a third party beneficiary, shall have the right to enforce the terms and conditions of the site protection instrument, including:
>
> "1. The right to take action to preserve and protect the environmental value of the Property;
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> "2. The right to prevent any activity on the Property that is inconsistent with the purpose of this instrument, and to require the restoration of areas or features of the Property that may be damaged by any inconsistent activity;
>
> "3. The right to enter upon and inspect the Property in a reasonable manner and at reasonable times to determine if Grantor or its successors and assigns are complying with the covenants and prohibitions contained in this instrument;
>
> "4. The right to enforce this instrument by injunction or proceed at law or in equity to enforce the provisions of this instrument and the covenants set forth herein, to prevent the occurrence of any of the prohibited activities hereinafter set forth, and the right to require Grantor, or its successors and assigns, to restore such areas or features of the Property that may be damaged by unauthorized activities; and
>
> "5. The Grantor, including their successors or assigns, shall provide the Corps at least 60 days advance notice in writing before any action is taken to amend, alter, release, or revoke this instrument. The Grantee shall provide reasonable notice and an opportunity to comment or object to the release or amendment to the U.S. Army Corps of Engineers. The Grantee shall consider any comments or objections from the U.S. Army Corps of Engineers when making the final decision to release or amend such a conservation easement."

B. When the Corps requires additional protection or additional mitigation lands for an

activity that has a corresponding State permit, mitigation bank instrument, or enforcement instrument under part IV of chapter 373, F.S., and the Department or the District is willing to accept the additional or amended site protection instrument, the instrument shall include the following additional provision:

> "The Grantor, including their successors or assigns, shall provide the Corps at least 60 days advance notice in writing before any action is taken to amend, alter, release, or revoke this instrument. The Grantee shall provide reasonable notice and an opportunity to comment or object to the release or amendment to the U.S. Army Corps of Engineers. The Corps, as third party beneficiary, must approve any amendment, alteration, release or revocation of this instrument, and must approve any proposed structures, work, or activities on the Property that require approval by the Grantee."

C. When the Department or District does not agree or is unable to modify the permit, mitigation bank instrument, or enforcement instrument under part IV of chapter 373, F.S., or any existing site protection instrument to include the additional mitigation land needed to meet the Corps's requirements, the Department or District may agree to accept a separate mitigation site protection instrument over the additional land. If the Department or District agrees to accept a separate mitigation site protection instrument over the additional land, the Department or District agree that the instrument shall be accepted with the following additional provision:

> "The Grantor, including their successors or assigns, shall provide the Corps at least 60 days advance notice in writing before any action is taken to amend, alter, release, or revoke this instrument. The Grantee shall provide reasonable notice and an opportunity to comment or object to the release or amendment to the U.S. Army Corps of Engineers. The Corps, as third party beneficiary, must approve any amendment, alteration, release or revocation of this instrument, and must approve any proposed structures, work, or activities on the Property that require approval by the Grantee."

D. In any case where the Department or District agrees to hold or amend a site protection instrument which provides rights to the Corps, as described above, the Corps shall notify the applicable Department or District office within 10 days of any discovery of a violation of the terms and conditions of the site protection instrument, and shall coordinate with the applicable Department or District office prior to requiring restoration of areas or features of the Property that were damaged by unauthorized activities so that any restoration activities receive applicable authorization required under part IV of chapter 373, F.S.

E. In the event a site protection instrument has already been recorded on behalf of the Department or District for the same activity that will be authorized under a corresponding DA Permit or mitigation bank or in-lieu fee instrument that does not include the "Rights of the Corps" language in VILA., above, the Corps may require the applicant, permittee, or sponsor to request that the Department or District

modify their respective permit, mitigation bank instrument or enforcement instrument with its associated site protection instrument to include that language.

F. The Department and the District do not agree to accept a site protection instrument on behalf of the Corps when there is no corresponding permit under part IV of chapter 373, F.S., for the activity that is subject to a DA permit.

G. In all cases, the Corps shall not request an applicant, permittee, or sponsor to record any site protection instrument granted to the Department or District without first coordinating with and obtaining a letter of concurrence from the applicable office of the Department or District; however, final approval of this request may be required from the District Governing Board. Failure to obtain such written concurrence shall result in any such recorded site protection instrument being considered an invalid conveyance of the interest to the Department or District.

H. In any case when the Corps requires the applicant, permittee, or sponsor to obtain an additional site protection instrument, the Corps agrees to take responsibility for all negotiations with the applicant, permittee, or sponsor associated with processing and preparation of the site protection instrument required by the Corps, including review of the title work. The Corps also shall take responsibility for all steps required to have the site protection instrument recorded, including any subsequent amendments or releases of any site protection instrument previously recorded on behalf of the Department or District, and for sending an original copy of the recorded site protection instrument, and any modifications and releases thereto, to the applicable Department or District office that serves the area in which the site protection instrument is recorded. The Corps also agrees to monitor for compliance and pursue needed enforcement, including litigation, to enforce the terms and conditions of the site protection instrument obtained over any lands that were not required to be protected under the permit, mitigation bank instrument, or enforcement instrument under part IV of chapter 373, F.S.

I. The Parties agree to coordinate in the event compliance monitoring of the protected lands identifies the need for enforcement.

VII. COMPLIANCE AND ENFORCEMENT

Upon discovery of an unauthorized or non-compliant activity in WOUS, wetlands, or other surface waters, the Party discovering the activity will notify the appropriate Party to this Agreement regarding the unauthorized or non-compliant activity. The Parties may coordinate their enforcement activities when appropriate in order to maximize limited agency resources and encourage compliance. Regardless of any coordination that may occur, each Party will maintain independent enforcement authority and discretion.

VIII. INTERAGENCY MEETINGS

A. Permitting Meetings

Subject to fiscal or travel restrictions, each Party agrees to host interagency permitting meetings on a rotating basis. The time and place of all the meetings will be addressed at the beginning of each calendar year. Because interagency meetings between the Parties and other agencies can serve as a good forum to aid communication, exchange information, conduct pre-application meetings, or to resolve outstanding permitting issues, each Party will endeavor to have a representative attend all interagency meetings.

B. Enforcement Meetings

Subject to fiscal or travel restrictions, representatives of the Parties' enforcement staff shall endeavor to meet at least annually. If possible, the meeting should take place at Enforcement Workshops hosted by the Department or District, but local meetings in areas of operation are also appropriate and encouraged. The meeting should address issues related to implementation of section VII of this Agreement.

C. Cross Training

The Parties agree to provide opportunities, when possible, for cross-training. This may take the form of: providing spaces in formally scheduled training courses; providing training sessions at each others' training events; providing personnel and opportunities for cross-training through developmental assignments; sharing interpretations of agency rules and procedures; and performing joint formal and informal training on other subjects of mutual interest.

IX. ELECTRONIC COORDINATION

To the extent practicable, the Parties agree to use electronic media for the transfer of data to facilitate information exchange. The Parties agree to participate in future efforts to enhance electronic communication necessary to achieve their regulatory missions.

X. DELEGATED PROGRAMS

Where the Department or Districts delegate to a local government all or a portion of the permitting or enforcement authority under part IV of chapter 373, F.S., the delegation agreement shall include a provision that the local government shall be subject to all the terms and conditions of this Agreement, although the Corps, with the concurrence of the delegating agency, may allow deviations from these terms and conditions.

XI. EFFECTIVE DATE

This Agreement shall take effect upon execution by all the Parties. In witness whereof, the Parties hereto have caused this Agreement to be executed by their duly authorized representatives on the latest day and year provided below.

XII. TERMINATION

Any Party who wishes to terminate this Agreement with or without cause shall provide 60 days prior written notice to the other Parties. The notice submitted by the Corps shall be signed by the District Engineer of the Jacksonville District. The notice submitted by a District shall be signed by the Chair of the Governing Board. The notice submitted by the Department shall be signed by the Secretary. By mutual agreement of all Parties, the 60 day notice period may be reduced. Within 30 days of a notice of intent to terminate this Agreement, all Parties shall make good faith efforts to preserve the Agreement by attempting to resolve any basis for the termination. This Agreement also may be terminated by future agreements between the Parties that whi~~ch~~ expressly supersede this Agreement.

Herschel T. Vinyard Jr.
Secretary
Florida Department of
Environmental Protection

9/4/12
Date

Lad Daniels
Chair, Governing Board
St. Johns River Water
Management District

4/10/12
Date

Joe Collins
Chair, Governing Board
South Florida Water
Management District

4/12/2012
Date

Donald J. Quincey, Jr.
Chair, Governing Board
Suwannee River Water
Management District

8-14-12
Date

Hugh M. Gramling
Vice Chair, Governing Board
Southwest Florida Water
Management District

5/22/12
Date

Alan M. Dodd
Colonel, U. S. Army
District Commander

9-4-12
Date

George Roberts
Chair, Governing Board
Northwest Florida Water
Management District

4/30/12
Date

16 USC 668-668d
Bald and Golden Eagle Protection Act

SUBCHAPTER II—PROTECTION OF BALD AND GOLDEN EAGLES

Release date: 2004-04-30

§ 668. Bald and golden eagles

(a) Prohibited acts; criminal penalties
Whoever, within the United States or any place subject to the jurisdiction thereof, without being permitted to do so as provided in this subchapter, shall knowingly, or with wanton disregard for the consequences of his act take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or in any manner any bald eagle commonly known as the American eagle or any golden eagle, alive or dead, or any part, nest, or egg thereof of the foregoing eagles, or whoever violates any permit or regulation issued pursuant to this subchapter, shall be fined not more than $5,000 or imprisoned not more than one year or both: Provided, That in the case of a second or subsequent conviction for a violation of this section committed after October 23, 1972, such person shall be fined not more than $10,000 or imprisoned not more than two years, or both: Provided further, That the commission of each taking or other act prohibited by this section with respect to a bald or golden eagle shall constitute a separate violation of this section: Provided further, That one-half of any such fine, but not to exceed $2,500, shall be paid to the person or persons giving information which leads to conviction: Provided further, That nothing herein shall be construed to prohibit possession or transportation of any bald eagle, alive or dead, or any part, nest, or egg thereof, lawfully taken prior to June 8, 1940, and that nothing herein shall be construed to prohibit possession or transportation of any golden eagle, alive or dead, or any part, nest, or egg thereof, lawfully taken prior to the addition to this subchapter of the provisions relating to preservation of the golden eagle.
(b) Civil penalties
Whoever, within the United States or any place subject to the jurisdiction thereof, without being permitted to do so as provided in this subchapter, shall take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or in any manner, any bald eagle, commonly known as the American eagle, or any golden eagle, alive or dead, or any part, nest, or egg thereof of the foregoing eagles, or whoever violates any permit or regulation issued pursuant to this subchapter, may be assessed a civil penalty by the Secretary of not more than $5,000 for each such violation. Each violation shall be a separate offense. No penalty shall be assessed unless such person is given notice and opportunity for a hearing with respect to such violation. In determining the amount of the penalty, the gravity of the violation, and the demonstrated good faith of the person charged shall be considered by the Secretary. For good cause shown, the Secretary may remit or mitigate any such penalty. Upon any failure to pay the penalty assessed under this section, the Secretary may request the Attorney General to institute a civil action in a district court of the United States for any district in which such person is found or resides or transacts business to collect the penalty and such court shall have jurisdiction to hear and decide any such action. In hearing any such action, the court must sustain the Secretary's action if supported by substantial evidence.
(c) Cancellation of grazing agreements
The head of any Federal agency who has issued a lease, license, permit, or other agreement authorizing the grazing of domestic livestock on Federal lands to any person who is convicted of a violation of this subchapter or of any permit or regulation issued hereunder may immediately cancel each such lease, license, permit, or other agreement. The United States shall not be liable for the payment of any compensation, reimbursement, or damages in connection with the cancellation of any lease, license, permit, or other agreement pursuant to

this section.

§ 668a. Taking and using of the bald and golden eagle for scientific, exhibition, and religious purposes

Whenever, after investigation, the Secretary of the Interior shall determine that it is compatible with the preservation of the bald eagle or the golden eagle to permit the taking, possession, and transportation of specimens thereof for the scientific or exhibition purposes of public museums, scientific societies, and zoological parks, or for the religious purposes of Indian tribes, or that it is necessary to permit the taking of such eagles for the protection of wildlife or of agricultural or other interests in any particular locality, he may authorize the taking of such eagles pursuant to regulations which he is hereby authorized to prescribe: Provided, That on request of the Governor of any State, the Secretary of the Interior shall authorize the taking of golden eagles for the purpose of seasonally protecting domesticated flocks and herds in such State, in accordance with regulations established under the provisions of this section, in such part or parts of such State and for such periods as the Secretary determines to be necessary to protect such interests: Provided further, That bald eagles may not be taken for any purpose unless, prior to such taking, a permit to do so is procured from the Secretary of the Interior: Provided further, That the Secretary of the Interior, pursuant to such regulations as he may prescribe, may permit the taking, possession, and transportation of golden eagles for the purposes of falconry, except that only golden eagles which would be taken because of depredations on livestock or wildlife may be taken for purposes of falconry: Provided further, That the Secretary of the Interior, pursuant to such regulations as he may prescribe, may permit the taking of golden eagle nests which interfere with resource development or recovery operations.

§ 668b. Enforcement provisions

(a) Arrest; search; issuance and execution of warrants and process
Any employee of the Department of the Interior authorized by the Secretary of the Interior to enforce the provisions of this subchapter may, without warrant, arrest any person committing in his presence or view a violation of this subchapter or of any permit or regulations issued hereunder and take such person immediately for examination or trial before an officer or court of competent jurisdiction; may execute any warrant or other process issued by an officer or court of competent jurisdiction for the enforcement of the provisions of this subchapter; and may, with or without a warrant, as authorized by law, search any place. The Secretary of the Interior is authorized to enter into cooperative agreements with State fish and wildlife agencies or other appropriate State authorities to facilitate enforcement of this subchapter, and by said agreements to delegate such enforcement authority to State law enforcement personnel as he deems appropriate for effective enforcement of this subchapter. Any judge of any court established under the laws of the United States, and any United States magistrate judge may, within his respective jurisdiction, upon proper oath or affirmation showing probable cause, issue warrants in all such cases.
(b) Forfeiture
All bald or golden eagles, or parts, nests, or eggs thereof, taken, possessed, sold, purchased, bartered, offered for sale, purchase, or barter, transported, exported, or imported contrary to the provisions of this subchapter, or of any permit or regulation issued hereunder, and all guns, traps, nets, and other equipment, vessels, vehicles, aircraft, and other means of transportation used to aid in the taking, possessing, selling, purchasing, bartering, offering for sale, purchase, or barter, transporting, exporting, or importing of any bird, or part, nest, or egg thereof, in violation of this subchapter or of any permit or regulation issued hereunder shall be subject to forfeiture to the United States.
(c) Customs laws applied
All provisions of law relating to the seizure, forfeiture, and condemnation of a vessel for violation of the customs laws, the disposition of such vessel or the proceeds from the sale thereof, and the remission or mitigation of such forfeitures, shall apply to the seizures and forfeitures incurred, or alleged to have been incurred, under the provisions of this subchapter, insofar as such provisions of law are applicable and not

inconsistent with the provisions of this subchapter: Provided, That all powers, rights, and duties conferred or imposed by the customs laws upon any officer or employee of the Treasury Department shall, for the purposes of this subchapter, be exercised or performed by the Secretary of the Interior or by such persons as he may designate.

§ 668c. Definitions

As used in this subchapter "whoever" includes also associations, partnerships, and corporations; "take" includes also pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb; "transport" includes also ship, convey, carry, or transport by any means whatever, and deliver or receive or cause to be delivered or received for such shipment, conveyance, carriage, or transportation.

§ 668d. Availability of appropriations for Migratory Bird Treaty Act

Moneys now or hereafter available to the Secretary of the Interior for the administration and enforcement of the Migratory Bird Treaty Act of July 3, 1918 [16 U.S.C. 703 et seq.], shall be equally available for the administration and enforcement of this subchapter.

HABITAT MANAGEMENT GUIDELINES FOR THE WOOD STORK IN THE SOUTHEAST REGION

HABITAT MANAGEMENT GUIDELINES FOR THE WOOD STORK IN THE SOUTHEAST REGION

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HABITAT MANAGEMENT GUIDELINES FOR THE WOOD STORK IN THE SOUTHEAST REGION

Introduction

A number of Federal and state laws and/or regulations prohibit, cumulatively, such acts as harrassing, disturbing, harming, molesting, pursuing, etc., wood storks, or destroying their nests (see Section VII). Although advisory in nature, these guidelines represent a biological interpretation of what would constitute violations of one or more of such prohibited acts. Their purpose is to mainain and/or improve the environmental conditions that are required for the survival and well-being of wood storks in the southeastern United States, and are designed essentially for application in wood stork/human activity conflicts (principally land development and human intrusion into stork use sites). The emphasis is to avoid or minimize detrimental human-related impacts on wood storks. These guidelines were prepared in consultations with state wildlife agencies and wood stork experts in the four southeastern states where the wood stork is listed as Endangered (Alabama, Florida, Georgia, South Carolina).

General

The wood stork is a gregarious species, which nests in colonies (rookeries), and roosts and feeds in flocks, often in association with other species of long-legged water birds. Storks that nest in the southeastern United States appear to represent a distinct population, separate from the nearest breeding population in Mexico. Storks in the southeastern U.S. population have recently (since 1980) nested in colonies scattered throughout Florida, and at several central-southern Georgia and coastal South Carolina sites. Banded and color-marked storks from central and southern Florida colonies have dispersed during non-breeding seasons as far north as southern Georgia, and the coastal counties in South Carolina and southeastern North Carolina, and as far west as central Alabama and northeastern Mississippi. Storks from a colony in south-central Georgia have wintered between southern Georgia and southern Florida. This U.S. nesting population of wood storks was listed as endangered by the U.S. Fish and Wildlife Service on February 28, 1984 (*Federal Register* 49(4):7332-7335).

Wood storks use freshwater and estuarine wetlands as feeding, nesting, and roosting sites. Although storks are not habitat specialists, their needs are exacting enough, and available habitat is limited enough, so that nesting success and the size of regional populations are closely regulated by year-to-year differences in the quality and quantity of suitable habitat. Storks are especially sensitive to environmental conditions at feeding sites; thus, birds may fly relatively long distances either daily or between regions annually, seeking adequate food resources.

All available evidence suggests that regional declines in wood stork numbers have been largely due to the loss or degradation of essential wetland habitat. An understanding of the qualities of good stork habitat should help to focus protection efforts on those sites

that are seasonally important to regional populations of wood storks. Characteristics of feeding, nesting, and roosting habitat, and management guidelines for each, are presented here by habitat type.

I. Feeding habitat.

A major reason for the wood stork decline has been the loss and degredation of feeding habitat. Storks are especially sensitive to any manipulation of a wetland site that results in either reduced amounts or changes in the timing of food availability.

Storks feed primarily (often almost exclusively) on small fish between 1 and 8 inches in length. Successful foraging sites are those where the water is between 2 and 15 inches deep. Good feeding conditions usually occur where water is relatively calm and uncluttered by dense thickets of aquatic vegetation. Often a dropping water level is necessary to concentrate fish at suitable densities. Conversely, a rise in water, especially when it occurs abruptly, disperses fish and reduces the value of a site as feeding habitat.

The types of wetland sites that provide good feeding conditions for storks include: drying marshes or stock ponds, shallow roadside or agricultural ditches, narrow tidal creeks or shallow tidal pools, and depressions in cypress heads or swamp sloughs. In fact, almost any shallow wetland depression where fish tend to become concentrated, either through local reproduction or the consequences of area drying, may be used by storks.

Nesting wood storks do most of their feeding in wetlands between 5 and 40 miles from the colony, and occasionally at distances as great as 75 miles. Within this colony foraging range and for the 110-150 day life of the colony, and depending on the size of the colony and the nature of the surrounding wetlands, anywhere from 50 to 200 different feeding sites may be used during the breeding season.

Non-breeding storks are free to travel much greater distances and remain in a region only for as long as sufficient food is available. Whether used by breeders or non-breeders, any single feeding site may at one time have small or large numbers of storks (1 to 100+), and be used for one to many days, depending on the quality and quantity of available food. Obviously, feeding sites used by relatively large numbers of storks, and/or frequently used areas, potentially are the more important sites necessary for the maintenance of a regional population of birds.

Differences between years in the seasonal distribution and amount of rainfall usually mean that storks will differ between years in where and when they feed. Successful nesting colonies are those that have a large number of feeding site options, including sites that may be suitable only in years of rainfall extremes. To maintain the wide range of feeding site options requires that many different wetlands, with both relatively short and long annual hydroperiods, be preserved. For example, protecting only the larger wetlands, or those with longer annual hydroperiods, will result in the eventual loss of smaller, seemingly less important wetlands. However, these small scale wetlands are crucial as the only available feeding sites during the wetter periods when the larger habitats are too deeply flooded to be used by storks.

II. Nesting habitat.

Wood storks nest in colonies, and will return to the same colony site for many years so long as that site and surrounding feeding habitat continue to supply the needs of the birds. Storks require between 110 and 150 days for the annual nesting cycle, from the period of courtship until the nestlings become independent. Nesting activity may begin as early as December or as late as March in southern Florida colonies, and between late February and April in colonies located between central Florida and South Carolina. Thus, full term colonies may be active until June-July in south Florida, and as late as July-August at more northern sites. Colony sites may also be used for roosting by storks during other times of the year.

Almost all recent nesting colonies in the southeastern U.S. have been located either in woody vegetation over standing water, or on islands surrounded by broad expanses of open water. The most dominant vegetation in swamp colonies has been cypress, although storks also nest in swamp hardwoods and willows. Nests in island colonies may be in more diverse vegetation, including mangroves (coastal), exotic species such as Australian pine (*Casuarina*) and Brazilian Pepper (*Schinus*), or in low thickets of cactus (*Opuntia*). Nests are usually located 15-75 feet above ground, but may be much lower, especially on island sites when vegetation is low.

Since at least the early 1970's, many colonies in the southeastern U.S. have been located in swamps where water has been impounded due to the construction of levees or roadways. Storks have also nested in dead and dying trees in flooded phosphate surface mines, or in low, woody vegetation on mounded, dredge islands. The use of these altered wetlands or completely "artificial" sites suggests that in some regions or years storks are unable to locate natural nesting habitat that is adequately flooded during the normal breeding season. The readiness with which storks will utilize water impoundments for nesting also suggests that colony sites could be intentionally created and maintained through long-term site management plans. Almost all impoundment sites used by storks become suitable for nesting only fortuitously, and therefore, these sites often do not remain available to storks for many years.

In addition to the irreversible impacts of drainage and destruction of nesting habitat, the greatest threats to colony sites are from human disturbance and predation. Nesting storks show some variation in the levels of human activity they will tolerate near a colony. In general, nesting storks are more tolerant of low levels of human activity near a colony when nests are high in trees than when they are low, and when nests contain partially or completely feathered young than during the period between nest construction and the early nestling period (adults still brooding). When adult storks are forced to leave their nests, eggs or downy young may die quickly (<20 minutes) when exposed to direct sun or rain.

Colonies located in flooded environments must remain flooded if they are to be successful. Often water is between 3 and 5 feet deep in successful colonies during the nesting season. Storks rarely form colonies, even in traditional nesting sites, when they are dry, and may abandon nests if sites become dry during the nesting period. Flooding in colonies may be most important as a defense against mammalian predators. Studies of stork colonies in Georgia and

Florida have shown high rates of raccoon predation when sites dried during the nesting period. A reasonably high water level in an active colony is also a deterrent against both human and domestic animal intrusions.

Although nesting wood storks usually do most feeding away from the colony site (>5 miles), considerable stork activity does occur close to the colony during two periods in the nesting cycle. Adult storks collect almost all nesting material in and near the colony, usually within 2500 feet. Newly fledged storks, near the end of the nesting cycle, spend from 1-4 weeks during the fledging process flying locally in the colony area, and perched in nearby trees or marshy spots on the ground. These birds return daily to their nests to be fed. It is essential that these fledging birds have little or no disturbance as far our as one-half mile within at least one or two quadrants from the colony. Both the adults, while collecting nesting material, and the inexperienced fledglings, do much low, flapping flight within this radius of the colony. At these times, storks potentially are much more likely to strike nearby towers or utility lines.

Colony sites are not necessarily used annually. Regional populations of storks shift nesting locations between years, in response to year-to-year differences in food resources. Thus, regional populations require a range of options for nesting sites, in order to successfully respond to food availability. Protection of colony sites should continue, therefore, for sites that are not used in a given year.

III. **Roosting habitat.**

Although wood storks tend to roost at sites that are similar to those used for nesting, they also use a wider range of site types for roosting than for nesting. Non-breeding storks, for example, may frequently change roosting sites in response to changing feeding locations, and in the process, are inclined to accept a broad range of relatively temporary roosting sites. Included in the list of frequently used roosting locations are cypress "heads" or swamps (not necessarily flooded if trees are tall), mangrove islands, expansive willow thickets or small, isolated willow "islands" in broad marshes, and on the ground either on levees or in open marshes.

Daily activity patterns at a roost vary depending on the status of the storks using the site. Non-breeding adults or immature birds may remain in roosts during major portions of some days. When storks are feeding close to a roost, they may remain on the feeding grounds until almost dark before making the short flight. Nesting storks traveling long distances (>40 miles) to feeding sites may roost at or near the latter, and return to the colony the next morning. Storks leaving roosts, especially when going long distances, tend to wait for mid-morning thermals to develop before departing.

IV. **Management zones and guidelines for feeding sites.**

To the maximum extent possible, feeding sites should be protected by adherence to the following protection zones and guidelines:

A. There should be no human intrusion into feeding sites when storks are present. Depending upon the amount of screening vegetation, human activity should be no closer than between 300 feet (where solid vegetation screens exist) and 750 feet (no vegetation screen).

B. Feeding sites should not be subjected to water management practices that alter traditional water levels or the seasonally normal drying patterns and rates. Sharp rises in water levels are especially disruptive to feeding storks.

C. The introduction of contaminants, fertilizers, or herbicides into wetlands that contain stork feeding sites should be avoided, especially those compounds that could adversely alter the diversity and numbers of native fishes, or that could substantially change the characteristics of aquatic vegetation. Increase in the density and height of emergent vegetation can degrade or destroy sites as feeding habitat.

D. Construction of tall towers (especially with guy wires) within three miles, or high power lines (especially across long stretches of open country) within one mile of major feeding sites should be avoided.

V. **Management zones and guidelines for nesting colonies.**

A. Primary zone: This is the most critical area, and must be managed according to recommended guidelines to insure that a colony site survives.

1. Size: The primary zone must extend between 1000 and 1500 feet in all directions from the actual colony boundaries when there are no visual or broad aquatic barriers, and never less than 500 feet even when there are strong visual or aquatic barriers. The exact width of the primary zone in each direction from the colony can vary within this range, depending on the amount of visual screen (tall trees) surrounding the colony, the amount of relatively deep, open water between the colony and the nearest human activity, and the nature of the nearest human activity. In general, storks forming new colonies are more tolerant of existing human activity, than they will be of new human activity that begins after the colony has formed.

2. Recommended Restrictions:

a. Any of the following activities within the primary zone, at any time of the year, are likely to be detrimental to the colony:

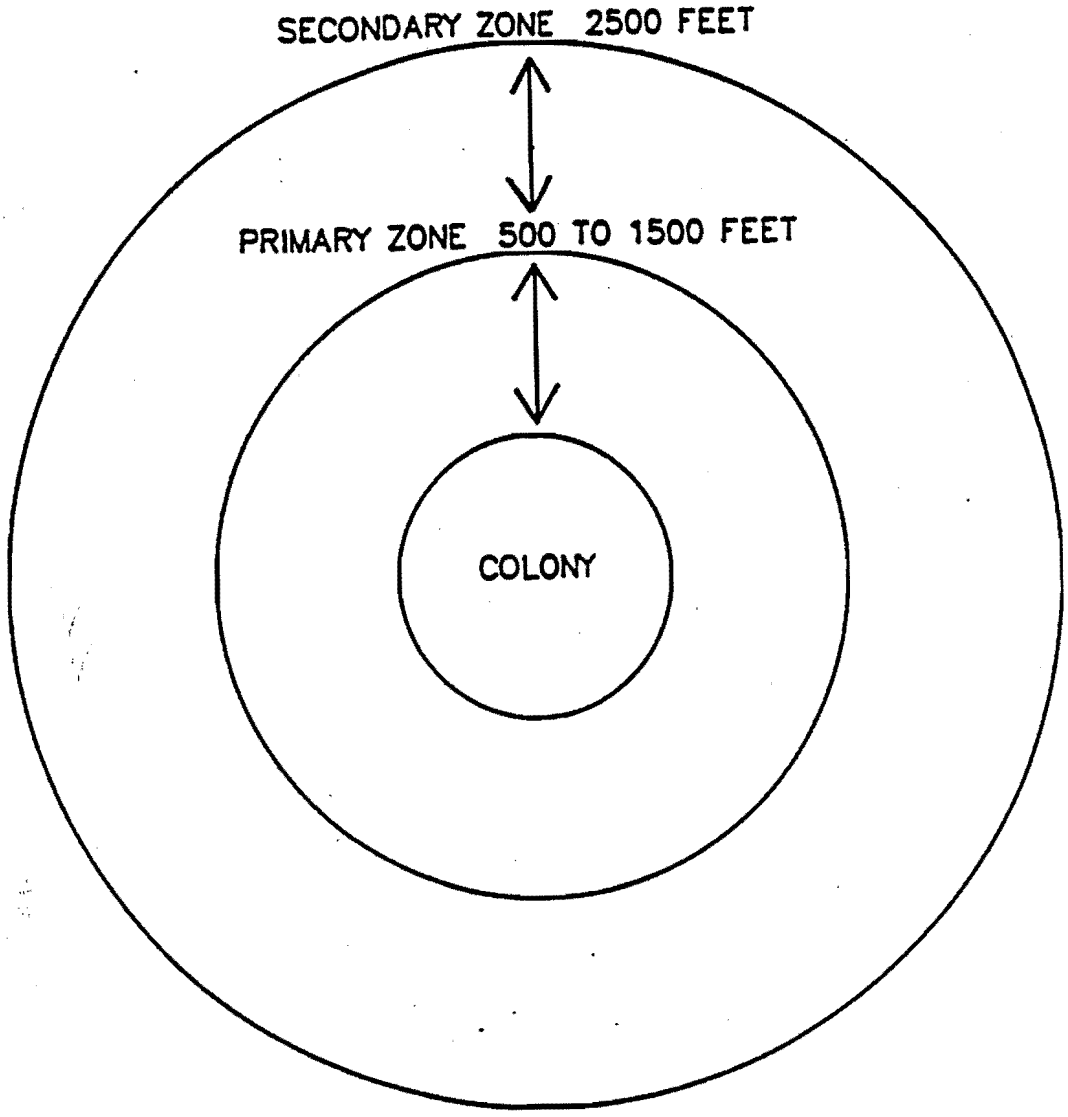
(1) Any lumbering or other removal of vegetation, and

(2) Any activity that reduces the area, depth, or length of flooding in wetlands under and surrounding the colony, except where periodic (less than annual) water control may be required to maintain the health of the aquatic, woody vegetation, and

(3) The construction of any building, roadway, tower, power line, canal, etc.

b. The following activities within the primary zone are likely to be detrimental to a colony if they occur when the colony is active:

(1) Any unauthorized human entry closer than 300 feet of the colony, and


SECONDARY ZONE 2500 FEET
PRIMARY ZONE 500 TO 1500 FEET
COLONY

(2) Any increase or irregular pattern in human activity anywhere in the primary zone, and

(3) Any increase or irregular pattern in activity by animals, including livestock or pets, in the colony, and

(4) Any aircraft operation closer than 500 feet of the colony.

B. Secondary Zone: Restrictions in this zone are needed to minimize disturbances that might impact the primary zone, and to protect essential areas outside of the primary zone. The secondary zone may be used by storks for collecting nesting material, for roosting, loafing, and feeding (especially important to newly fledged young), and may be important as a screen between the colony and areas of relatively intense human activities.

1. Size: The secondary zone should range outward from the primary zone 1000-2000 feet, or to a radius of 2500 feet of the outer edge of the colony.

2. Recommended Restrictions:

a. Activities in the secondary zone which may be detrimental to nesting wood storks include:

(1) Any increase in human activities above the level that existed in the year when the colony first formed, especially when visual screens are lacking, and

(2) Any alteration in the area's hydrology that might cause changes in the primary zone, and

(3) Any substantial (>20 percent) decrease in the area of wetlands and woods of potential value to storks for roosting and feeding.

b. In addition, the probability that low flying storks, or inexperienced, newly-fledged young will strike tall obstructions, requires that high-tension power lines be no closer than one mile (especially across open country or in wetlands) and tall trans-mission towers no closer than 3 miles from active colonies. Other activities, including busy highways and commercial and residential buildings may be present in limited portions of the secondary zone at the time that a new colony first forms. Although storks may tolerate existing levels of human activities, it is important that these human activities not expand substantially.

VI. Roosting site guidelines.

The general characteristics and temporary use-patterns of many stork roosting sites limit the number of specific management recommendations that are possible:

A. Avoid human activities within 500-1000 feet of roost sites during seasons of the year and times of the day when storks may be present. Nocturnal activities in active roosts may be especially disruptive.

B. Protect the vegetative and hydrological characteristics of the more important roosting sites--those used annually and/or used by flocks of 25 or more storks. Potentially, roosting sites may, some day, become nesting sites.

VII. Legal Considerations.

A. Federal Statutes

The U.S. breeding population of the wood stork is protected by the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.)(Act). The population was listed as endangered on February 28, 1984 (49 Federal *Register* 7332); wood storks breeding in Alabama, Florida, Georgia, and South Carolina are protected by the Act.

Section 9 of the Endangered Species Act of 1973, as amended, states that it is unlawful for any person subject to the jurisdiction of the United States to take (defined as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.") any listed species anywhere within the United States.

The wood stork is also federally protected by its listing (50 CFR 10.13) under the Migratory Bird Treaty Act (167 U.S.C. 703-711), which prohibits the taking, killing or possession of migratory birds except as permitted.

B. State Statutes

1. State of Alabama

Section 9-11-232 of Alabama's Fish, Game, and Wildlife regulations curtails the possession, sale, and purchase of wild birds. "Any person, firm, association, or corporation who takes, catches, kills or has in possession at any time, living or dead, any protected wild bird not a game bird or who sells or offers for sale, buys, purchases or offers to buy or purchase any such bird or exchange same for anything of value or who shall sell or expose for sale or buy any part of the plumage, skin, or body of any bird protected by the laws of this state or who shall take or willfully destroy the nests of any wild bird or who shall have such nests or eggs of such birds in his possession, except as otherwise provided by law, shall be guilty of a misdemeanor...

Section 1 of the Alabama Nongame Species Regulation (Regulation 87-GF-7) includes the wood stork in the list of nongame species covered by paragraph (4). " It shall be unlawful to take, capture, kill, possess, sell, trade for anything of monetary value, or offer to sell or trade for anything of monetary value, the following nongame wildlife species (or any parts or reproductive products of such species) without a scientific collection permit and written permission from the Commissioner, Department of Conservation and Natural Resources...."

2. State of Florida

Rule 39-4.001 of the Florida Wildlife Code prohibits "taking, attempting to take; pursuing, hunting, molesting, capturing, or killing (collectively defined as "taking"), transporting, storing, serving, buying, selling,

possessing, or wantonly or willingly wasting any wildlife or freshwater fish or their nests, eggs, young, homes, or dens except as specifically provided for in other rules of Chapter 39, Florida Administrative Code.

Rule 39-27.011 of the Florida Wildlife Code prohibits "killing, attempting to kill, or wounding any endangered species." The "Official Lists of Endangered and Potentially Endangered Fauna and Flora in Florida" dated 1 July 1988, includes the wood stork, listed as "endangered" by the Florida Game and Fresh Water Fish Commission.

3. State of Georgia

Section 27-1-28 of the Conservation and Natural Resources Code states that "Except as otherwise provided by law, rule, or regulation, it shall be unlawful to hunt, trap, fish, take, possess, or transport any nongame species of wildlife..."

Section 27-1-30 states that, "Except as otherwise provided by law or regulation, it shall be unlawful to disturb, mutilate, or destroy the dens, holes, or homes of any wildlife; "

Section 27-3-22 states, in part, "It shall be unlawful for any person to hunt, trap, take, possess, sell, purchase, ship, or transport any hawk, eagle, owl, or any other bird or any part, nest, or egg thereof...".

The wood stork is listed as endangered pursuant to the Endangered Wildlife Act of 1973 (Section 27-3-130 of the Code). Section 391-4-13-.06 of the Rules and Regulations of the Georgia Department of Natural Resources prohibits harassment, capture, sale, killing, or other actions which directly cause the death of animal species protected under the Endangered Wildlife Act. The destruction of habitat of protected species on public lands is also prohibited.

4. State of South Carolina

Section 50-15-40 of the South Carolina Nongame and Endangered Species Conservation Act states, "Except as otherwise provided in this chapter, it shall be unlawful for any person to take, possess, transport, export, process, sell, or offer of sale or ship, and for any common or contract carrier knowingly to transport or receive for shipment any species or subspecies of wildlife appearing on any of the following lists: (1) the list of wildlife indigenous to the State, determined to be endangered within the State...(2) the United States' List of Endangered Native Fish and Wildlife... (3) the United States' List of Endangered Foreign Fish and Wildlife ..."

BALD EAGLE MANAGEMENT PLAN

Haliaeetus leucocephalus

Adopted:
April 9, 2008

FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION
620 South Meridian Street
Tallahassee, Florida 32399-1600

BALD EAGLE MANAGEMENT PLAN TEAM

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	Gil McRae, Director Fish and Wildlife Research Institute
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	Education and Outreach:	Judy Gillan
	Eagle Research and Surveys:	Stephen B. Nesbitt
	Executive Director's Office:	Dennis David

EXECUTIVE SUMMARY

The dramatic recovery of the bald eagle (*Haliaeetus leucocephalus*) in the past 35 years represents one of the great conservation success stories in our nation's history. This management plan provides the framework for the conservation and management of the bald eagle in Florida to ensure its continued recovery. This plan meets the requirements of the Florida Fish and Wildlife Conservation Commission's (FWC) listing process (Rule 68A-27.0012, *Florida Administrative Code* [F.A.C.]). The listing process was initiated in July 2002, when the FWC was petitioned to reevaluate the status of the bald eagle, which was considered a threatened species in Florida (Rule 68A-27.004, F.A.C.). Action on the petition was delayed due to a listing moratorium, which was lifted in April 2005.

Following the guidance of FWC's listing process, a five-member biological review panel was approved in June 2005. The panel assessed the eagle's population and distribution data against species-imperilment criteria (Rule 68A-1.004, F.A.C.), and determined that the bald eagle no longer met the criteria for state listing at any level. As a result, the panel unanimously recommended that the bald eagle be removed from Florida's list of imperiled species. The panel also acknowledged the importance of protecting nest sites, and suggested that continued protection of nesting habitats was necessary to sustain recovery of the species (Sullivan *et al.* 2006). The decision to delist the bald eagle in Florida is based on the following biological data: (1) bald eagles occur throughout the state; (2) the population does not experience extreme fluctuations in distribution or numbers; (3) the estimated number of adults has increased more than 300% during the past three eagle generations (defined in this document as a total of 24 years); and (4) the population is not expected to experience significant declines over the next 24 years.

The continental bald eagle population began to decline in the 18th century as a result of habitat loss and direct persecution. The decline intensified during the mid-20th century with widespread use of organochlorine pesticides such as DDT compounding the losses from habitat destruction and shooting. DDT was used widely in the U.S. until it was banned in 1972, in part because it caused eggshell thinning in raptors, resulting in widespread reproductive failure.

Bald eagles reclaimed their entire historic range by the late 1990s, and their estimated population in the Lower 48 states increased from an estimated 417 pairs in 1963 to 9,789 pairs by 2007. Bald eagles have met or exceeded the population goals established in each of the five regional recovery plans, and in August 2007, the U.S. Fish and Wildlife Service (USFWS) removed the species from the list of species protected by the Endangered Species Act. The USFWS recovery plan for the southeastern United States established 400 bald eagle nesting territories as the number necessary to down-list the Florida population from endangered to threatened, and 1,000 nesting territories in the state as one criterion for delisting the eagle nationally. By early 2007, there were 1,218 active bald eagle nesting territories in Florida (FWC unpublished data).

The goal of this management plan is to maintain a stable or increasing population of bald eagles throughout Florida in perpetuity. To achieve this goal, bald eagles and their nests must continue to be protected through science-based management, regulation, public education, and law enforcement. Continued conservation efforts are required to prevent a population decline of 10% or more that might trigger a re-evaluation for relisting the bald eagle. To maintain the

conservation goal, this management plan establishes four conservation objectives that will be calculated annually as five-year running averages. All of these objectives have already been met, and maintaining these objectives will assure that the goal of this management plan is met: (1) a minimum of 1,020 nesting territories per year over the next 24 years; (2) an average of 68% of nesting territories producing ≥1 nestling per year; (3) an average reproductive success of ≥1.5 fledglings per active nest; and (4) maintain the current area of occupancy (>770 mi^2) and extent of occurrence (52,979 mi^2) of eagles statewide.

In addition to being our national symbol, reasons for continued conservation, management, and monitoring of Florida's bald eagles include the following: (1) Florida supports 11% of the nesting population in the Lower 48 states, more than any state other than Alaska and Minnesota; (2) 67% of all eagle nests in the state are located on private lands; (3) disturbance can negatively affect the reproductive success of nesting eagles; (4) growth of Florida's human population assures continued encroachment into eagle nesting and foraging habitats; and (5) the public insists on continued conservation of this magnificent species. The FWC's biological review panel determined that Florida's eagle population would not experience significant declines over the next three generations, but acknowledged that protection of nest sites should continue. This plan proposes continued regulation of nesting habitats during the first five years following delisting. The FWC will monitor Florida's eagle population and will study the effects of human activities near eagle nests. After five years, results of this research will be evaluated and regulations will be adjusted as appropriate.

To ensure that the conservation goal and objectives continue to be met, this management plan recommends a suite of conservation actions. These actions are best accomplished by applying an adaptive management approach that allows adjustment to policies, guidelines, and techniques based on science and observed responses to implemented conservation measures. The conservation actions are organized into the following sections or sub-sections: Habitat Management, Land Acquisition, Private Lands Incentives, Law Enforcement, Proposed Regulations, Permitting Framework April 2008, Local Government Coordination, Monitoring Plan, Education and Outreach, and Ongoing and Future Research.

Management of bald eagles in Florida through the implementation of this plan requires the cooperation of local, state, and federal governmental agencies; non-governmental organizations; business, agricultural, and forestry interests; universities; and the public. This plan was developed by the FWC in collaboration with a diverse group of stakeholders, and its successful implementation requires the cooperation of and coordination with other agencies, organizations, private interests, and individuals. Any significant changes to this management plan will be made with the involvement of our stakeholders.

The FWC formally solicited public comment and peer-review on the proposed delisting action of the bald eagle in Florida at several junctures of the delisting process and the writing of this management plan. Comment periods were noticed in the *Florida Administrative Weekly* to solicit: (1) information on the bald eagle's biological status to be considered during the development of the Biological Status Report for the Bald Eagle (Sullivan *et al.* 2006); (2) information on the management needs of the eagle and any economic, social, and ecological factors to consider as part of its management; and (3) public and stakeholder input on drafts of

the management plan. Public comments also were received following release of the Biological Status Report for the Bald Eagle in 2006, and at the September 2007 FWC Commission meeting when a draft of this Bald Eagle Management Plan and its associated rule changes were presented to the Commissioners and received conceptual approval. Following this meeting, the FWC created an "ad-hoc" committee of some of its most active bald eagle stakeholders, and this committee met several times into early 2008 to assist the FWC in resolving issues remaining with regulation and management of the state's bald eagle population.

Five years following approval of this plan, the FWC and its stakeholders will re-evaluate the biological status of the bald eagle in Florida. If nest-monitoring data suggest that modification of guidelines for the regulation of land uses surrounding eagle nests may be appropriate, then this management plan will be revised accordingly.

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GLOSSARY AND ACRONYMS

Abandoned Nest: A bald eagle nest that is intact or partially intact but has been inactive through six or more consecutive nesting seasons. While the buffer zone surrounding the nest is no longer protected, the nest itself may not be altered. *Compare with Alternate Nest*.

Active Nest: A nest that shows or showed evidence of breeding by bald eagles, such as an adult attending the nest or in incubating position, a clutch of eggs, or a brood of nestlings, at any time during the current or most recent nesting season.

Active Territory: A bald eagle nesting territory that contains or contained an active nest at any time during the current or most recent nesting season.

Adaptive Management: A decision process that promotes flexible decision-making that can be adjusted as outcomes from management actions and other events are better understood. Adaptive management recognizes the importance of natural variability in contributing to ecological resilience and productivity. It is not a "trial and error" process, but rather emphasizes "learning while doing."

Alternate Nest: A bald eagle nest that is intact or partially intact and has been used by bald eagles at any time during the past five nesting seasons, but that was not used during the current or most recent nesting season. An inactive nest is considered to be an alternate nest until it has been inactive for five consecutive nesting seasons, at which time it becomes an Abandoned Nest. Bald eagles often build multiple nests within their territory, but usually only one will be used for nesting in any given nesting season. *Compare with Abandoned Nest*.

Area of Occupancy: The smallest area of suitable habitats essential at any stage to the survival of bald eagles in Florida, based on the presumption that each active nesting territory contains 397–794 acres (1–2 km^2). Based on 1,101 known active territories, the Area of Occupancy of bald eagles in Florida was estimated to be between 658 and 1,275 mi^2 in early 2005 (Sullivan *et al.* 2006, Figure 2). To qualify for listing as a species of special concern in Florida, a species must have an area of occupancy of <700 square miles. *See also Extent of Occurrence*.

Bald and Golden Eagle Protection Act: The federal law enacted in 1940 that now serves as the primary protection for bald eagles nationally now that the eagle has been removed from protection under the U.S. Endangered Species Act.

Bald Eagle Conservation Fund: A fund to be established between the FWC and the Wildlife Foundation of Florida to collect "monetary contributions" (conservation funds) from the issuing of FWC Eagle Permits to applicants whose projects impact buffer zones of active or alternate bald eagle nests. Each year, the amount charged will change by an amount equal to the annual Consumer Price Index for the Southeast region, and will be based on changes during the CPU calendar year (1 January–31 December). The appropriate change to the monetary contribution should take effect on 1 March of each year because the CPI

for the previous year is usually not available until mid-February. The contribution will be calculated based on the date that a completed application is received by FWC.

Breeding Productivity: The number of nestlings produced by an eagle pair or population. Nestlings should be surveyed just before they fledge. The recommended procedure for determining breeding productivity is to divide the number of nestlings produced by the number of active nesting territories. *Compare with Reproductive Success*.

Communal Roost: An area where bald eagles gather and perch overnight, or and sometimes during the day during inclement weather. Communal roosts are usually in large trees (alive or dead) that are close to foraging areas. Communal roosts are rare in Florida.

Conservation Measures: One or more actions provided by landowners to benefit bald eagles in exchange for a permit to conduct an activity within the buffer zone of an active or alternate bald eagle nest in Florida..

Core Nesting Area: One of 16 regions in Florida that contains a high density of bald eagle nesting territories (Figure 3, page 7). Together, the core areas support a majority of the state's known active nesting territories. The core nesting areas are numbered chronologically from the year of discovery and are located in the following regions: (1) lakes Lochloosa, Newnans, and Orange in Alachua County; (2) Lake George in Lake, Marion, Putnam, and Volusia counties; (3) the middle St. Johns River in Brevard, Seminole, and Volusia counties; (4) the Kissimmee chain of lakes in Osceola and Polk counties; (5) the Placida Peninsula in Charlotte and Sarasota counties; (6) the Harris chain of lakes in Lake, Marion, and Sumter counties; (7) the Lee County coast; (8) St. Vincent National Wildlife Refuge in Franklin County; (9) St. Marks National Wildlife Refuge in Wakulla County; (10) the Lower St. Johns River in Clay, Flagler, and St. Johns counties; (11) Rodman Reservoir in Marion and Putnam counties; (12) the central Gulf Coast in Citrus, Hernando, and Pasco counties; (13) central Polk County; (14) Lake Istokpoga in Highlands County; (15) the northeast shore of Lake Okeechobee in Martin and Okeechobee counties; and (16) coastal Charlotte County.

Development of Regional Impact: A development that is likely to have regional effects beyond the local government jurisdiction in which it is located.

Disturb: (as defined by USFWS (2007b): "To agitate or bother a bald or golden eagle to the degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior."

Endangered Species Act: The federal law enacted in 1973 that offered primary protection nationally to bald eagles. When the bald eagle was removed from the list of species protected under the Endangered Species Act on 8 August 2007, the Bald and Golden Eagle Protection Act became the primary protection to eagles nationwide.

Extent of Occurrence: The area contained within a minimum convex polygon encompassing all known nesting territories. Based on 1,101 known active territories, the Extent of Occurrence of bald eagles in Florida was estimated to be 52,979 mi^2 in early 2005 (Sullivan *et al.* 2006). To qualify for listing as a species of special concern in Florida, a species must have an extent of occurrence of <7,700 mi^2. *See also Area of Occupancy*.

Exterior Construction: All construction and related work for homes or other buildings, including roads, sewer and water lines, powerlines, fill, or excavation work.

F.A.C.: Florida Administrative Code.

Fledgling: A young eagle that is capable of flight and that has left the nest, usually at 10–12 weeks of age. Fledglings may return to the nest for several weeks to be fed or to roost. *Compare with Nestling*.

FWC: The Florida Fish and Wildlife Conservation Commission, the state agency legally mandated to protect and manage Florida's native wildlife resources.

FWC Eagle Permit: A permit issued by the FWC to allow for activities that would otherwise be prohibited by law, such as disturbance, nest removal, capture for rehabilitation, or scientific collection. Some activities require conservation measures to be conducted before a permit will be issued. Because the USFWS has yet to finalize its permitting process, the relationship between state and federal permits remains to be determined, but the need for duplicative permits will be minimized to the greatest extent possible.

Harass: *see Disturb*.

Harm: *see Disturb*.

Inactive Nest: A bald eagle nest that was not used during the current or most recent nesting season. *See Abandoned Nest and Alternate Nest*.

Inactive Territory: A bald eagle nesting territory that does not contain an active nest during the current or most recent nesting season.

Interior Construction: Any activity or related work for homes or other buildings that is carried out inside a building that has completed exterior walls, roof, windows, and doors.

Land Development Code: Any ordinance that regulates development.

Local Government: Any agency or governmental body including state agencies such as the Florida Department of Environmental Protection and the five water management districts.

Lost Nest: A nest that is no longer present from natural causes (*e.g.*, one that fell apart or was blown out of a tree). In some cases, the nest tree itself may be lost. The FWC recommendations in the section entitled Permitting Framework April 2008 section apply

to lost nests through two complete, consecutive nesting seasons. *Compare with Abandoned Nest*.

Nest: A structure of sticks created, modified, or used by bald eagles for reproduction, whether or not reproduction was successful. Most nests are in living trees, but some nests are built in snags, on communication towers or other artificial structures, or on the ground. Most eagle territories contain more than one nest; the average across the eagle's range is 1.5 nests/territory. *See also Abandoned Nest, Active Nest, Alternate Nest, Lost Nest, and Unknown Nest*.

Nesting Season: In Florida, the period 1 October–15 May, unless the young fledge before or after 15 May.

Nesting Success: *See Breeding Productivity and Reproductive Success*.

Nesting Territory: The area associated with one breeding pair of bald eagles and that contains one or more nests. In rare cases, a nesting territory may lack a nest at the time of the survey, as when the nest is destroyed by severe weather.

Nestling: A young eagle (eaglet) that is incapable of flight and that is dependent on its parents. Once an eaglet fledges (*i.e.*, leaves the nest), it becomes a fledgling.

Non-Injurious Disturbance: Persistent and intentional disturbance to disperse bald eagles from a site, such as an airport or a fish hatchery, without physical capture or direct handling, or by any means likely to cause injury.

Permanent Activity: Any activity expected to disturb bald eagles during two or more nesting seasons.

Reproductive Success: The number of fledglings produced annually by a bald eagle pair. *Compare with Breeding Productivity*.

Scientific Collection Permit: A permit issued for activities that include salvage, voucher, bird banding, wildlife possession, or special purpose. Applications must demonstrate a scientific or educational benefit for bald eagles, and must identify the purpose, scope, objective, methodology, location, and duration of the project.

Similar scope: A measure comparing activities near bald eagle nests. An existing activity near a bald eagle nest is of similar scope to a proposed activity, when the project is similar in nature, size, and use.

Site Work: Construction activities such as land clearing or road building that precede construction of homes or other building.

Successful Nest: A bald eagle nest that produces at least one fledgling.

"Take" (as defined in 68A-1.004 F.A.C.): "Taking, attempting to take, pursuing, hunting, molesting, capturing, or killing any wildlife or freshwater fish, or their nests or eggs by any means whether or not such actions result in obtaining possession of such wildlife or freshwater fish or their nests or eggs."

Temporary Activity: 1) Outside the nesting season: any activity that will leave no permanent structure or have any permanent effect. 2) During the nesting season: any activity expected to disturb bald eagles during only one nesting season.

Unknown Nest: A bald eagle nest that was surveyed (usually only once) during the current or most recent nesting season, but that its status could not be determined.

U.S.C.: United States Code.

USFWS: The United States Fish and Wildlife Service, the federal agency mandated to protect and manage the nation's native wildlife resources.

CHAPTER 1: BIOLOGICAL BACKGROUND

The bald eagle (*Haliaeetus leucocephalus*) is the symbol of the United States and one of North America's most spectacular birds. It is also one of the most thoroughly studied birds, with perhaps 2,500 articles published on its biology or management (Buehler 2000). This chapter summarizes some aspects of the bald eagle's biology, primarily in Florida. Detailed information on the biology of bald eagles throughout their range is found in Stalmaster (1987), Gerrard and Bortolotti (1988), and Buehler (2000).

Distinguishing Characteristics

The bald eagle is the largest raptor (bird of prey) that occurs in North America, ranging from 28 to 38 inches in length and with a wingspan from 66 to 96 inches. The largest eagles are found in Alaska and the smallest occur in the southern United States and Mexico (Buehler 2000). The sexes are indistinguishable by plumage, but females are as much as 25% larger than males. Adults are dark brown with a white head and tail. The eyes, bill, legs, and feet are yellow. Juveniles are dark brown overall with white mottling on the belly, tail, and underwings. The eyes are dark brown and the bill is gray to black. The plumage of sub-adults is highly variable, according to age, with a decreasing amount of white on the body and an increasing amount of white on the head and tail attained with each successive molt. The eyes and bill turn yellow during the eagle's fourth year, and full adult plumage is attained during the bird's fifth or (usually) sixth year (Buehler 2000).

Taxonomy

The bald eagle is a member of the family Accipitridae and the order Falconiformes. It is one of eight members of the genus *Haliaeetu*s, which is from the Greek and means *sea eagle*; the bald eagle's full scientific name means *white-headed sea eagle*. The bald eagle is the only member of its genus that occurs regularly in North America. Two other species, the white-tailed eagle (*H. albicilla*) of Eurasia and the Steller's sea-eagle (*H. pelagicus*) of Asia, have strayed to the United States, and the white-tailed eagle has bred in Alaska (AOU 1998). Fossil evidence of bald eagles dates back at least one million years and comes from several sites, including three from Florida (Buehler 2000). Two subspecies are recognized by some ornithologists, the larger *H. l. alascanus* breeding north of 40E N latitude and the smaller *H. l. leucocephalus* to the south. However, the bald eagle may have no subspecies, with its size and mass differences merely representing a decrease along a north-to-south gradient (Curnutt 1996, Buehler 2000). The only other eagle that occurs regularly in North America is the golden eagle (*Aquila chrysaetos*), which in Florida is a rare non-breeding winter resident, primarily of the panhandle (Stevenson and Anderson 1994).

Life History and Habitat

Breeding Behavior

Bald eagles are highly social outside of the nesting season, but are extremely territorial when nesting. They are capable of breeding in their fourth year, while still in sub-adult plumage, but may not breed until their sixth or seventh year where breeding competition is intense (Buehler

2000). Bald eagles are thought to be monogamous, with pair bonds persisting for several years, but this is largely unproven. Eagles are single-brooded, although pairs may renest if the first clutch is lost.

The bald eagle nesting season in Florida is defined as 1 October–15 May.

Bald eagles in Florida begin nest building or nest maintenance activities in late September or early October. The nesting season is prolonged, with egg-laying beginning as early as October or as late as April (later nests are mostly renesting attempts; Millsap *et al.* 2004). For purposes of this management plan, the bald eagle nesting season is defined as the period 1 October–15 May. Nest sites tend to be built near habitat edges (McEwan and Hirth 1980) in a living tree that offers a view of the surrounding area and that can support the eagle's often sizeable nest. Substrates used in Florida vary according to local conditions, and include pines (*Pinus palustris* and *P. elliottii*), cypress (*Taxodium* spp.), mangroves (*Avicennia germinans* and *Rhizophora mangle*), great blue heron (*Ardea herodia*) nests, artificial structures such as communication towers, transmission towers, and raptor nesting platforms, and even—very rarely—on the ground (Broley 1947, Shea *et al.* 1979, Curnutt and Robertson 1994, Curnutt 1996, Millsap *et al.* 2004). However, bald eagles in Florida strongly prefer living native pines to all other substrates; 75% of all eagle nests surveyed during 2006 were built in living native pines (FWC unpublished data).

Bald eagles in Florida strongly prefer live, native pines to all other nesting substrates.

Nearly all bald eagle nests in Florida are built within 1.8 miles of water (Wood *et al.* 1989). Territory size varies depending on habitat and prey density but is thought to encompass 0.6–1.2 square miles (Buehler 2000). Bald eagle nests are spaced apart to ensure sufficient food resources for nestlings and to raise young with minimal disturbance from other eagles. Eagle pairs often build more than one nest, which allows them to move to an alternate nest while remaining in their territory. Throughout their range, eagles maintain an average of 1.5 nests per territory, ranging from one nest to five nests (Stalmaster 1987, Buehler 2000).

Most clutches of eggs in Florida are laid between December and early January. Mean clutch size throughout the bald eagle's range is 1.87 eggs, with most nests containing two eggs. Incubation lasts about 35 days. Average brood size in Florida is 1.56 nestlings per nest (FWC unpublished data). Nestlings in Florida fledge at around 11 weeks of age and remain with their parents near the nest for an additional 4–11 weeks (Wood 1992, Wood *et al.* 1998). Fledglings begin widespread local movements before initial dispersal, which occurs from April to July (Millsap *et al.* 2004). Based on a sample of 18,838 nests in Florida during 1973–2004, average annual breeding productivity was 70.6%, ranging from 52.2% in 1974 to 82.7% in 1996 (Nesbitt 2005). Average reproductive success during 1973–2004 was 1.16 fledglings for all nests and 1.54 fledglings per successful nest.

Movements

Most of Florida's breeding bald eagles, especially those nesting in the extreme southern peninsula, remain in the state year-round, but most sub-adults and non-breeding adults migrate out of Florida (Stevenson and Anderson 1994, Curnutt 1996, Mojica 2006). Eagles migrate

northward between April and August and return southward from late July through late December. Juveniles migrate northward later than older sub-adults (Broley 1947, Wood and Collopy 1995, Mojica 2006). Most juveniles disperse at about 128 days of age and spend their first summer as far north as Newfoundland, with peak numbers summering around Chesapeake Bay and the coastal plain of North Carolina (Broley 1947, Millsap *et al.* 2004, Mojica 2006). Florida's bald eagles use three migration flyways—the Atlantic coast, Appalachian Mountains, and the Mississippi River valley—with equal frequency, and they use stopover sites for resting or foraging (Mojica 2006). Eagles also exhibit nomadic wandering, mostly by sub-adults. Northern-breeding *alascanus* bald eagles winter in Florida at least occasionally (Stevenson and Anderson 1994).

Food

Bald eagles are opportunistic foragers, feeding or scavenging on a wide variety of prey. Primary prey of eagles in Florida includes various fish and waterfowl species. Prey from one study in north-central Florida was composed of 78% fish (mostly catfish, especially brown bullhead; *Ictalurus nebulosus*), 17% birds (mainly American coot; *Fulica americana*), 3% mammals, and 1% amphibians and reptiles combined (McEwan and Hirth 1980). Most prey is captured from the surface of the water, but bald eagles often harass ospreys (*Pandion haliaetus*) in flight to drop fish that they have captured. Bald eagles in Florida often scavenge carcasses along roadways or garbage at landfills (Millsap *et al.* 2004).

Longevity

The record lifespan for a bald eagle in the wild is 28 years. Eagles follow a pattern typical of raptors, with lower juvenile survival followed by increasing survival to adulthood (Buehler 2000, Millsap *et al.* 2004).

Habitat

Bald eagles use forested habitats for nesting and roosting, and expanses of shallow fresh or salt water for foraging.

Throughout their range, bald eagles use forested habitats for nesting and roosting, and expanses of shallow fresh or salt water for foraging. Nesting habitat generally consists of densely forested areas of mature trees that are isolated from human disturbance (Buehler 2000). Daytime roosts are generally in "super-canopy" trees adjacent to shorelines, and are typically located away from human disturbance (Buehler 2000). Communal roosts, which are rare in Florida, are located within three miles of water (Mojica 2006). The quality of foraging habitat is characterized by the diversity, abundance, and vulnerability of eagle prey, the structure of the aquatic habitat (*e.g.*, presence of shallow water), and the extent of human disturbance (Buehler 2000). Bald eagle nesting habitats are protected by law, but little or no emphasis has yet been placed on the preservation of roosting or foraging habitats (Mojica 2006). The greatest numbers of bald eagle nesting territories in Florida are found along the Gulf coast and around some of the larger inland lakes and river systems in the peninsula (Figure 1).

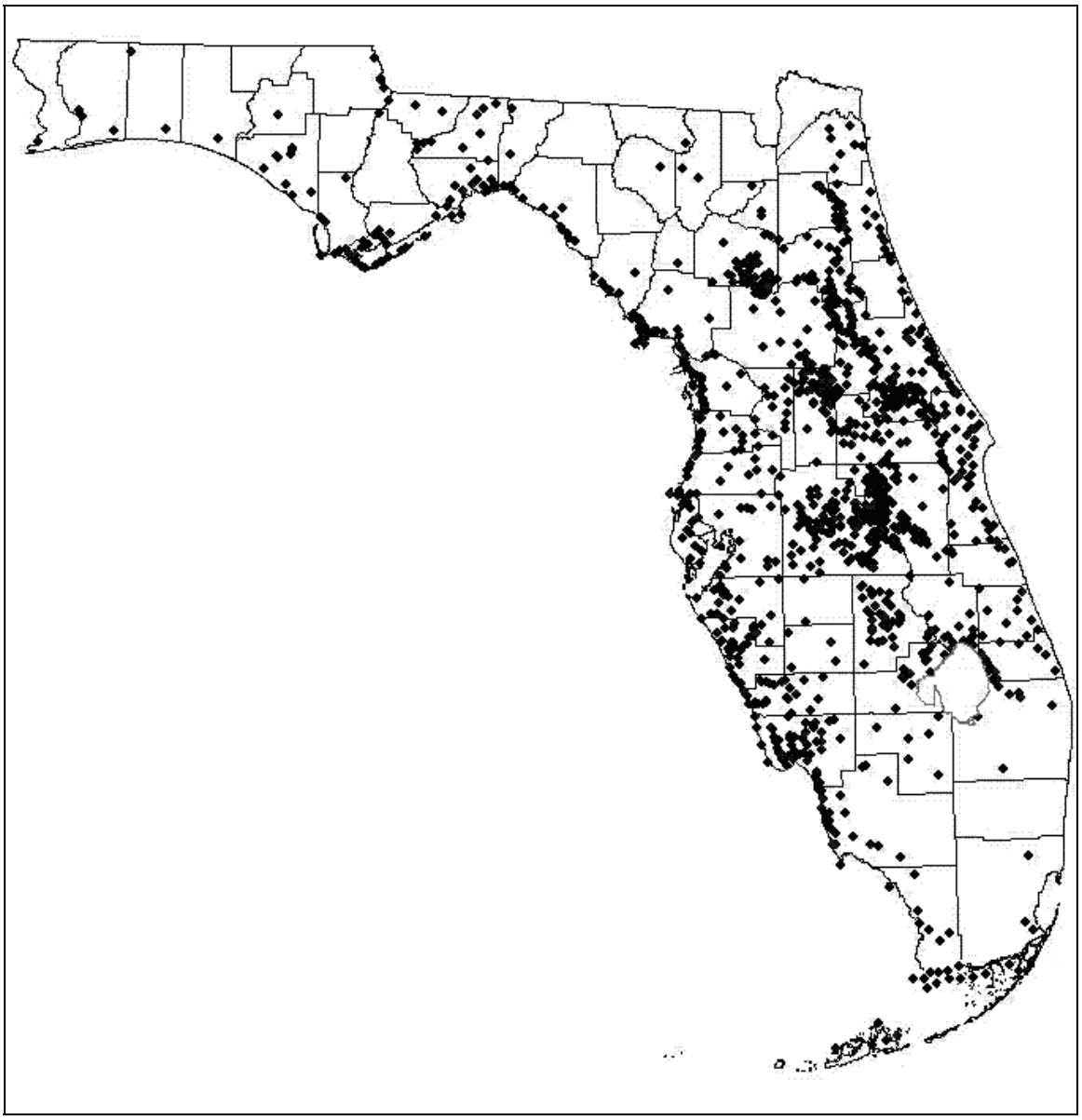

Figure 1. The distribution of active bald eagle nesting territories in Florida, 2005–2006.

Distribution and Population Status

Historical Distribution

Bald eagles formerly bred from central Alaska and the Maritime Provinces south to Baja California and Florida. It is widely believed that eagles were abundant in areas with high quality forested and aquatic habitats, both coastally and inland. In Florida, the eagle was called "abundant" (Bailey 1925) and "common" (Howell 1932) during the early 20th century. The size of Florida's historic bald eagle population is unknown but it "must have been well in excess of

1,000 nesting pairs," with numbers around Tampa Bay and Merritt Island thought to be "among the densest breeding concentrations of a large raptor known anywhere on earth" (Peterson and Robertson 1978).

Population Trends

The continental eagle population began to decline during the 18th century from loss of breeding habitat and from direct persecution—more than 128,000 bald eagles were shot in Alaska between 1917 and 1952 (Buehler 2000). The population decline intensified during the mid-20th century with widespread use of DDT compounding the continuing losses from habitat destruction and direct persecution. DDT is an organochlorine pesticide that was widely used in agriculture and mosquito control beginning in the 1940s. Widespread use of DDT was banned in the United States in 1972, partially because it disrupted calcium metabolism in raptors. This calcium reduction resulted in eggshells that ruptured during incubation, causing significant and widespread reproductive failure in bald eagles and other raptors (Stalmaster 1987, Buehler 2000). Broley (1950) documented "heavy nesting failures" of eagles in Florida, and Cruickshank (1980) wrote of their "alarming decrease" and near-extirpation as a breeding species in Brevard County after 1950.

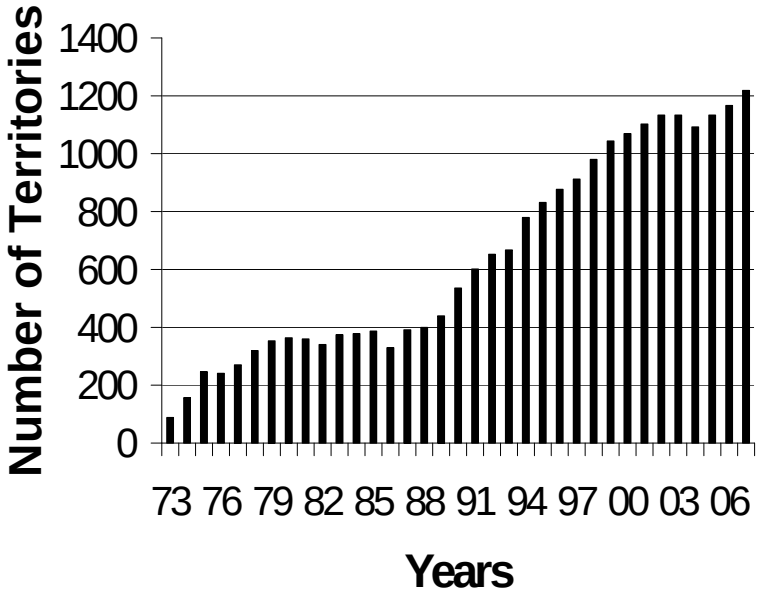

Figure 2. The number of bald eagle nesting territories in Florida, 1973–2007.

Substantial recovery of the bald eagle, continentally and in Florida, began in the 1970s, following the banning of DDT and a reduction in persecution brought on in part by passage of the U.S. Endangered Species Act of 1973. The Florida eagle population has increased greatly since statewide breeding season surveys began in 1972–1973, and especially since the early 1990s (Figure 2). The federal recovery plan for bald eagles in the southeastern states (USFWS 1989) established a "recommended recovery level" for Florida of 1,000 nesting territories, an average of 0.9 fledglings per active nest and ≥1.5 fledglings per successful nest, and ≥50% breeding productivity. Eagles in Florida have exceeded each of these parameters for the past 20 years (Nesbitt 2005). One reason for the recovery of the eagle in Florida has been the continued availability of appropriate nesting and foraging habitats, thought to be the result of adherence to management guidelines for construction activities near eagle nests (Nesbitt *et al.* in review).

By 1997, Florida's bald eagle population was thought to exceed 4000 individuals, including sub-adults and other non-breeders (Buehler 2000). The increase in the breeding population appears to have slowed recently, from 1,043 nesting territories in early 1999 to 1,218 territories in early 2007 (Nesbitt 2005, Figure 2). The actual number of territories present in Florida is not known; the USFWS will conduct a survey in Florida in 2009 to determine the proportion of nests that are undetected during annual surveys. The Biological Status Report for the Bald Eagle (Sullivan *et al.* 2006) reported that "recent studies indicate 24% of bald eagle nests go undetected" and that "based on this correction factor, it is estimated there were 1,405 active nests in Florida in 2005." However, the analysis on which this figure was based was flawed (M. Otto, pers. comm.). A new analysis is currently being conducted at Patuxent Wildlife Research Center to develop an accurate estimate of the number of nests.

The apparent slower growth of the number of bald eagle nesting territories in Florida since 1999 (Figure 2) may suggest that eagles are reaching their current carrying capacity in the state. If this is the case, then a slight population decline in the future might eventually be expected as the population adjusts to carrying capacity. However, because carrying capacity diminishes with habitat loss, it may be difficult to distinguish a decline caused by habitat loss from a decline due to an adjustment of carrying capacity.

Current Distribution

Bald eagles reclaimed their entire historic range by the late 1990s (Buehler 2000). Recovery in the Lower 48 states has been dramatic, increasing from an estimated 417 pairs in 1963 to an estimated 9,789 pairs by 2007 (USFWS 2007a). Bald eagles have met or exceeded the population goals established in all five regional recovery plans, and on 8 August 2007, the USFWS removed the species from the list of federally endangered and threatened species.

Bald eagles were known to breed in 59 of Florida's 67 counties by 2005, the exceptions being Baker, Broward, Calhoun, Gilchrist, Holmes, Lafayette, Madison, and Nassau (Nesbitt 2005; Figure 1). Most nests are found on privately-owned lands (67% in 2003; Nesbitt *et al.* in review; unpublished GIS data), underscoring the importance of private lands in the conservation of eagles in Florida. The growth of the state's eagle population during the 1990s, when the human population grew at a high rate, shows that bald eagle populations can flourish even when faced with development pressures, if appropriate habitat protections are in place.

Bald eagles were breeding in 59 of Florida's 67 counties by 2005.

Concentrations of nesting territories are clustered around several significant wetland systems. The FWC has identified 16 areas of concentrated bald eagle nesting activity that contain a majority of the known nesting territories in Florida (Figure 3, Table 1). Many of these "core nesting areas" have persisted for decades, suggesting the presence of high-quality breeding and foraging habitats (Nesbitt *et al.* in review). These core nesting areas are located along the Gulf coast from St. Vincent Island to Lee County, and inland from the lower St. Johns River to Lake Okeechobee (Figure 3). Changes in the size, configuration, and location of these core nesting areas are monitored, and their importance to the overall population of bald eagles in Florida will be determined as new data become available.

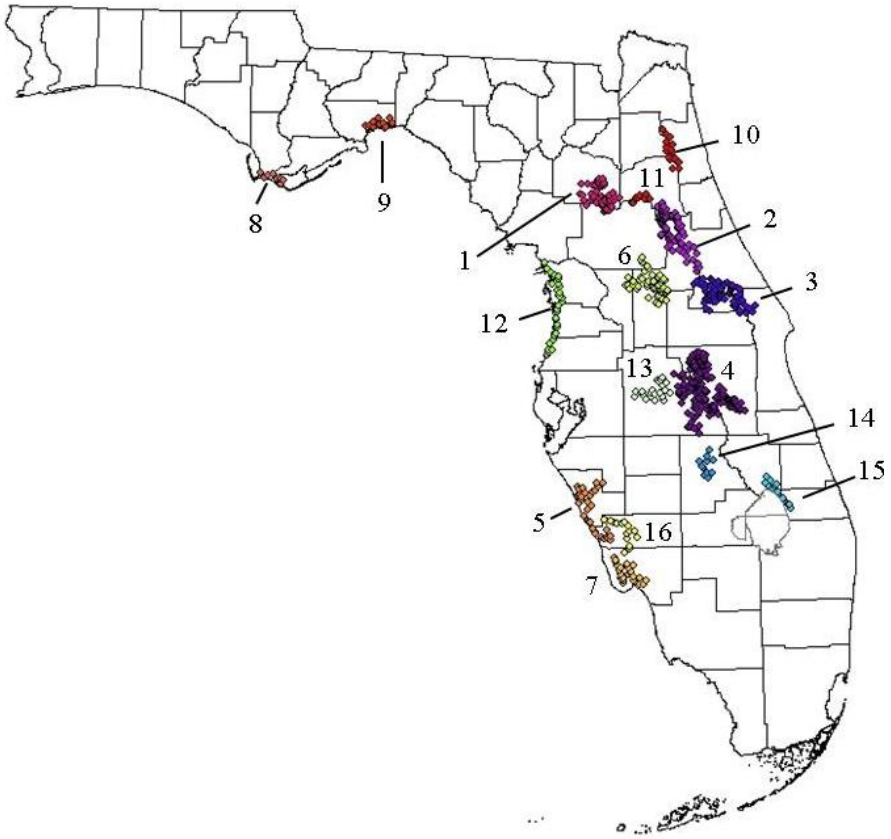

Figure 3. Location of bald eagle core nesting areas in Florida, 2005–2006. These core nesting areas, which are numbered chronologically from their discovery, are found in the following sites: (1) lakes Lochloosa, Newnans, and Orange; (2) Lake George; (3) the middle St. Johns River; (4) the Kissimmee chain of lakes; (5) the Placida Peninsula; (6) the Harris chain of lakes; (7) the Lee County coast; (8) St. Vincent National Wildlife Refuge; (9) St. Marks National Wildlife Refuge; (10) the lower St. Johns River; (11) Rodman Reservoir; (12) the central Gulf coast; (13) central Polk County; (14) Lake Istokpoga; (15) northeast Lake Okeechobee; and (16) coastal Charlotte County.

Table 1. The number of bald eagle nesting territories in the top 10 counties in Florida, 2004–2005. Data source is Nesbitt (2005).

County	Territories	County	Territories
Osceola	113	Seminole	45
Polk	112	Lee	42
Volusia	68	Brevard	41
Lake	63	Monroe	40
Putnam	56	Alachua	39

Historic and Ongoing Conservation Efforts

Substantial monitoring, management, and research activities have been conducted on Florida's bald eagles for more than 60 years, and many journal articles and reports have been produced. Since the 1972–1973 nesting season, all known nesting territories are monitored annually by use of aircraft to determine reproductive parameters such as territory occupancy, brood size, breeding productivity, and reproductive success. Eggs laid by eagles in Florida were used to successfully reestablish populations in other states during the 1970s and 1980s (Nesbitt and Collopy 1985). Wildlife rehabilitation centers in Florida have successfully treated and released hundreds of sick or injured bald eagles, while eagles with permanent injuries have provided opportunities for public education, lobbying, and fund-raising. Many of these conservation activities are anticipated to continue following delisting.

Several federal and state laws have directly or indirectly protected bald eagles. The most important laws include the federal Migratory Bird Treaty Act, the federal Bald and Golden Eagle Protection Act, and the federal Endangered Species Act, as well as state regulations noted in this document. The bald eagle was first protected nationally in 1918 under the Migratory Bird Treaty Act (16 U.S.C. 703–711), which protected nearly all native birds and their nests. The Bald and Golden Eagle Protection Act of 1940 (16 U.S.C. 668a–668c) offered additional protection against take and disturbance of bald eagles and their nests. In 1972, the U.S. Environmental Protection Agency banned all domestic use of DDT, and this prohibition allowed bald eagle populations to recover from pesticide poisoning. The following year, the Endangered Species Act of 1973 (16 U.S.C. 1531–1544) was passed, and the bald eagle was added to the list of federally endangered and threatened species in 1978.

Bald eagle nesting habitats in Florida have been protected primarily through the Endangered Species Act in accordance with habitat management guidelines in the southeastern United States (USFWS 1987). These federal guidelines created buffers around eagle nests in which activities such as development or logging were restricted. Two buffer zones were recommended: a primary zone (0 to 750–1500 feet from the nest) and a secondary zone (1,500 feet to one mile beyond the end of the primary zone). Recently, the USFWS (2007b) published new federal guidelines that recommend a buffer zone that extends up to 660 feet from the nest depending upon whether a visual screen of vegetation exists around the nest, and the presence of existing activities in the vicinity of the nest, with additional recommendations for proposed activities occurring during the nesting season.

Florida also had state regulations that protected the bald eagle. The eagle was listed as threatened and therefore received protections afforded it by Rule 68A-27.004 of the Florida Administrative Code (F.A.C.), which prohibited the non-permitted take or harassment of eagles or their nests. There are local and state regulations tied to the listing category of a species. The Florida Land and Water Management Act of 1972 indirectly protected some eagle habitats by establishing two state programs: Development of Regional Impact and Area of Critical State Concern. The Area of Critical State Concern Program regulates development in areas of regional or statewide natural significance, such as Apalachicola Bay, the Green Swamp, Big Cypress Swamp, and the Florida Keys. The bald eagle is listed as a species of "greatest conservation need" in the Florida Comprehensive Wildlife Conservation Strategy (FWC 2005). This is not a legal designation but

rather makes conservation work on the bald eagle eligible to receive State Wildlife Grant funds to address the need for continued management and monitoring activities.

State water management districts and local governments provided additional layers of protection for bald eagles. Local regulations emphasize listed species (endangered, threatened, or species of special concern) and their habitats when considering comprehensive planning, zoning, development review, and permitting activities. Prioritization of listed species, requirements for surveys and documentation, increased buffer zones, protection of upland habitats, additional mitigation requirements, more intensive levels of review, and coordination and compliance with appropriate federal and state wildlife agencies are some of the procedures that local governments and state wildlife agencies apply to listed species.

During 2006, the USFWS proposed removing the bald eagle from the list of federally endangered and threatened species, and this action was finalized in August 2007. Although the bald eagle is no longer protected under the Endangered Species Act, it is still protected under the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act. The USFWS (2007b) has redefined some of the terminology included in the Bald and Golden Eagle Protection Act, which prohibits the unpermitted "take" of bald eagles, including their nests or eggs. The act defines "take" to mean to "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb" an eagle. The new definition of "disturb" is to "agitate or bother a bald or golden eagle to the degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior" (USFWS 2007b). This management plan adopts the federal definition of "disturb" in 50 C.F.R. § 22.3 and Florida's definition of "take" in Rule 68A-1.004, F.A.C.

CHAPTER 2: THREAT ASSESSMENT

Reasons for Delisting

In response to a petition filed in 2002, the FWC convened a panel to review the biological status of the bald eagle in Florida (Sullivan *et al.* 2006). The panel concluded that bald eagles in Florida did not meet the criteria for listing at any level and had not met the criteria for the previous five years. Consequently, the panel unanimously recommended that the bald eagle be removed from Florida's list of imperiled species. This decision was based on the following facts: (1) the bald eagle population occurs throughout Florida; (2) the population has not experienced extreme fluctuations in range or numbers; (3) the estimated number of adults had increased >300% during the past three eagle generations (defined here as a total of 24 years); and (4) the population is not projected to experience significant declines over the next 24 years (Sullivan *et al.* 2006).

Present and Anticipated Threats

Threats to the bald eagle in Florida include both natural and human-related causes that individually or in combination could cause reductions in reproductive or survival rates. This section highlights the most serious threats known to impact bald eagles in Florida currently, as well as a few threats that may potentially affect Florida's eagles in the future. This section emphasizes human-caused threats, which are more likely to be controlled via a management plan. Some sources of eagle mortality in Florida—natural as well as human-caused—have no clear remedy. Forrester and Spalding (2003) is an excellent reference for causes of injury and mortality to Florida's eagles. Other than intraspecific aggression, most natural mortalities probably go undetected. Human-related mortality is known from sick or injured eagles or eagle carcasses examined by the National Human Health Center, eagles brought to Audubon's Center for Birds of Prey, or other veterinary or rehabilitation centers (Forrester and Spalding 2003), as well as recent radio-telemetry studies of eagles in the wild (*e.g.*, Millsap *et al.* 2004, Mojica 2006).

The greatest cause of documented mortality to bald eagles in Florida during 1963–1994 was trauma, representing 59% of diagnosed mortalities (Forrester and Spalding 2003). Other causes of eagle mortality were electrocution (16%), poisoning (10%), infectious diseases (6%), emaciation (4%), and other (2%). Among 182 eagle deaths from trauma, vehicle collision accounted for 44%, gunshot 10%, intraspecific aggression 7%, powerline collision 4%, six other causes accounted for a total of 9%, and the causes of 26% of deaths were unknown (Forrester and Spalding 2003).

Human-caused Threats

Although the bald eagle population has grown concurrently with the growth of the human population in Florida, the continued conversion of nesting or foraging habitats to development can be expected to reduce the amount and quality of eagle habitats. Some of the most intense development pressure in peninsular Florida is occurring along the shores of large inland lakes that support core nesting areas (Figure 3), such as Lake Tohopekaliga in Osceola County.

Some eagles in Florida have shown great tolerance for nesting in suburban or urban areas—in some cases even establishing new territories in these habitats (Millsap *et al.* 2004). In one study, survival rates were similar for juveniles from rural and suburban nests, however mortality of those from suburban areas was almost always a result of direct or indirect human interactions while no mortality of rural birds were known to be associated with human interactions. Bald eagles raised in suburban habitats seem to become acclimated to human-related landscape features and do not regard these features with the same amount of caution that is shown by eagles raised from rural nests (Millsap *et al.* 2004). Nevertheless, more research is needed to determine effects of human activities in close proximity to eagle nests (Millsap *et al.* 2004).

Bald eagles often scavenge road-kills along roadways and are therefore susceptible to being struck by vehicles. Collision with motor vehicles represents the most frequent cause of documented eagle mortality in Florida, representing 19–44% of all eagles' deaths due to trauma, 1963–1994 and 1997–2001 (Forrester and Spalding 2003, Millsap *et al.* 2004).

Although protected from direct persecution for more than 50 years, bald eagles are occasionally still shot in Florida. Audubon's Birds of Prey Center received seven bald eagles with gunshot wounds during 2001–2006 (L. White, pers. comm.).

Powerlines cause eagle mortality in two ways, by electrocution and collision. Powerlines accounted for 19% of the mortality of bald eagles in Florida during 1963–1994, with electrocution representing more than 86% of this total (Forrester and Spalding 2003). Power companies in Florida have not yet retrofitted older distribution lines with modern features to reduce the incidence of eagle electrocutions.

The deaths of 19 bald eagles in Florida during 1973–1994 were attributed to lead poisoning, which usually affects eagles after they feed on waterfowl imbedded with lead shot. The use of lead shot for waterfowl hunting was banned in 1991. Pentobarbital poisoning of eagles occurs mostly at landfills, where eagles feed on the carcasses of euthanized animals, such as from a veterinary clinic or animal shelter. Forrester and Spalding (2003) discussed eight such eagle deaths in Florida, mostly at landfills. Bald eagles that breed in Florida forage heavily at landfills throughout the eastern United States, and are therefore exposed to this threat over a wide area (Millsap *et al.* 2004). Mercury contamination is another threat to eagles, although no known mortality has occurred (Forrester and Spalding 2003). However, the bioaccumulation of mercury in fish ingested by eagles suggests that sub-lethal effects will continue to be a potential threat.

Natural Threats

Bald eagles are extremely territorial when establishing or defending their nesting territories and may be badly injured or even killed during territorial battles. Intraspecific aggression accounts for 7% of documented eagle mortality in the state (Forrester and Spalding 2003). Along with food availability and inclement weather, intraspecific aggression is thought to be one of the primary regulators of eagle populations where human interactions are limited, especially in areas that are close to their carrying capacity (Buehler 2000). Mortality from intraspecific aggression may be expected to increase as Florida's eagle population approaches carrying capacity.

Hurricanes and other severe storms can damage or blow down eagle nests or nest trees, and storms that occur during the eagle nesting season can break eggs or kill nestlings. Forrester and Spalding (2003) detail several instances of storm-related mortality of bald eagles in Florida. Nesbitt (2005) determined that more than one-third of all eagle nesting territories monitored in Florida during 2004–2005 were within the paths of Hurricanes *Charley*, *Frances*, and *Jeanne*. Although there was significant local damage (*e.g.*, five of the six nests in DeSoto County were destroyed), overall effects of the storms were minimal. Fewer than 10% of the nests within the paths of the storms showed any lasting impacts, and most destroyed nests were rebuilt in the same or a nearby tree within weeks (Nesbitt 2005). Nevertheless, the loss of trees large enough to support eagle nests may cause local shortages of nesting sites in developed areas, where such trees may be scarce. Meteorologists are warning that we have recently entered a 25- to 50-year cycle of greater hurricane activity and intensity (Landsea *et al.* 1996), and, coupled with anticipated longer-term climate change associated with global warming (McCarthy *et al.* 2001), inclement weather may in the future have a greater impact on Florida's bald eagle population.

Forrester and Spalding (2003) list 112 diseases or parasites that have been found on or in the bodies of bald eagles in Florida. Most parasites are not lethal, but several infectious diseases have been implicated in the deaths of bald eagles. One suburban-raised eagle fledgling from Florida died from a chlamydial infection that was most likely transmitted by non-native monk parakeets (*Myiopsitta monachus*) that built their nest at the bottom of the eagle's nest (Millsap *et al.* 2004). Avian vacuolar myelinopathy (AVM) is a recently discovered neurological disease that attacked bald eagles and American coots in Arkansas during 1994. It has since been implicated in more than 100 bald eagle deaths in Georgia, North Carolina, and South Carolina (Wilde *et al.* 2005). AVM has yet to be detected in Florida, but it may eventually spread here, or Florida's eagles may contract the disease while summering out of state. West Nile virus colonized much of the continental United States within a few years of its discovery in 1999, and has been documented in 285 species of birds in North America, including bald eagles (Centers for Disease Control and Prevention 2006). However, the degree to which West Nile virus is a threat to Florida's eagles is unknown. Likewise, avian influenza is another potential threat to Florida's eagles.

CHAPTER 3: CONSERVATION GOAL AND OBJECTIVES

Conservation Goal

The goal of this management plan is to establish conservation actions that will maintain a stable or increasing population of bald eagles in Florida in perpetuity. To achieve this goal, a decline of 10% of the number of eagle nesting territories in Florida over a period of 24 years (three eagle generations) must be prevented through science-based management, regulations, public education, and law enforcement. The FWC anticipates that without continued protection of eagle nesting habitats, the number of nesting territories in Florida could decline by 10% or more over the next 24 years, which could trigger a relisting effort. The FWC has therefore set a conservation goal for bald eagles that is higher than the minimum threshold to avoid a need for relisting.

The data for the conservation objectives are from the annual nest surveys conducted by FWC biologists for the past 35 years.

Conservation Objectives

Conservation objectives are benchmarks used to measure progress toward the conservation goal. The following conservation objectives have been met or exceeded in Florida, and maintaining these objectives will help to ensure that the conservation goal is sustained. Annual nest surveys conducted by FWC biologists since 1972 provide the data used to establish the following objectives. Determining annual reproductive success will provide the information needed to monitor the population and to measure the success of the objectives. The FWC listing process has five criteria—three based on population size or trend, one on geographic range, and one on quantitative analysis of the probability of extinction (see Sullivan *et al.* 2006). The first three conservation objectives below provide a means by which changes in population size or trend can be detected, while the fourth objective is intended to ensure that the bald eagle maintains its current geographic distribution. Maintaining a stable or increasing population of eagles throughout their current distribution will ensure a healthy bald eagle population in Florida, and will prevent the need to relist eagles under FWC's imperiled-species regulations. The following conservation objectives will be calculated annually from five-year running averages, beginning with data collected during the period 2002–2006. We use five-year averages to avoid the possibility that one or two years of poor reproductive success might trigger a relisting effort. These numbers are subject to revision based on changes in monitoring data and/or methods.

The conservation objectives will be calculated annually from five-year running averages of bald eagle population data.

1. **Maintain a minimum of 1020 active territories per year over the next 24 years (*i.e.*, through 2032).**

   The listing criterion that seems most likely to trigger a future listing petition for the bald eagle in Florida is Criterion C: Small Population with Compounding Problems. To trigger this criterion, a species must be below the threshold of 10,000 mature individuals **and** must meet one of two possible sub-criteria, more likely sub-criterion C1 (a 10% decline over three generations). The Biological Status Report for the Bald Eagle (Sullivan *et al.* 2006)

defined 8–12 years as the length of one bald eagle generation. The FWC believes that it is acceptable to use eight years as the generation length, as this number is compatible with USFWS's Draft Post-delisting Monitoring Plan (2007c). The Biological Status Report estimated that the population in Florida numbered 3,372 mature individuals during 2005. That same year, there were 1,133 active bald eagle nesting territories in the state (Nesbitt 2005), so Florida must maintain a breeding population of ≥1020 nesting territories (*i.e.*, 90% of 1,133) to avoid triggering sub-criterion C1 of the listing process.

2. Maintain an average of 68% of the active territories producing ≥1 nestling per year.

Because bald eagles require 4–5 years to reach sexual maturity, it is important to monitor breeding productivity to determine potential future impacts to the population. A decrease in reproduction may provide an early warning for a pending population decline. The value of 68% represents the current five-year average of bald eagle nesting territories in Florida producing ≥1 nestling per year. As it appears that the eagle population has slowed its increase since 2000, it is appropriate to use the most recent five-year average available (2002-2006) of breeding productivity as the benchmark, since this level has resulted in an apparently stable population.

3. Maintain an average reproductive success of ≥1.5 fledglings per active nest over five years.

Since FWC surveys began in 1972, reproductive success of bald eagles in Florida has averaged 1.54 fledglings per active nest. Five-year running averages were calculated for all survey years, and fledgling production never dropped below 1.5 fledglings per nest, so this number was chosen to ensure a stable population.

4. Maintain the current area of occupancy (>770 mi^2) and extent of occurrence (52,979 mi^2) of bald eagles statewide.

Maintaining the current area of occupancy and extent of occurrence of bald eagles statewide will help maintain a stable or increasing population. Further, the Biological Status Report (Sullivan *et al.* 2006) indicated that bald eagles in Florida may be near the threshold for listing as a species of special concern, based on which figure is used for the Area of Occupancy. While this criterion can be triggered only in combination with two sub-criteria, the FWC believes that the prudent benchmark is to maintain an area of occupancy in excess of the threshold, as calculated in the Biological Status Report (Sullivan *et al.* 2006).

CHAPTER 4: RECOMMENDED CONSERVATION ACTIONS

Strategies to Achieve the Conservation Objectives

This chapter describes the strategies to be undertaken to maintain Florida's bald eagle population at or above the levels specified by the conservation objectives. Virtually all of the conservation actions address each of the objectives. These actions are best accomplished by using an adaptive management approach that allows for adjustments to policies, guidelines, and techniques based on science and observed responses to implemented conservation measures. New biological information will be used to adjust bald eagle conservation actions as it becomes available. The FWC will monitor the eagle population and will study the effects of human activities near eagle nests. Results of this research will be evaluated and the FWC will propose adjustments in regulations, minimization, and conservation measures as appropriate. Any substantive changes to FWC policies or guidelines will be made with stakeholder involvement and Commission approval.

Habitat Management

This management plan relies in part on the ability of public lands to support bald eagles. Currently, approximately 33% of all known bald eagle nests in Florida occur on public lands (Sullivan *et al.* 2006, Nesbitt *et al.* in review). Public lands provide a high level of security for wildlife because of statutory provisions for long-term management funding and for guiding habitat management on those lands (Florida Statutes 259.105 and 259.032).

The FWC encourages land management practices that decrease the risk of catastrophic wildfire or an outbreak of timber disease, and that retain old-growth native pines.

The FWC encourages land management practices that benefit bald eagles by decreasing the risk of catastrophic wildfire, by maintaining healthy forests, and by providing suitable nest trees. These management practices include the use of prescribed fire, removal of exotic species, reduction of excess fuel loads, thinning of overstocked stands, replanting with native species (primarily pines), and uneven-aged timber management. Retaining large-diameter native pines will ensure that suitable potential nest trees may be available in the future. All of these land-management activities should use the appropriate protections outlined in the Permitting Framework. The FWC recommends siting high-impact recreational activities away from any active or alternate bald eagle nest and restricting activity and/or posting signs during the nesting season, where appropriate. The FWC will provide to managers of Florida's public lands the resources to identify bald eagle nests on lands they manage. The FWC will also provide technical assistance in managing habitats within nest buffers, and will ensure that future Conceptual Management Plans of lands managed by FWC include a component that follows recommended management practices of habitats surrounding bald eagle nests.

Nesting Habitat

The USFWS (2007b) Bald Eagle Management Guidelines help the public comply with the Bald and Golden Eagle Protection Act by avoiding activities that disturb bald eagles. These federal guidelines serve as the basis for the FWC Habitat Management Guidelines recommended in this management plan to ensure compliance with Florida wildlife laws concerning bald eagles (see Permitting Framework), and to minimize potentially harmful activities conducted within 660 feet of active or alternate bald eagle nests. In addition, the FWC recommends that nesting habitat be managed as described in the preceding section on habitat management.

Foraging Habitat

Aquatic habitats that support fish and waterfowl are essential to maintaining healthy prey populations for bald eagles. The FWC monitors and manages freshwater habitats and fish populations in more than one million acres of lakes, rivers, and streams, and provides funding to restore and enhance these habitats. Several federal and state agencies in Florida work together to maintain quality aquatic habitats. The U.S. Environmental Protection Agency, Florida Department of Environmental Protection (DEP) and the five water management districts monitor and regulate water quality (nutrient input) and quantity (minimum flows and levels) to maintain healthy conditions for aquatic plants, fish, and other wildlife. The FWC and DEP also work together to monitor, restore, and control aquatic plants through permit reviews, chemical, mechanical, or biological control of invasive exotic species, and through enhancement projects to improve habitats for fish and other wildlife. These combined habitat management efforts are expected to provide suitable eagle foraging habitats in Florida in perpetuity.

Bald eagles frequently feed at landfills, and some eagles have been killed by secondary pentobarbital poisoning from feeding on carcasses of euthanized animals. For this reason, it is imperative to incinerate or quickly bury the bodies of euthanized animals.

Land Acquisition

Continued acquisition of private lands is one of several strategies for preserving bald eagle habitats in Florida. Approximately 28% of Florida's land area is publicly owned or protected under perpetual conservation easements, and these lands support about 33% of the bald eagle nests in the state. Conservation easements can be used to set aside private lands from future development and are an important component of the conservation of bald eagles. The FWC, local governments, other state agencies, and private organizations acquire habitat through a variety of programs. The FWC will support legislation as part of the Florida Forever successor program to allocate sufficient funds necessary to acquire and manage suitable or potentially suitable habitat for imperiled species and bald eagles. Acquiring, managing, and restoring additional lands that support bald eagle habitats should remain a state priority so long as the acquisitions are compatible with priorities for imperiled species.

Private Lands Incentives

Private lands play an important role in the long-term conservation of bald eagles in Florida, currently supporting about 67% of all currently known nests. To promote the enhancement of bald eagles and eagle habitats on private lands in Florida, the FWC will:

1. **Inform private landowners of existing land-use incentive programs.** Incentive programs that can be used to promote conservation of bald eagles are listed in Table 2 (following page). FWC staff will work with owners of private lands who wish to manage their lands for the benefit of bald eagles to determine the most appropriate incentive programs.

2. **Inform private landowners of opportunities to sell conservation easements around bald eagle nests on their properties.** A developer whose activity is not conducted consistent with the FWC Eagle Management Guidelines (page 23) may elect to purchase a conservation easement around an eagle nest offsite or other suitable bald eagle habitat as a conservation measure. This action will provide another landowner the opportunity to be compensated for permanently conserving a bald eagle nest or nesting habitat.

3. **Work with local governments to encourage expedited permit-review and/or reduced development-review fees in exchange for voluntarily following the FWC Eagle Management Guidelines.** The FWC recommends that developers who voluntarily avoid potential disturbance of bald eagles by following the FWC Eagle Management Guidelines be granted financial incentives or expedited project review. This recommendation will require the cooperation of local governments.

Table 2. Landowner assistance programs that may be used to promote the conservation of bald eagles in Florida.

Program	Description	Contact
Common Species Common (CSC)	Administered by FWC. Improves wildlife habitat by focusing conservation on high-priority habitats outlined in FWC's Comprehensive Wildlife Conservation Strategy.	FWC Habitat Conservation Scientific Services (HCSS) biologist*
Conservation Reserve Program (CRP)	Administered by U.S. Department of Agriculture's (USDA) Farm Service Agency (FSA). Provides annual payments and cost-share assistance to establish long-term, resource-conserving landcover on eligible farmland.	Local FSA office through the nearest USDA center
Environmental Quality Incentives Program (EQIP)	Administered by USDA's Natural Resources Conservation Service (NRCS). Provides technical assistance and up to 50% of the cost to farmers and ranchers who face threats to soil, water, air, or natural resources.	USDA district conservationist
Forest Stewardship Program (FSP)	Administered by FWC. Helps landowners to increase the economic value of their forestland while maintaining its environmental integrity. Stewardship is based on the multiple-use land strategy.	Local forester or a HCSS biologist
Partners for Fish and Wildlife Program (PFW)	Administered by USFWS. Provides technical assistance and up to 50% of the cost-sharing to landowners who conduct habitat restoration or improvement activities on their lands. The focus in Florida is on restoration of native habitats, restoration of degraded streams or other wetlands, and eradication of exotic species.	HCSS biologist
Wetlands Reserve Program (WRP)	Administered by NRCS. Provides technical and financial assistance to restore wetlands and purchase conservation easements.	USDA district conservationist
Wildlife Habitat Incentives Program (WHIP)	Administered by NRCS. Provides technical assistance and up to 75% of the cost-sharing to establish or improve wildlife habitat.	USDA district conservationist

* Regional HCSS biologists can be contacted through FWC's regional offices; <http://myfwc.com/Contact/regnoffc.htm>.

Law Enforcement

The FWC's Division of Law Enforcement, in conjunction with federal, state, and local partners, is responsible for enforcing Florida's wildlife and fisheries laws. From 2003 through 2006, FWC officers responded to more than 400 incidents involving bald eagles, and this effort will not diminish upon delisting. Efforts to protect bald eagles include the following actions: patrolling areas where eagles and eagle nests occur; responding to calls of illegal activity in progress; investigating reports of illegal activity; documenting and referring illegal acts for prosecution; picking up sick or injured eagles for transport to rehabilitation facilities; retrieving and storing carcasses of non-evidentiary eagles; and providing proactive, public guidance about bald eagle conservation.

Potential wildlife violations should be reported to FWC's Wildlife Alert toll-free number (1-888-404-3922), which is answered 24 hours a day.

One of the most important components of the enforcement strategy is ensuring compliance through education. The FWC's law enforcement officers understand the importance of explaining wildlife laws to the public to avoid unintentional violations. However, FWC law enforcement officers actively pursue and refer for prosecution those who intentionally violate wildlife laws. The FWC law enforcement officers also educate the public on how to identify and report violations. The FWC's Division of Law Enforcement administers the Wildlife Alert program, which receives information via a toll-free number (1-888-404-3922) that is answered 24 hours a day, seven days a week. Cash rewards are offered to callers who provide information about any illegal activity that results in an arrest. Callers may remain anonymous and are not required to testify in court.

The FWC law enforcement officers and USFWS special agents partner to protect Florida's wildlife and fisheries resources via a Cooperative Law Enforcement Agreement. This Agreement grants FWC officers the authority to enforce federal laws, including the Bald and Golden Eagle Protection Act. Additionally, FAC 68A-13.002 adopts the federal Migratory Bird Treaty Act as state law and applies state penalties for violations. The FWC officers provide most of the routine patrol of eagle habitats and nests. Agents from USFWS and FWC often jointly investigate wildlife violations to decide whether to prosecute in state or federal court.

Proposed Regulations

Even though the FWC proposes to remove the bald eagle from the state's list of imperiled species under Rule 68A-27.004 (F.A.C.), management of bald eagles remains important to maintain the recovered status of the species. The FWC will gradually modify protections and conservation measures, if population trends warrant such actions, while monitoring the impacts of these actions.

Management guidelines established for bald eagles by the U.S. Fish and Wildlife Service (1987) consisted primarily of recommending that buffer zones be established around active and alternate eagle nests, and then providing biological opinions and technical assistance under provisions of Section 7 of the Endangered Species Act regarding land-use activities within these zones. These

buffer zones were effective in assuring that development activities did not significantly affect nesting eagles in Florida. When reproductive success was compared between rural eagle nests and nests subject to regulated development (recommendations were followed within 750 feet of the nest), no differences were detected, regardless of whether the development was residential or commercial (Nesbitt *et al.* 1993). This study demonstrates that when management guidelines were followed, bald eagle nesting was not significantly affected, and therefore the 750-foot buffer zone around eagle nests was considered effective and sufficient for minimizing the effects of development. Two other reviews of eagle nests in Florida have suggested that occupation rates of nests by eagles did not change following construction activities (T. Logan, S. Godley, pers. comm.). Nevertheless, observations by others have suggested that eagles have been substantially affected by construction activities (L. White, pers. comm.).

The National Bald Eagle Management Guidelines (USFWS 2007b) recommend the establishment of a single buffer zone 660 feet or less from the nest, depending on the presence or absence of existing activities (of "similar scope") and the visibility of the activity from the nest. The guidelines also recommend minimization measures to reduce the potential for human activities to affect nesting bald eagles. When the bald eagle was listed by the USFWS as threatened, the recommended buffers around bald eagle nests were larger than those now adopted under the National Bald Eagle Management Guidelines (USFWS 2007b). The Southeastern Bald Eagle Habitat Management Guidelines (USFWS 1987) recommended against most activities within 750 feet of an active or alternate bald eagle nest (the primary zone), and added a suite of seasonal recommendations for activities up to 1,500 feet (the secondary zone).

The USFWS and FWC have approved the installation of infrastructure and external residential/commercial construction within the secondary zone (750–1,500 feet) of bald eagle nests during the nesting season in Florida since the mid-1990s, with the provision that monitoring be conducted to evaluate the response of the eagles to authorized activities. These joint monitoring guidelines were formalized in 2002 to ensure that nest monitoring was conducted consistently, and to serve as a database for evaluating the ongoing and future changes in management recommendations. Results of this monitoring indicate that actions that occurred in the secondary zone were not likely to have a direct negative impact on bald eagles. The Bald Eagle Monitoring Guidelines subsequently were modified on three occasions to obtain data used to evaluate eagles' response to the revised buffer-zone distances already implemented in Florida and incorporated into the National Bald Eagle Management Guidelines (USFWS 2007b) and to reflect current USFWS policy and regulatory changes in Florida. Initial review of the information in these more recent monitoring reports suggests the current USFWS guidelines are appropriate.

Some bald eagle pairs in Florida tolerate disturbance much closer than 660 feet from the nest, and the behavior of eagles nesting close to or within developed areas seems to be increasing in Florida. Bald eagle use of urban areas is a relatively new event, and the long-term stability of urban eagle territories has not been documented fully. Although some eagles have demonstrated tolerance for intensive human activity, this does not mean that all eagles will do so (Millsap *et al.* 2004). A minimum of five years of post-impact data is needed to study the long-term effects of development within regulated nest buffer zones (Nesbitt *et al.* 1993). Both studies described above (Nesbitt *et al.* 1993, Millsap *et al.* 2004) recommended retaining buffer zones around bald

eagle nests. Therefore, the conservation of active or alternate bald eagle nests and the retention of recommended buffer zones (USFWS 2007b) are recommended to sustain the bald eagle population in Florida at or above its current level.

To better organize existing rules and to provide a location for eagle-specific rules, the FWC proposes to establish a new section within F.A.C. Chapter 68A for nongame birds (Rules Relating to Birds. F.A.C. 68A-16). Currently there are specific sections of Chapter 68A that regulate the "take" of game species, freshwater fish, fur-bearing animals, reptiles, amphibians, and many saltwater species. F.A.C. 68A-16 will create one location for existing rules pertaining to all non-listed, nongame birds. The FWC proposes moving F.A.C. 68A-13.002, "Migratory Birds; Adoption of Federal Statutes and Regulations," to this new section (Rules Relating to Birds. F.A.C. 68A-16.001). A review of current FWC rules will likely identify other rules that should be moved to this new section. Other than the eagle specific rule proposed below, the FWC is not proposing any new rules, only the reorganization of existing rules.

One rule change is necessary to implement the removal of the bald eagle from the list of threatened species (68A-27.004 F.A.C.). This management plan recommends that 68A-27.004 F.A.C. be amended by removing the bald eagle from the list simultaneously with the addition of the bald eagle rule language proposed below.

Following is draft language for a proposed Florida regulation to protect bald eagles:

F.A.C. 68A-16.002 Bald Eagle (*Haliaeetus leucocephalus*).

(1) No person shall take, feed, disturb, possess, sell, purchase or barter, or attempt to engage in any such conduct, any bald eagle or parts thereof, or their nests or eggs, except:

(a) As authorized from the executive director by specific permit, which will be issued based upon whether the permit would advance the management plan goal and objectives;

(b) When such conduct is consistent with the FWC Eagle Management Guidelines;

(c) When such conduct is consistent with a previously issued permit, exemption, or authorization issued by the FWC under imperiled species regulations (Chapter 68A-27, F.A.C.) or by the USFWS under the Endangered Species Act (U.S.C. 1531 et seq.)

(2) For purposes of this section, the term "disturb" is defined as, "To agitate or bother a bald eagle to the degree that causes, or is likely to cause (a) injury to an eagle, (b) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (c) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior."

(3) On public land, it is unlawful for any person to knowingly enter any area posted as closed for the protection of bald eagles, their nests, or their nest trees, except the staff or authorized agents of the managing public entity for that area, or as authorized pursuant to subsection 1.

(4) The section of the Bald Eagle Management Plan entitled "Permitting Framework April 2008," which includes the FWC Eagle Management Guidelines, is incorporated herein by reference.

Permitting Framework April 2008

The Permitting Framework applies to all activities within 660 feet of any active or alternate bald eagle nest.

To advance the conservation goal and objectives of this management plan, the proposed regulations listed above and this Permitting Framework are intended to assist land-use planning to minimize the potential for certain actions to disturb or "take" nesting bald eagles. This Permitting Framework clarifies (1) those activities that are not likely to result in a "take" or disturbance of bald eagles, and (2) those activities for which permits are available to assure compliance with the rules. A FWC Eagle Permit is not required to conduct any particular activity occurring near a bald eagle nest, but such a permit may be necessary to avoid liability for "take" or disturbance caused by the activity. Because the rule standard for any permit issued is "would advance the management plan goal and objectives", this section establishes criteria that meet the standard. This Permitting Framework and the FWC Eagle Management Guidelines, contained herein should be used together. Individuals who cannot follow the Guidelines and want to avoid liability for a possible disturbance or take can apply for a permit. A FWC Eagle Permit can only be issued when acceptable minimization and conservation measures are provided as permit conditions.

The FWC intends for this management plan to be compatible with the USFWS Bald and Golden Eagle Protection Act (BGEPA) and the associated National Bald Eagle Management Guidelines (USFWS 2007b). The FWC will work with the USFWS to implement a single permit framework for bald eagles. The FWC is already coordinating with the USFWS on an agreement that will clarify under what circumstances federal authorization will be required to conduct activities that cannot be conducted consistent with the Bald and Golden Eagle Protection Act. Development of such an agreement will take time in part because the USFWS has not yet developed a draft permitting framework under BGEPA. Additionally, as new information becomes available on the effectiveness of the proposed conservation measures, this permitting framework may be revised. Changes to this Permitting Framework section will require stakeholder involvement and Commission approval. Any change in policy, including any revisions to this Permitting Framework, will be posted to the FWC website <http://www.myfwc.com>, after consultation with stakeholders and the public and upon approval by the Commission.

Unless otherwise specified, this section provides guidelines for activities that occur within 660 feet of any active or alternate bald eagle nest. The framework does not apply to lost or abandoned nests. An **active** nest shows evidence of breeding by a bald eagle pair during the current or most recent nesting season. An **alternate** nest has been used for nesting during the past five nesting seasons, but was not used during the current or most recent nesting season. An **abandoned** nest has not been used for nesting for more than five consecutive nesting seasons. The recommendations in the FWC Eagle Management Guidelines (below) no longer apply to abandoned nests, but the nest itself cannot be altered. A nest is considered **lost** if the nest tree is destroyed, or if the nest is destroyed by natural causes and is not rebuilt in the same tree within two nesting seasons. The USFWS (2006b) recommends protecting lost nests for three years, but the FWC uses a two-breeding-season period because this duration has been in place in Florida for several years. Future research on nest reactivation may provide information to justify revising these recommended protection periods.

The bald eagle nesting season is 1 October–15 May unless the young fledge before or after 15 May. The following sections identify activities that should not occur within 660 feet of a bald eagle nest during the nesting season unless monitoring is conducted. Nest monitoring must follow the protocol outlined in the Bald Eagle Monitoring Guidelines (USFWS 2007d), or subsequent versions.

A. FWC Eagle Management Guidelines (Activities That Do Not Require a FWC Eagle Permit)

Activities that can be undertaken consistent with the FWC Eagle Management Guidelines do not require a FWC Eagle Permit. A process map (Figure 4) clarifies when application for a permit is recommended. Activities that do not require a permit include (1) those conducted at any time more than 660 feet from an eagle nest, (2) any temporary activity (defined below) conducted at any distance from a nest outside the nesting season, or (3) any activity conducted consistent with the FWC Eagle Management Guidelines.

Activities that do not require a FWC eagle permit include (1) those conducted more than 660 feet from a bald eagle nest, (2) any temporary activity conducted outside the nesting season, or (3) any activity that follows the FWC Eagle Management Guidelines.

The FWC recommends that the FWC Eagle Management Guidelines be followed unless a permit is issued. The FWC will not issue citations to or seek prosecution of persons whose activities are conducted consistent with the FWC Eagle Management Guidelines, even if the activity results in a "take" or disturbance of bald eagles. If it is unclear whether a proposed activity can be undertaken consistent with the FWC Eagle Management Guidelines, then the local FWC regional nongame biologist should be contacted <http://myfwc.com/Contact/regnoffc.htm> for guidance.

The FWC will not seek to prosecute persons whose activities are conducted consistent with the FWC Eagle Management Guidelines, even if the activity results in a "take" or disturbance to bald eagles.

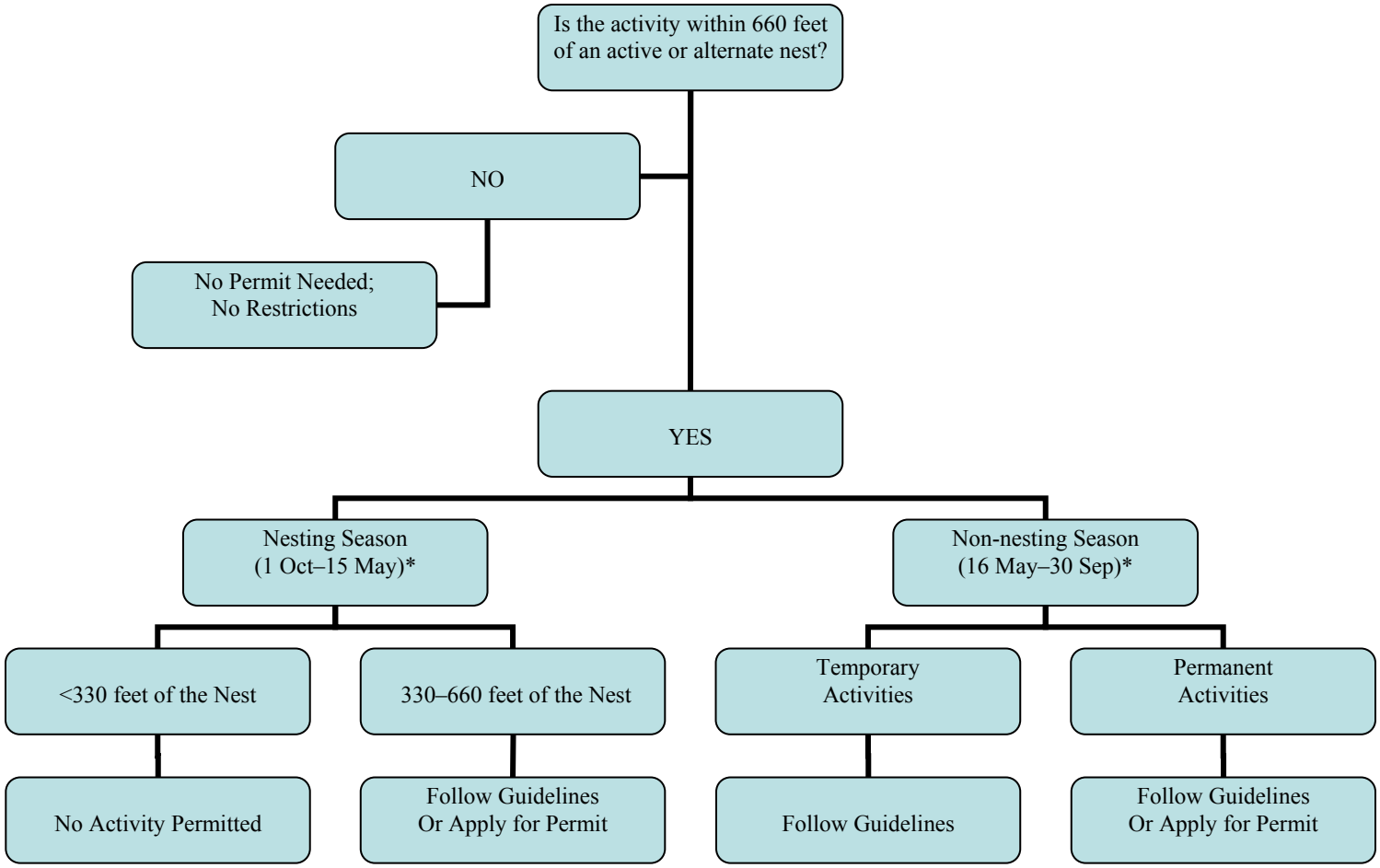

Figure 4. Process map for determining whether or not a FWC Eagle Permit would be recommended for a proposed activity near a bald eagle nest. For ongoing activities that are conducted at the historic rate, or for activities that may fall under similar scope to existing actvities, refer to the FWC Eagle Management Guidelines for more detail.

* Unless nestlings fledge before or after these dates.

Existing activities can continue at the same intensity with little risk of disturbing eagles.

Existing Uses Within 660 Feet of an Eagle Nest.—Eagles are not likely to be disturbed by routine use of roads, homes and other infrastructure, routine agricultural operations, or pre-existing vegetation management of linear utilities occurring within 660 feet of an active or alternate bald eagle nest. Therefore, in most cases, existing activities of the same degree ("similar scope") may continue with little risk of disturbing nesting bald eagles and a FWC Eagle permit is not needed. However, some *intermittent, occasional, or irregular* activities may disturb eagles. For example, activities associated with auctions, field dog trials, or other sporting events may disturb a pair of bald eagles even though the events have been held at the same location for several years. In such situations, the activity should be adjusted or relocated to minimize potential disturbance to the eagles.

Any artificial structure that contains a bald eagle nest may be maintained, repaired, or upgraded when conducted consistent with the guidelines if: (1) the work will not remove or substantially alter the nest to the extent that further use for nesting is affected; **and** (2) the work is conducted outside the nesting season or when nest monitoring in accordance with the Bald Eagle Monitoring Guidelines (2007d) documents that the nest is not being used by eagles when the work occurs.

If special circumstances that might increase or diminish the likelihood of disturbing nesting bald eagles apply to a project, or if these FWC Eagle Management Guidelines cannot be followed, then the local FWC regional nongame biologist should be contacted for guidance.

New Activities Proposed Within 660 Feet of an Eagle Nest.—The FWC Eagle Management Guidelines provided here describe measures to avoid disturbing bald eagles caused by new activities. To determine if an activity can be conducted consistent with these Guidelines, the FWC proposes to design a system to provide voluntary, self-service technical assistance through a web-based format. This format will provide data that will assist the FWC in evaluating the effectiveness of current rules and Guidelines. If proposed activities cannot be conducted consistent with the FWC Eagle Management Guidelines, then the local FWC regional nongame biologist should be contacted for guidance.

The buffer zones around eagle nests that are provided in this section are based on those recommended in the National Bald Eagle Management Guidelines (USFWS 2007b). A distance of 1,500 feet is used to evaluate the degree to which a nesting pair of bald eagles has been exposed to human-related activities (Table 3). The National Bald Eagle Management Guidelines (USFWS 2007b) use a distance of one mile from the nest to evaluate this distance, but the FWC uses 1,500 feet because this distance has been used in Florida for several years. Recommendations for nests that are distant from human activities are subject to larger buffer zones (660 feet) because eagles in these nests are more likely to be disturbed by activities near the nest.

Activities that may disturb nesting bald eagles are divided into nine categories (A–I) based on their nature and magnitude:

Category A

- Building construction of one or two stories, and with a project footprint of ≤0.5 acre;
- Construction of roads, trails, canals, powerlines, or other linear utilities;
- New or expanded agriculture or aquaculture operations;
- Alteration of shorelines, aquatic habitat, or other wetlands;
- Installation of docks or moorings;
- Water impoundment.

Category B

- Building construction of one or two stories, and with a project footprint of >0.5 acre;
- Building construction of three or more stories;
- Installation or expansion of marinas with a capacity of six or more boats;
- Mining;
- Oil or natural gas drilling or refining.

Table 3. The minimum allowed distances from an active or alternate bald eagle nest that a Category A or Category B activity can occur without the need for a FWC bald eagle permit. Activities proposed to occur closer to an eagle nest than the distances designated here should apply for a FWC Eagle Permit.

	No Similar activity within 1,500 feet of the nest	***Similar activity closer than 1,500 feet from the nest***
There is no visual buffer between the nest and the activity	Categories A and B: 660 feet.	Categories A and B: 660 feet, or as close as existing activities of similar scope.
There is a visual buffer between the nest and the activity	Category A: 330 feet. Site work and exterior construction between 330-660 feet should be conducted outside the nesting season unless the Bald Eagle Monitoring Guidelines (USFWS 2007d) are followed. Category B: 660 feet.	Categories A and B: 330 feet, or as close as existing activity of similar scope. Site work and exterior construction between 330-660 feet should be performed outside the nesting season.

For projects in categories A or B, exterior construction activities and site work within 330 feet of an active or alternate bald eagle nest should be conducted during the non-nesting season (16 May–30 September). Site work and exterior construction activities between 330 and 660 feet from the nest may be conducted during the nesting season when the Bald Eagle Monitoring Guidelines (USFWS 2007d) are followed. The use of dump trucks within 660 feet of an eagle nest should occur during the nesting season only when the Bald Eagle Monitoring Guidelines (USFWS 2007d) are followed. Minimize noise and human activity associated with interior construction during the nesting season.

Construction activities may occur during the nesting season if nest monitoring, following the Bald Eagle Monitoring Guidelines (USFWS 2007d), confirms that eagles have not returned to the nest by 1 October, or that nestlings have fledged before 15 May. In either situation, the regional FWC nongame biologist should be notified.

Managers of any project that follows these guidelines and use nest monitoring to allow construction within 660 feet during the nesting season must provide monitoring reports to the FWC. In addition to ensuring that the eagles are not disturbed while nesting, this will also provide data to analyze the appropriateness of the protective measures.

Category C: Land Management Practices, including Forestry

Certain land management practices benefit bald eagles and their habitats. Land management practices that retain old-growth native pines and that decrease the risk of catastrophic wildfire or an outbreak of timber disease are recommended. However, some management practices could "take" or disturb nesting bald eagles. A FWC Eagle Permit is not needed for land management practices occurring near an active or alternate bald eagle nest when undertaken consistent with the following guidelines.

The FWC encourages land management practices that decrease the risk of catastrophic wildfire or an outbreak of timber disease, and that retain old-growth native pines.

- Avoid clear-cutting within 330 feet of the nest at any time. This restriction may be lifted outside the nesting season for emergency provisions, such as to control disease outbreak or an insect infestation, especially when the health of the nest tree may be at risk. The regional FWC nongame biologist should be notified prior to initiating any emergency activities within 330 feet of the nest.

- Avoid construction of log transfer facilities and in-water log storage areas within 330 feet of the nest. Use of any existing road may continue at the historic rate, but avoid routing logging traffic within 330 feet of an active nest during the nesting season.

- Avoid timber harvesting, replanting, or other silvicultural operations, including road construction and chain saw and yarding operations, within 660 feet of the nest tree during the nesting season. If the Nest Monitoring Guidelines (USFWS 2007d) are applied, then activities between 330 and 660 feet may be allowed during the nesting season. If nest monitoring confirms that the nest is inactive, then the seasonal restrictions would not

apply. Selectively thin to retain at least 50% of the total canopy and the largest native pines within 660 feet of the nest. Take precautions to protect the nest tree.

- Prescribed burning within 330 feet of the nest or the installation or maintenance of firelines within 660 feet of the nest should be undertaken outside the nesting season. Precautions such as hand-raking of leaf litter and hand removal of excess fuel loads near the nest tree should be taken to decrease the threat of crown fire or fire climbing the nest tree, but these actions should not occur when eagles are present. If it is determined that a burn during the eagle nesting season would be beneficial, then these activities must be conducted when eagles are absent (*e.g.*, before eggs are laid or after the young have fledged). When appropriate to reduce fuel loads, land managers should consider mechanical treatment of the area within 330 feet outside the nesting season to allow for a safer growing-season burn. Smoke screening should be implemented to avoid impacting an active nest.

- Contact the regional FWC biologist if the use of heavy equipment within 50 feet of the nest tree is planned for an activity.

Category D: Agriculture and Linear Utilities (Existing Operations)

No buffer is necessary outside the nesting season. During the nesting season, routine agriculture or linear utility vegetation management are not anticipated to result in disturbance as long as those activities are conducted consistent with these guidelines (also see "Existing Uses Within 660 of an Eagle Nest"). For new or expanded agricultural operations, see Category A.

Category E: Off-road Vehicles

No buffer is necessary outside the nesting season. During the nesting season, off-road vehicles should not be operated within 330 feet of the nest or within 660 feet where visibility and exposure to noise are increased.

Category F: Motorized Watercraft

No buffer is necessary outside the nesting season. During the nesting season, loud vessels and concentrations of vessels (*e.g.*, commercial fishing boats or tour boats) should not be operated within 660 feet of the nest. Other motorized boat traffic within 330 feet of the nest should be minimized, and stopping should be avoided.

Category G: Non-motorized Recreation such as Hiking, Camping, Birding, Fishing, Hunting, or Canoeing

No buffer is necessary outside the nesting season. Activities visible or highly audible from the nest should not occur within 330 feet of the nest during the nesting season.

The bald eagle nesting season in Florida is 1 October–15 May, unless the young fledge before or after 15 May.

Category H: Aircraft (Including Helicopters)

No buffer is necessary outside the nesting season. During the nesting season, aircraft should not be intentionally operated within 1,000 vertical or horizontal feet of an eagle nest, except for authorized biologists trained in survey techniques and aircraft at airports or operating in prescribed landing and departure patterns. This guidance also does not apply to through-flights operating within FAA rules that unintentionally encounter eagle nests, but rather to intentional harassment of nests and eagles such as repeated passes of a nest for sight-seeing.

Category I: Blasting or Other Loud, Intermittent Noises

No buffer is necessary outside the nesting season for blasting activities that do not alter the landscape. During the nesting season, no blasting should occur within 660 feet of an active nest. Loud noises (including Class B fireworks) or blasting activities that alter the landscape within 660 of the nest should not occur during the nesting season, except where eagles have demonstrated tolerance for such activity.

B. Activities That Do Not Require a FWC Eagle Permit if Federally Authorized

In 2007, the USFWS proposed a draft permitting process under the Bald and Golden Eagle Protection Act. Because the FWC seeks to avoid duplication of effort, then the following actions permitted by USFWS will not need a FWC bald eagle permit provided that the federal permit is available for inspection while the permitted activity is being conducted. If federal rules defer to states or require proof of state authorization, then the actions listed below may need to be reevaluated.

1. *Modifications within the buffer zone of a lost nest*.—The FWC Eagle Management Guidelines prescribe protection buffers for lost nests for two consecutive nesting seasons. If federal authorization in the form of a "take" permit is obtained for an activity within the recommended buffer of a naturally-destroyed bald eagle nest prior to the nest being declared lost (*i.e.,* prior to two nesting seasons post-destruction), then no state permit will be required. Once a nest meets the definition of lost (see Glossary, p. ix: has been missing for more than two consecutive nesting seasons), then the buffer zone no longer applies, and therefore no eagle permit is necessary.

2. *Destruction of a bald eagle nest*.— Notwithstanding anything to the contrary herein, no state permit is needed if a federal "take" permit is obtained to destroy an abandoned nest.

3. *Previously permitted projects.*—The FWC will not refer the "take" of a bald eagle or parts thereof, or its nests or eggs, for prosecution if such "take" is in compliance with the terms and conditions of any USFWS bald eagle Technical Assistance Letter or any Biological Opinion or Incidental Take Permit issued under Sections 7 or 10 of the Endangered Species Act of 1973, as amended. Such letters, opinions, and permits shall serve as state authorization provided that the authorizations are issued prior to the effective date of the proposed state bald eagle rule, and that the FWC is provided with a copy of the federal authorization upon request.

4. *Salvage*.—Federal authorization to handle bald eagle carcasses, parts, or eggs for salvage purposes functions as state authorization, provided that the authorized individual carries a copy of the federal authorization.

5. *Possession for religious or cultural purposes.*—Federal authorization for the possession of bald eagles or their parts for religious or cultural purposes functions as state authorization, provided that the authorized individual carries a copy of the federal authorization.

6. *Possession of eagle parts for educational purposes.*—Federal authorization for the possession of bald eagle parts, nests, or eggs for educational purposes functions as state authorization, provided that the authorized individual carries a copy of the federal authorization, and all requirements of the federal authorization are being fulfilled.

7. *Airports.*—If federally authorized, eagles that pose an imminent jeopardy to aircraft safety and human life may be harassed by persistent, non-injurious disturbance without physical capture or direct handling by airport operators or their agents on airport property in order to prevent collisions.

C. Activities That Require a FWC Eagle Permit

Except for the federally-authorized actions listed above, any action that cannot be undertaken consistent with the FWC Eagle Management Guidelines may require a FWC Eagle Permit to avoid a violation of rule. As such, any action that results in the taking, feeding, disturbing, possessing, selling, purchasing, or bartering of eagles or eagle parts requires a permit. As defined in 68A-1.004, F.A.C., "take" includes pursuing, hunting, molesting, capturing, or killing. Under the appropriate conditions (described in this section) the FWC will issue several types of permits for bald eagles including disturbance, scientific collection, and nest removal. Other, more general permits may be issued for certain activities listed below.

Eagle Depredation at Agriculture or Aquaculture Facilities.—Non-injurious disturbance of bald eagles that are depredating agriculture or aquaculture resources requires a FWC Eagle Permit. These permits will be issued solely in accordance with appropriate federal law. Permit provisions should include required husbandry techniques that reduce or prevent future problems when applicable or reasonable. No conservation measures are required, as these permits authorize only non-injurious harassment. Permits should be issued solely for persistent depredations rather than occasional events. If federal rules adequately protect bald eagles at agriculture or aquaculture facilities, then the need for a state permit will be reevaluated.

Activities That Involve Possession

The following activities involve possession and therefore require a FWC permit. Existing rules and permitting programs for possession will not change. Applicants should be aware that federal permits for these actions are required unless federal rules or a FWC/USFWS agreement defers

the need for a federal permit when the action is authorized by the state. No conservation measures are necessary for educational display, rehabilitation, or scientific collection because these activities provide a conservation benefit to eagles.

1. *Educational Display*.—Any facility that wishes to possess live bald eagles for educational purposes must abide by caging requirements (Rule 68A-6, F.A.C.) and obtain a license for exhibition/public sale (372.921 Florida Statutes). Federal authorization for the possession of bald eagle parts, nests, or eggs for educational purposes functions as state authorization, provided that the authorized individual carries a copy of the federal authorization, and that all requirements of the federal authorization are met.

2. *Rehabilitation*.—Wildlife rehabilitators who possess a FWC Wildlife Rehabilitation permit (Rules 68A-6 and 68A-9, F.A.C.) for migratory birds also require federal authorization to possess bald eagles for rehabilitation purposes. No eagle nestling or fledgling that is attended by adult eagles should be handled for rehabilitation without first consulting the FWC regional nongame biologist, except when an emergency exists and inaction may endanger the nestling or fledgling.

3. *Scientific Collection*.—Research that might result in disturbance to bald eagles requires a Scientific Collection permit (Rule 68A-9.002, F.A.C.). Scientific Collection permits will be issued solely for projects with a sound scientific design and those that demonstrate scientific or educational benefits to the bald eagle. Federal authorization may also be required.

4. *Falconry*.—Rules pertaining to the use of birds of prey in Florida for falconry purposes are found in 68A-9, F.A.C. While the bald eagle currently may not be used in falconry, its status in falconry may change upon delisting. If the joint federal-state falconry rules provide for the possession of bald eagles for falconry purposes, then a falconry permit will be required. Conservation measures, if any, will be determined at a later date.

Activities That Require Emergency Authorization

Declared emergency.—Emergency activities associated with recovery from a federal- or state-declared disaster will require an after-the-fact FWC Eagle Permit if the activities cannot be undertaken consistent with the FWC Eagle Management Guidelines. Such activities may include operation of equipment associated with rescue, road or utility repair, or clearing of debris in transportation or utility corridors. The FWC regional non-game biologist should be contacted within 30 days to discuss possible minimization measures, and conservation measures will be assessed on a case-by-case basis on the extent of the emergency and the impacts to eagles.

Activities That Require Nest Removal

Except for the federally-authorized activities listed above, a FWC nest removal permit is required for authorization to remove or destroy any bald eagle nest, even when eagles are not present. Nest removal may be necessary because the nest presents a threat to human safety or a threat to the safety of bald eagles or their eggs or nestlings. Minimization and conservation

measures for these permits will be based on the extent of the emergency and the impacts to eagles.

A FWC Eagle Permit is required to remove or destroy any bald eagle nest, even an abandoned nest.

An abandoned nest as defined in this management plan is still considered a nest by FWC for the purposes of state rule and it also remains protected under the Bald and Golden Eagle Protection Act. If the federal permitting process adequately provides for the conservation of Florida's bald eagles, then the need for a state nest-removal permit could be waived.

Airports.—Bald eagle nests on or adjacent to airports could increase the risk of an aircraft/avian strike, and are therefore considered hazardous to human safety and to nesting bald eagles and their young. Federal law requires airports to develop and implement a Wildlife Hazard Management Plan (WHMP) to manage and control wildlife that presents a risk to public safety from aircraft collisions. These plans include techniques to avoid attracting eagles, and non-injurious harassment to prevent eagles from frequenting the property. Both a FWC nest removal permit and federal authorization are required for the removal of eagle nests on or adjacent to airports.

Nest removal from artificial structures.—When maintenance of an artificial structure requires the removal of an active or alternate bald eagle nest that is *not* an immediate threat to human safety, then the nest may be removed only outside the nesting season and only after a FWC nest-removal permit has been issued. Federal authorization may also be required. Minimization and conservation measures will be assessed on a project-by-project basis.

D. Activities That May Require a FWC Eagle Permit

No FWC Eagle Permit is required for any activity that is conducted consistent with the FWC Eagle Management Guidelines.

A permit is not required to conduct any particular activity, but is necessary to avoid liability for take or disturbance caused by the activity. Therefore, any land-altering activity within 660 feet of an active or alternate bald eagle nest that cannot be undertaken consistent with the FWC Eagle Management Guidelines may require a FWC eagle permit. Activities beyond 660 feet do not ever require a FWC Eagle Permit. The FWC will issue an eagle permit where the applicant provides minimization and/or conservation measures that will advance the goal and objectives of this management plan.

Minimization Measures

The following minimization measures are intended to reduce the potential for disturbing eagles and may be required as part of a FWC Eagle Permit.

Construction-related Activities Within 660 Feet of an Eagle Nest

For projects that receive a FWC Eagle Permit, the following minimization efforts may be required:

1. Implement the Bald Eagle Monitoring Guidelines (USFWS 2007d) for all site work or exterior construction activities. Avoid exterior construction activities within 330 feet of the nest during the nesting season.
2. Avoid construction activity (except those related to emergencies) within 100 feet of an eagle nest during any time of the year except for nests built on artificial structures, or when similar scope may allow construction activities to occur closer than 100 feet.
3. Avoid the use or placement of heavy equipment within 50 feet of the nest tree at any time to avoid potential impacts to the tree roots. This minimization does not apply to existing roads, trails, or other linear facilities near an eagle nest, or to nests built on artificial structures.
4. Schedule construction activities so that construction farther from the nest occurs before construction closer to the nest.
5. Shield new exterior lighting so that lights do not shine directly onto the nest.
6. Create, enhance, or expand the visual vegetative buffer between construction activities and the nest by planting appropriate native pines or hardwoods.
7. Site stormwater ponds no closer than 100 feet from the eagle nest, and construct them outside the nesting season. Consider planting native pines or hardwoods around the pond to create, enhance, or expand the visual buffer.
8. Incorporate industry-approved avian-safe features for all new utility construction <www.fws.gov/migratorybirds/issues/APP/AVIAN%20PROTECTION%20PLAN%20FINAL%204%2019%2005.pdf>.
9. Retain the largest native pines for use as potential roost or nest sites.

Land-Management Activities Within 660 Feet of an Eagle Nest

Most land management activities can be planned to comply with the FWC Eagle Management Guidelines and will not require a permit. For land management activities that receive a FWC Eagle Permit, the following minimization efforts are recommended:

1. Avoid the use or placement of heavy equipment within 50 feet of the nest tree to avoid potential impacts to tree roots. This minimization does not apply to existing roads, trails, or other linear facilities near an eagle nest or to nests built on artificial structures.
2. Plan the activity to avoid the nesting season to the greatest extent possible. Avoid disruptive activities when eagles are incubating eggs or when nestlings are close to fledging.
3. Schedule activities so that activities farther from the nest occur before activities closer to the nest.
4. Maintain the greatest possible vegetative buffer between land management activities and the nest.
5. Retain the largest native pines for use as potential roost or nest trees.

Conservation Measures

The conservation measures listed below will advance the management plan goal and objectives by (1) continuing to provide suitable eagle nesting habitats throughout Florida, and (2) funding monitoring, research, and management activities. When an activity cannot be undertaken consistent with the FWC Eagle Management Guidelines (*e.g.*, when disturbance or take may occur), then a FWC Eagle Permit is recommended to avoid a possible violation of the FWC eagle rule.

Conservation measures apply to any active or alternate bald eagle nest.

When construction activities are planned inside the recommended buffer zone of an active or alternate bald eagle nest, then issuance of a FWC Eagle Permit will require conservation measures. The following conservation measures are considered to advance the goal of the management plan; alternatives submitted under option 5 will be reviewed by FWC staff to determine if they will advance the goal of the management plan. The number of conservation measures will depend upon the distance that the activity will occur from a bald eagle nest. For activities between 330 and 660 feet, one conservation measure is sufficient. For activities within 330 feet of a nest, two conservation measures should be included with the application and one of the two measures should be a $35,000 contribution to the Bald Eagle Conservation Fund (#1, below). When activities would likely cause disturbance during only one nesting season, conservation measures need not be provided if they would only affect an alternate nest, but conservation measures should be provided if they will affect an active nest.

1. Contribute $35,000 to the Bald Eagle Conservation Fund to support bald eagle monitoring and research.
2. Provide a financial assurance (such as a bond) in the amount of $50,000.
3. Grant a conservation easement over the 330-foot buffer zone of an active or alternate bald eagle nest within the same or an adjacent county, or within the same core nesting area (Figure 3). When the buffer is only partially owned by the applicant, contribute an onsite easement over the portion of the 330-foot buffer zone to which the applicant holds title.
4. Grant a conservation easement over suitable bald eagle nesting habitat (see #5, below) onsite or offsite.
5. Propose an alternate conservation measure that advances the goal of the management plan based upon the particular facts and circumstances presented by the applicant.

Conservation measures are based on the following guidelines:

1. Conservation easements and financial assurances can be terminated, released, or returned to the landowner if the nest for which an activity is permitted is successful (produces at least one fledgling) for at least one of the three years after the permitted activity is completed; the burden of proof is upon the applicant. If a nest is lost to natural causes (i.e. strong winds, fire), the easement or bond may be released on the third year if eagles have not built a new nest within the buffer. Financial assurances that

are not returned to the landowner will be turned over to the Bald Eagle Conservation Fund.

2. Fee structure is based on the likelihood of disturbance to eagles; activities closer to a nest provide more conservation measures than activities farther away. As such, activities permitted within 330 feet of an active or alternate bald eagle nest should contribute $35,000 to the Bald Eagle Conservation Fund as one of two conservation measures **and** provide an additional conservation measure.
3. The amount of fees paid outright is lower than fees paid as a bond because costs for FWC administration (including site visits) are less.
4. The fee amount is for calendar year 2008; the fee will be adjusted in subsequent years as specified below in the Monetary Contribution section (next page).
5. Suitable habitat for bald eagles will be evaluated based upon the following characteristics: within 1.86 miles of a permanent water body ≥0.2 square miles in size; contain a canopy of mature native pines or cypresses with several perch trees and an unimpaired line of sight (habitat in southern Florida may include mangrove or other native species); few land-use features (low density housing, industrial, etc.) and linear and point features (roads, powerlines, railroads, etc.) within 0.5 mile; ideally should be located in a previously identified bald eagle core nesting area.
6. Conservation easements must include at least the 330-foot buffer around an active or alternate eagle nest. Where the buffer is only partially owned by the applicant, an onsite easement may be placed over that portion of the property to which the applicant holds title. Easements may be placed only around nests that are in suitable habitat as described above.
7. Conservation easements must include provision of funds for management practices for the life of the easement. Management practices should include all activities listed under "Category C: Land Management Practices, including Forestry" and must be conducted by the landowner or other entity. The FWC will hold all easements and will ensure compliance with minimization and conservation measures.
8. Bald eagles often build multiple nests that are used alternately. Projects that either avoid potential take by avoiding impacts within the buffer zone or that receive a permit to conduct activities within the buffer zone may later be affected if an eagle pair initiates construction of a new nest within the project boundary. The FWC believes that projects that follow proper procedures for bald eagles should not have to provide additional conservation measures for any new eagle nest built on the site after the planning and permitting procedures have been completed. Therefore, other than the fact that the nest itself cannot be destroyed, such projects will not be expected to provide further conservation measures if bald eagles choose to move their nest location within the project site.

Monetary Contribution

The Conservation Measures portion of this management plan references a contribution to the Bald Eagle Conservation Fund. The fund was created by a Memorandum of Understanding between the USFWS, the FWC, and the Wildlife Foundation of Florida. The fund collects monetary contributions from the issuance of FWC Eagle Permits to applicants whose projects impact the buffer zones of active or alternate bald eagle nests. Funds may be spent on surveys,

monitoring, other research needs, or any other activity that promotes the conservation goal of bald eagles. The contribution amount will be adjusted over time to ensure that conservation funding keeps pace with inflation. Tying the change to the Consumer Price Index will ensure the contribution is adjusted relative to actual price increases or decreases. The FWC will use the "All Urban Consumers Consumer Price Index" (CPI-U), which is a reflection of the highest percentage of the population, and the CPI-U for the Southeast region. Information on the Consumer Price Index is available at <www.bls.gov/cpi>.

In the first year following the effective date of the FWC bald eagle rule, the monetary contribution will be as specified above. In each subsequent year, this amount will change by an amount equal to the annual CPI-U for the Southeast region, and will be based on changes during the CPU calendar year (1 January–31 December). Adjustments to the contribution amount should take effect on 1 March of each year because the CPI for the previous year is usually not available until mid-February. The contribution will be calculated based on the date that a completed application is received by FWC.

For example, if the FWC bald eagle rule takes effect during April 2008, and if the appropriate contribution to the Bald Eagle Conservation Fund through February 2009 is $35,000, then on 1 March 2009, the amount would change at the same rate as the CPI-U for the Southeast Region for the 2009 calendar year. If the CPI-U for the Southeast Region increased by 3%, then the appropriate contribution would be $36,050 (3% of 35,000 = 1,050; 35,000 + 1,050 = 36,050).

The amount of the monetary contribution is due prior to conducting the permitted activities. Contributions may be applied toward annual monitoring surveys, research, purchase of eagle habitat, or other conservation activities. To offset local impacts of projects, preference will be given to land purchases within the same county or core nesting area.

Local Government Coordination

The FWC has the constitutional authority and duty in Florida to manage wildlife in the state. The role of local government and other agencies in the regulation and management of wildlife must be well-defined. Local governments are statutorily required to include a conservation element in their comprehensive plans for the conservation, use, and protection of natural resources, including fisheries and wildlife, pursuant to Chapter 163, F.S. Coordination between the FWC and local governments in implementing components of this plan is essential for the successful conservation and management of bald eagles in Florida.

Local governments and regional or state agencies (e.g. water management districts) often are the first to conduct site inspections of properties where land-clearing or building permits are sought. These on-site inspections typically occur early in the permit process and provide the opportunity to confirm the presence or absence of bald eagles, and to inform landowners and developers about required FWC permits and authorizations. This action by local governments or other agencies provides a mechanism to assure that necessary FWC permits can be issued earlier in the permit approval process, prior to issuance of local government land-clearing or building permits.

Local governments and other agencies also play a substantial role in bald eagle conservation and management by providing protected and managed areas for eagles. Many local governments have created habitat-acquisition and management programs, which can provide important assistance in achieving the goal and objectives of this management plan. The FWC will coordinate with local governments and other agencies to help ensure that local land-acquisition programs and their implementing ordinances and policies are: (1) consistent with the goal and objectives of this management plan; and (2) focus on acquisition priorities for bald eagles and other important wildlife species.

Coordination between the FWC and local governments is crucial in efforts to increase funding for land acquisition and management. The FWC will encourage local governments and other agencies to support the FWC's efforts to assure adequate funding within the successor to the Florida Forever program.

Effective cooperation between the FWC and local governments can streamline the permit review process, improve regulatory compliance, and improve management of locally owned or managed lands that support bald eagles and other species of conservation concern. The FWC will assist and encourage local governments to perform the following activities:

- Remain current with FWC regulations related to the management of the bald eagles.
- Provide information to landowners, builders, and the general public about this management plan and regulatory prohibitions and permit options. These efforts will help promote compliance with FWC regulations and understanding of FWC incentives available to landowners.
- Include on permit applications for land-clearing or building activities a questionnaire to determine whether surveys have been conducted for bald eagles.
- Inspect parcels that are undergoing development review for the presence or absence of bald eagles, and when eagles are present (as confirmed through site visits by trained county staff, or environmental consultant reports/data) notify FWC staff to assure compliance with FWC eagle rules and guidelines.
- Consider requiring the issuance of a FWC Eagle Permit early in a project's permit-approval process before issuing local land-clearing or development permits.
- Notify the FWC of wildlife complaints or potential FWC rule violations through the Wildlife Alert number (1-888-404-3922). Coordinate with FWC law enforcement in providing supporting information for law enforcement investigations.
- Use Memoranda of Understanding with FWC to implement any of the above actions.

The FWC will:

- Create outreach materials for local governments, landowners, and the general public to foster better understanding of and compliance with this management plan and with other FWC regulations.
- Provide to managers of Florida's public lands the locations of all active and alternate bald eagle nests to allow for proper management of surrounding habitats.

- Cooperate with the Prescribed Fire Strike Team program set up as part of implementation of the Gopher Tortoise Management Plan and other fire strike teams to assist with management of bald eagle habitats on public lands.
- Lead efforts to attain additional funding through the successor to the Florida Forever program to allow local and state governments to acquire and manage additional conservation lands for bald eagles.
- Identify and prioritize through the FWC management-needs database potentially suitable sites on publicly owned or controlled lands that are in need of habitat restoration.
- Assist in establishing incentives in land development codes to better manage and restore publicly owned or controlled land to provide habitat for bald eagles and other wildlife.
- Schedule workshops with local governments and other agencies to provide information on this plan and FWC regulations applicable to bald eagles and information on the role of local governments and other agencies in providing compliance assistance with FWC rules.

Monitoring Plan

Population Monitoring

FWC staff and others have monitored bald eagle nests in Florida since 1972. The information gathered during the past 35 years includes the locations of thousands of eagle nests and nesting territories, breeding productivity, core nesting areas, reproductive success, and population trends. Current information pertaining to the status and trends of the eagle population in Florida, as well as the current status of all known active eagle nests, is available online at <www.myfwc.com/imperiledspecies/eagle>. An online database for reporting new or previously undiscovered eagle nests in the state is anticipated to be available during spring 2008. Continued monitoring of bald eagle nests in Florida will provide the scientific data necessary to evaluate whether the objectives of this management plan are being achieved, and to determine whether future modification of this management plan and its guidelines may be warranted.

A survey of all known bald eagle nests in Florida is conducted annually between November and March of each nesting season. Surveys are flown by FWC biologists or contractors, and, for Everglades National Park, by National Park Service staff. New or previously undiscovered nests are searched for opportunistically during the regular survey flights. Replication of the survey methodology ensures that effort is comparable among years. All nesting and productivity data for bald eagles in Florida are compiled and analyzed to generate annual population estimates that are used to determine population trends.

Additional surveys were conducted during the 2006–2007 nesting season to determine the efficiency of the current protocol for finding previously undiscovered bald eagle nests and to locate new nests in potential bald eagle habitat.

FWC researchers have identified 16 core areas of bald eagle nesting activity (Figure 3). Changes in size, configuration, and location of these areas will be monitored, and their importance to the overall bald eagle population in Florida will be determined as new data become available.

The Draft Post-Delisting Monitoring Plan (USFWS 2007c) recommends that bald eagle nests be monitored every five years for three eagle generations (24 years). Monitoring eagle nests and nesting territories in Florida at a five-year interval would not provide adequate information to verify that the conservation objectives of this plan were being maintained. Additionally, annual surveys provide to contractors, consultants, land owners, and other interested parties the status of all known active and alternate eagle nests in the state, and provide a basis for declaring nests to be lost or abandoned. To ensure that the conservation objectives of this management plan are being maintained, the FWC recommends that annual surveying continues for the next 24 years (*i.e.,* until 2032). In addition to existing information about the status of eagle nests, biologists characterize the habitat and land-use changes within each nesting territory in Florida. This information may help to identify the factors that affect population changes, movements patterns, habitat changes, and other trends.

The continuation of FWC surveys of all known eagle nests and nesting territories is dependent on securing funding. If funding is limited, then the FWC may choose to survey only a sample of the eagle nests and nesting territories statewide annually, and to develop methods to estimate the overall population. This sub-sampling approach, if developed, will reduce funding costs while continuing to monitor the status of bald eagle nests and nesting territories statewide on an annual basis.

The FWC may partner with other agencies, colleges or universities, or non-governmental organizations in Florida (*e.g.*, Audubon's Eagle Watch program) to assist in the monitoring of bald eagle nests and nesting territories. Such partnering would be another way to possibly reduce monitoring costs while assuring that the appropriate data are collected. Every five years, the FWC will ensure that the data collected in Florida are comparable with data from other states to contribute to the national breeding population estimate.

Project-Specific Nest Monitoring

The Bald Eagle Monitoring Guidelines (USFWS 2007d) recommend monitoring an eagle nest if construction activities occur within 660 feet of the nest during the nesting season (1 October–15 May). These federal guidelines standardize the method for gathering data to evaluate eagle responses to activities that may cause disturbance. The guidelines are designed to: (1) describe normal nesting behavior of bald eagles; (2) identify specific behavioral responses of adult and young eagles that may warrant cessation of development activities; (3) propose the type and level of monitoring necessary to detect a change in normal eagle behavior; (4) prescribe a procedure for reporting to the USFWS and the FWC the observations that may be used to halt or modify construction activities; and (5) provide data to the FWC to evaluate the effectiveness of the current FWC Eagle Management Guidelines. The FWC has adopted the Bald Eagle Monitoring Guidelines (USFWS 2007d). To ensure compliance with these guidelines, the FWC may conduct random spot-checks of projects that are following the guidelines, as resources allow. The information obtained from these monitoring efforts may provide additional insight into the tolerance of bald eagles to human activities near their nests.

Mortality Monitoring

The FWC will evaluate the sources and extent of bald eagle mortality in Florida. These data, coupled with population monitoring, will aid in determining the cause or causes of any decline in the eagle population. An increased mortality rate or a rapid change in the causes of mortality may trigger a management action to address the problem. The FWC's Division of Law Enforcement and the USFWS have worked cooperatively to develop protocols for salvaging and storing eagle carcasses that are sent to the National Eagle Repository in Denver, Colorado. The USFWS has purchased freezers for FWC to store these carcasses until shipments to Colorado can be made. The FWC and USFWS have developed a mortality database that includes the cause of each eagle death.

Education and Outreach

An active conservation education and outreach program will help ensure that the public understands the status of the bald eagle's recovery, knows what protections and management strategies maintain the population, and, most importantly, what citizens can do to aid the eagle's recovery.

Key messages for education and outreach efforts include:

- The bald eagle is an Endangered Species Act success story that is no longer threatened with extinction;
- Delisting does not mean that the bald eagle is no longer protected—state and federal regulations will continue to protect bald eagles, their nests, and their nesting territories; and
- The bald eagle's recovery is a result of prescribed management efforts that will continue, so that a population decline does not occur and trigger a need for future relisting of the species.

This education and outreach plan includes an emphasis on the following audiences:

- Local government planning and permitting staff
- Other federal or state governmental agencies
- Development professionals and private land owners
- Environmental consulting firms
- Conservation-oriented public and groups
- Media representatives
- Local, state, and federal law-enforcement personnel
- Managers of public lands
- Land-acquisition organizations
- Agricultural, silvicultural, ranching, and aquacultural interests
- Power companies
- Communication tower managers
- Landfill managers
- Veterinary associations
- Airport managers and Federal Aviation Authority representatives

Although some of these efforts may be concentrated within bald eagle core nesting areas, efforts will be statewide when possible to maximize benefits to eagle conservation in Florida. All education and outreach efforts such as handbooks, brochures, and PowerPoint presentations will be available for downloading from the FWC's bald eagle website <www.myfwc.com/imperiledspecies/eagle>. Bald eagle interest groups, stakeholders, and the media will be notified when these materials are available online. FWC staff will give presentations about bald eagle conservation in Florida to various interest groups.

All Audiences:

- Create and distribute a brochure that contains key messages about bald eagle recovery, provisions of this management plan, and actions that citizens can take to continue the conservation of eagles in Florida.
- Develop and maintain web pages that contain popular, scientific, legal, and permitting information on bald eagles.
- Create a PowerPoint presentation that is adaptable to different audiences.
- Create a 2-minute video about bald eagle recovery.
- Promote FWC's Wildlife Alert Program in all materials.

Developers, Consultants, Government Agencies, Private Landowners, and Land-Use Planners:

- Create a handbook that describes new regulations, permit options, and management guidelines. This will include bald eagle biology and recovery status, effects of development on nesting eagles, conservation and minimization measures of this management plan, landowner stewardship incentives, and how to comply with state and federal laws and guidelines.

Conservation-oriented Citizens:

- Publish articles in appropriate print and electronic media that highlight key messages about bald eagle biology, recovery status, new rules and guidelines, how and where to observe eagles, and what citizens can do to aid eagle conservation.

Law Enforcement Personnel:

- Provide information on the management implications of federal and state delisting efforts on conservation of bald eagles in Florida. Emphasize that regulations and guidelines will continue to protect eagles, their nests, and their nesting territories.

Land Managers and Land-Acquisition Agents:

- Provide information on the need for continued acquisition of bald eagle habitats, particularly parcels within core breeding areas. Give presentations to inform managers about the FWC's bald eagle website <www.myfwc.com/imperiledspecies/eagle> and technical assistance available from the FWC to properly manage habitats around eagle nests.

Agricultural, Silvicultural, Ranching, and Aquacultural Interests:

- Prepare a fact sheet that includes information on land-use regulations, industry-specific management recommendations, and stewardship incentives.

Power Companies and Communication Tower Managers:

- Provide information on threats posed to eagles by powerlines and communication towers from electrocution or collision, and include recommendations for retrofitting utilities with "avian-friendly" hardware. Provide information on how to discourage eagles and other large raptors from perching on or near hazardous towers. Focus on areas with high raptor mortality, and near core bald eagle nesting areas

Landfill Managers and Veterinary Associations:

- Provide information about the importance of incinerating or quickly burying the carcasses of euthanized animals to prevent the deaths of eagles from secondary barbital poisoning.

Airport Managers, Federal Aviation Administration Officials:

- Provide information on rules and regulations pertaining to bald eagles and their nests on or adjacent to airports. Provide information on how to discourage eagles from frequenting areas around airports.

Research

Much information concerning the life history and habitat requirements of the bald eagle is known from previous studies. Among numerous other topics published from Florida are the following: research on bald eagle nesting requirements (Broley 1947, McEwan and Hirth 1979, Wood *et al.* 1989); effects of habitat protection (Nesbitt *et al.* 1993); analyses of setback distances and disturbance levels (Nesbitt *et al.* 1993, Millsap *et al.* 2004); and habitat use and movements (Wood 1992, Wood *et al.* 1998, Mojica 2006). Despite the wealth of information gathered previously, much information remains to be obtained or refined to ensure the long-term conservation of bald eagles in Florida.

Current or Planned Research

The FWC has already secured funding for the following projects.

Maximize effort to locate new or previously unreported bald eagle nests.
The FWC is using Geographic Information System (GIS) software to evaluate potential bald eagle nesting habitat to locate new nesting territories. This project will determine the precision of the current survey and what modifications need to be made.

Determine the number of nests on properties that are protected.
Although only about 33% of all known bald eagle nesting territories in Florida occur on public lands (Sullivan *et al.* 2006, Nesbitt *et al.* in review), it is thought that many more territories are located on privately-owned lands that are protected via perpetual conservation easements or similar instruments. The FWC will analyze the protection status of lands surrounding all bald eagle nesting territories in the state.

Evaluate the effectiveness of the FWC Eagle Management Guidelines and determine the long-term effects of development near eagle nests.
As additional residential, commercial, or industrial developments encroach on previously undisturbed bald eagle nesting territories, it would be beneficial to test not only the proximate effects of encroachment on eagle nests, but also the long-term post-construction history of nesting territories. Data supplied via nest monitoring and through the self-service, technical assistance website will assist in this effort. The FWC will determine the population trends and demographic characteristics of bald eagles in Florida, and will assess the long-term effects of human activities on eagle productivity and survivorship. Results of these and other analyses will

guide future research, and may result in lessening of regulations related to buffer zones around eagle nests, should population trends warrant such changes.

Future Research

The FWC needs to identify funding sources for the following proposed projects.

Determine the appropriateness of the FWC Eagle Management Guidelines.
Upon delisting the bald eagle in Florida, the FWC proposes to determine the level of protection needed to ensure a stable or increasing eagle population. This would include evaluating the need for and if needed, the required size of buffer zones around active or alternate bald eagle nests, and how many nesting territories need to be protected to ensure a stable or increasing population.

Determine the frequency of nest reoccupation.
Current guidelines provide for buffer zones to be maintained around abandoned eagle nests for five consecutive nesting seasons. The FWC proposes to determine to what degree abandoned eagle nests may be reoccupied.

Determine success of the delisting protection measures.
The FWC proposes to compare bald eagle data from Florida collected post-delisting with data collected pre-delisting to determine changes in population trends, management effects, and territory occupancy potentially resulting from the delisting protections or modifications.

Investigate the utility of a population viability analysis (PVA) to address specific questions about bald eagles in Florida.
A PVA can be of great use to modeling anticipated threats to bald eagles, such as those from continued encroachment of nest buffers by human activities. A PVA may also allow the determination of a conservation "end point," after which regulation of land-use of private lands that support eagle nests may no longer be necessary. Many components and parameters need to be considered to conduct an accurate PVA, including data on bald eagle survivorship, movements, and reproductive rates. The usefulness of a PVA will be evaluated based on questions that may be answered with available data.

Test the Bald Eagle Habitat Index of Viability (BEHIV) model to determine its value and accuracy as a tool for management.
The BEHIV analysis (Nesbitt *et al.* in review) uses GIS to score bald eagle nests in Florida based on several site-specific parameters. This analysis may identify the long-term stability of eagle nesting habitats, and could be used to aid the decision-making process when considering whether to regulate land-use within eagle nesting territories.

Study use of landfills by bald eagles in Florida.
Many eagles forage or loaf at landfills, where they may be exposed to secondary pentobarbital poisoning or other dangers. The FWC proposes to monitor the use of landfills by bald eagles in Florida, examining non-nesting roost populations, temporal use, age-class, land use, and other topics.

Study the use of artificial nesting structures by bald eagles in Florida.
The use of artificial structures as nesting substrates by bald eagles in Florida seems to be increasing. The FWC proposes to monitor the use and success of bald eagles nesting on these structures, and will determine if this behavior is a result of the increased availability of artificial substrates, an increasing willingness of bald eagles to nest in urban areas, and/or a decrease in the availability of suitable natural structures. Because most structures are not built to support bald eagle nests, and the nests may be considered hazards to human safety or property (as well as to the eagles and their eggs or nestlings), then the FWC will also examine ways to discourage eagles from nesting on these structures.

Study the movements of post-breeding adult bald eagles from Florida.
The FWC proposes to identify areas that support Florida's breeding bald eagles during the non-nesting season. This information is not well known and is important for understanding the risks and hazards posed to Florida's nesting eagles during migration and on their summering grounds. The FWC will partner with wildlife agencies in other states because most of Florida's nesting eagles summer outside the state.

Study how, when, and where Florida-produced eagles enter the breeding population.
The FWC proposes to study the tendency of eagles to return to their natal areas, sex ratios of adult eagles in the population, and habitat choices of eagles during their initial breeding attempt.

CHAPTER 5: IMPLEMENTATION STRATEGY

Priority Actions

A prioritized approach to this management plan will help maintain the conservation objectives and will facilitate the coordination necessary to successfully implement the plan. The actions in the summary list below are described in more detail in Chapter 4.

Priority Actions to be Undertaken by the FWC

- Approve and implement the proposed rule to protect bald eagles (68A-16.002, F.A.C.), simultaneously with removing the bald eagle from 68A-27.004 F.A.C.
- Implement the proposed permitting framework.
- Design a technical assistance system that operates effectively and efficiently to minimize FWC staffing requirements and provides optimal customer service and conservation benefit.
- Prepare press releases and print- or web-based materials to communicate to the concerned, conservation-oriented public and other stakeholders the new protection rules and FWC Eagle Management Guidelines.
- Develop and maintain a website to centralize information on bald eagles.
- Create a handbook for development professionals, local governments, water management districts, and private landowners that describes new regulations, stewardship incentives, and FWC Eagle Management Guidelines to be followed upon delisting of the bald eagle in Florida. Concentrate efforts to circulate the handbook and other presentations in regions that support bald eagle core nesting areas.
- Work with local governments to make them aware of FWC wildlife regulations.
- Work with water management districts and DEP to make them aware of FWC's regulation and habitat management guidelines for eagles.
- Work with Florida state agencies such as the Department of Transportation to develop agreements to streamline permitting and provide suitable conservation actions when needed.
- Apply for grants to fund implementation of additional conservation actions.
- Continue aerial surveys to monitor the reproductive success of bald eagles in Florida and the locations and status of their nests, and convey this information annually to stakeholders and other interested parties.

- Increase efforts to locate new or previously undiscovered bald eagle nests.

- Reevaluate the distance at which nesting bald eagles are disturbed.

Priority actions to be undertaken by other agencies with assistance from FWC

- Adopt language in land development codes and/or comprehensive plans to include wildlife protected under FWC rules, whether or not classified as imperiled.

Priority actions for private citizens

- Report new or previously undiscovered bald eagle nests to the FWC.

- Report violations of the bald eagle rule to the Wildlife Alert number (1-888-404-3922).

- Manage habitats on private lands to benefit bald eagles and other species of conservation concern.

- Support bald eagle conservation actions.

Required Resources and Other Costs Associated with Implementation

Many of the conservation actions identified in this management plan have been in place for many years; the FWC has been actively managing Florida's bald eagle population since the early 1970s. Ongoing conservation actions include annual monitoring of all known bald eagle nests and nesting territories, investigating and prosecuting illegal activities, recovering eagle carcasses, and maintaining a website for inquiries about bald eagles, their nests, and their nesting territories. The FWC will continue these activities upon delisting of the bald eagle.

Many FWC staff will assist with implementation of this plan. The FWC may require additional staff and funding to perform some or all of the following activities: continue the annual aerial nest surveys; update and expand the bald eagle website to provide information on permitting, the FWC Eagle Management Guidelines, and nest locations; implement incentive programs; work with local governments; and provide public education and outreach. Funds paid into the Bald Eagle Conservation Fund to compensate for permitted activities within buffer zones around eagle nests will provide the funding necessary for some of these activities. Expected annual costs of implementing the plan (in 2007 dollars) are as follows:

$ 6,950 – salary and benefits for Avian Taxa Coordinator for 10% time
$ 8,700 – salary and benefits for 5 Regional Nongame Biologists for 2.5% time each
$ 13,900 – salary and benefits for Avian Research Biologist for 25% time
$ 17,300 – salary for OPS Biological Scientist II 50% time
$ 14,800– salary for OPS Fish and Wildlife Technician 50% time
$ 14,000 – salary for OPS Biological Scientist (database manager) for 25% time
$ 40,800 – salary and benefits for one new Law Enforcement officer

$ 60,000 – salary and expenses for OPS Biological Scientist III to lead plan implementation
$ 80,500 – aerial survey costs (two years of funding is secured)
$ 5,000 – field and office equipment and supplies
$ 5,500 – salary for one Public Information Coordinator for 10% time
$ 8,000 – salary for Conservation Stewardship Coordinator for 20% time
$315,080 – Total Annual Recurring Cost

Expected one-time costs over five years are as follows:

$ 17,500 – development and production of brochures, handbooks, and fact sheets
$ 25,000 – startup costs for plan implementation

Efforts to effectively implement the plan will be greatly enhanced by cooperation with and active participation of external agencies. In particular, local governments, water management districts, DEP, and the USFWS will play important roles in implementing this plan, and numerous other stakeholders have expressed an interest in bald eagle issues.

Implementation Schedule

As noted above, conservation of the bald eagle through implementation of this management plan requires the cooperation of an array of agencies, managers, universities, landowners, and stakeholders. The following list is divided into priorities to be initiated in the first year and those to be initiated within the next five years to maintain the conservation goal and objectives for bald eagles.

Actions that the FWC should begin within the next 12 months

- Approve and implement the proposed rule to protect bald eagles and their nests;
- Implement a permitting framework as described in Chapter 4;
- Prepare press releases and print -or web-based materials to communicate to all audiences the key messages, new protection rules and guidelines, and ways that citizens can contribute to maintaining recovery;
- Continue law enforcement activities such as patrol, enforcement, and education;
- Develop a website to centralize all available information on bald eagles;
- Create resources (*e.g.*, a handbook or PowerPoint presentation) for development professionals, county governments, water management districts, and private landowners that describe new regulations, stewardship incentives, and FWC eagle management guidelines developed to protect bald eagles upon delisting. Concentrate efforts to circulate the handbook and make presentations in regions that support bald eagle core nesting areas (Figure 3, page 7);

- Continue aerial surveys to monitor the reproductive success of bald eagles in Florida and the locations and status of their nests and nesting territories;
- Expand efforts to locate new and previously undiscovered eagle nests;
- Reevaluate the distance at which some nesting bald eagles may be disturbed;
- Work to enhance and manage bald eagle habitats on state-owned and state-managed lands;
- Apply for grants to fund priority actions/research;
- Initiate random spot-checks of construction projects that are following the FWC Eagle Management Guidelines;
- Review the information provided during nest-monitoring events and evaluate the annual nest-monitoring protocol to ensure that the information collected can assist in answering some of the most pressing management questions.

Actions that local governments and other state agencies should begin within the next 12 months with assistance from the FWC

- Adopt procedures within ordinances to assist and assure consistency with management guidelines and policies for bald eagles.
- Work to enhance and manage bald eagle habitat on state-owned and state-managed state-owned lands.

Actions that the FWC should continue or implement during the next five years with assistance from outside entities

- Continue aerial surveys to monitor the reproductive success of bald eagles in Florida and to update the locations and status of eagle nests and nesting territories;
- Determine the percentage of bald eagle nests that are protected on public lands or by perpetual conservation easements, or otherwise unlikely to be further developed;
- Continue to monitor and manage fish populations and aquatic habitats;
- Continue law enforcement activities such as patrol, enforcement, and education;
- Develop and maintain funding sources for continued monitoring and data analysis of bald eagle nests and nesting territories;
- Study long-term trends in the statewide bald eagle population;

- Study the frequency at which bald eagles reactivate an abandoned nest, and after how many years of non-use;
- Study the effectiveness of post-delisting regulations and recommendations;
- Test the value and accuracy of the BEHIV model (Nesbitt *et al.* in review) as a tool for habitat management;
- Study the long-term effects of development near bald eagle nests;
- Study the use of artificial nesting structures by bald eagles in Florida;
- Study the movements of post-breeding bald eagles after they migrate out of Florida;
- Study how, when, and where Florida-produced bald eagles enter the breeding population;
- Monitor the sources and extent of bald eagle mortality;
- Prepare a fact sheet that describes the need for continued acquisition of bald eagle habitats, particularly within core nesting areas;
- Create and distribute a brochure with key messages about bald eagle biology and recovery status, observing eagles, and what citizens can do to aid recovery;
- Prepare a fact sheet that includes information on land-use regulations, the threat posed to eagles by power lines, industry-specific management recommendations, and stewardship incentives;
- Create a video highlighting key messages and citizen involvement, and post this to FWC's website.

Priority action to be undertaken by local governments with assistance from the FWC within the next five years

- Offer expedited permit review and/or reduced development review fees to developers who voluntarily follow the FWC Eagle Management Guidelines.
- Adopt procedures within ordinances to assist and assure consistency with science-based management guidelines and policies for bald eagles.

Management Plan Review and Revision

To ensure that the conservation goal of this management plan is maintained, the FWC will review the status of Florida's bald eagle population based upon annual surveys of nests and nesting territories. This management plan will be reviewed and revised after five years (*i.e.,* in 2013). Significant changes to the management plan will be made with public input and Commission approval.

CHAPTER 6: ANTICIPATED IMPACTS

Economic Impacts

This preliminary assessment of economic impacts of delisting the bald eagle in Florida was based on the conservation strategies and actions proposed in this management plan.

Estimated cost to the FWC of implementing proposed conservation strategies and actions.

Resources required to implement this bald eagle management plan are described in Chapter 5. The conservation actions proposed in the management plan will require a commitment of staff time to review applications for FWC Eagle Permits, develop landowner-incentive programs, coordinate research and monitoring programs, and develop and implement appropriate education and outreach programs. One-time costs associated with producing informational brochures over five years are estimated to be $17,500. Annual costs for staff to implement the management plan are estimated to be $315,080. Of these totals, the one-time cost to produce brochures ($17,500), start-up costs ($25,000), and approximately $60,000 of annual costs represent new costs to the FWC, for which funding sources must be secured.

It is unlikely that the FWC can conduct additional activities with existing staff and resources. Management actions proposed in this plan will need to be prioritized along with other agency programs, species needs, and available resources. New funding and personnel dedicated to implementation of this plan are necessary to accomplish all outlined strategies and tasks. The exact costs will depend on the amount of resources that local governments and landowners can devote to bald eagle conservation in Florida.

Estimated cost to potentially affected parties of implementing the proposed conservation strategies and actions.

The permits required under the proposed rules are no-cost permits. Conservation and minimization measures recommended under FWC Eagle Permits may increase costs incurred by permit applicants. The exact costs would vary from site to site depending on the size of the project, the size of the recommended buffer, and potential impacts to bald eagles. Sale of conservation easements around an active or alternate bald eagle nest will financially benefit some owners of private lands, and may also increase their eligibility to receive funds through state and federal land-management incentive programs.

Actions listed in the FWC Eagle Management Guidelines may lower costs to private landowners. By providing the option of following these guidelines instead of applying for a FWC Eagle Permit, developers can conserve bald eagle habitats rather than having to compensate for construction activities.

Social Impacts

The bald eagle was chosen as the national symbol of the United States on 20 June 1782 because of its longevity, great strength, and majestic bearing. The bald eagle appears on the Great Seal of

the United States and represents freedom. President John F. Kennedy wrote that, **"**The Founding Fathers made an appropriate choice when they selected the bald eagle as the emblem of the nation. The fierce beauty and proud independence of this great bird aptly symbolize the strength and freedom of America."

During the public comment period of this management plan, one social theme was repeatedly expressed: That delisting of the bald eagle could create the perception that there is less need for conservation and management. This misperception could potentially lead to an increase in the illegal take of or disturbance to eagles, which may negatively impact the population. If this were to happen, it would erode public confidence in the FWC's ability to manage the state's wildlife.

Conversely, successfully managing the public's perception about the delisting of bald eagles in Florida will help to accomplish the goals of this management plan, and will enhance public confidence in the agency. The bald eagle has successfully recovered from its imperiled status. The FWC has the opportunity to make the public aware of this success story, and to assure the public that conservation of bald eagles will continue.

This management plan includes an Education and Outreach section that identifies the need to explain to key audiences the rules and guidelines that remain in place for the protection of bald eagles, their nests, and their nesting territories. This plan also commits that the current level of law enforcement will not decrease upon delisting of the eagle. These actions should create public awareness of the continuance of actions that protect bald eagles in Florida, and should generate support for this management plan.

The delisting process will place responsibility on local governments to remain involved with regulations and guidelines that protect bald eagles and their habitats under the guidance of this management plan. This responsibility will create a closer working relationship between FWC and local governments.

Ecological Impacts

Upland and aquatic habitats that support bald eagles in Florida also support a large number of other species. Acquiring lands that support eagle nests, or placing buffer zones around eagle nests into perpetual conservation easements, will benefit a host of other plant and animal species. Continued conservation and management of aquatic habitats will provide healthy feeding areas for bald eagles and will benefit a multitude of other species that depend on Florida's aquatic environments. Electrocution-related mortality of bald eagles and other birds may be reduced as a result of power companies incorporating "avian-friendly" devices and fittings on their equipment.

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APPENDIX 2: LIST OF FWC STAKEHOLDERS

Individuals on the FWC's stakeholder contact list, some of whom provided comments or other assistance to the bald eagle management team. *A member of the "ad-hoc" bald eagle committee who participated in meetings, November 2007–January 2008.

STAKEHOLDER	AFFILIATION
Yvette Alger	St. Lucie County
Bonnie Basham	Standing Watch
Teresa Bishop	St. Johns County
Jan Brewer	St. Johns County
Karl Bullock	Golder Associates
Barbara Burgeson	Collier County
Gail Carmody	U.S. Fish and Wildlife Service
Resee Collins	U.S. Fish and Wildlife Service
Ron Concoby	Independent scientist
Lori Cunniff	Orange County
Amy Dierolf	Progress Energy
Seth Drawdy	Foley Land and Timber Company
Michael Drummond	Alachua County
Todd Engstrom	Florida Ornithological Society
Susan Farnsworth	Citrus County
Sammi Fitch	City of Cape Coral
*Monica Folk	The Nature Conservancy
Jerris Foote	Sarasota County Parks and Recreation
Shane Fuller	St. Joe Company
*Steve Godley	Biological Research Associates, Inc.
Phil Gornicki	Florida Forestry Association
Mary Ann Gosa	Florida Farm Bureau
Richard Hamann	Center for Governmental Responsibility
Dennis Hardin	Florida Division of Forestry
David Hartgrove	Halifax River Audubon Society
Clay Henderson	Holland and Knight LLP
Rob Hicks	Plum Creek Timber Company
Stephen Hofstetter	Alachua County
Wade Hopping	Wade Hopping Associates
Kim Iverson	South Atlantic Fisheries Management Council
Steve Kintner	Volusia County
*Tom Logan	Breedlove, Dennis & Associates, Inc.
*Laurie Macdonald	Defenders of Wildlife

*Candace Martino	U.S. Fish and Wildlife Service
Matt Osterhoudt	Sarasota County
Franklin Percival	Florida Cooperative Fish & Wildlife Research Unit
Barbara Jean Powell	Everglades Coordinating Council
*Doug Rillstone	FL Chamber Commerce/Developers Assoc.
Preston Robertson	Florida Wildlife Federation
Vicki Sharpe	Florida Department of Transportation
Arnette Sherman	West Volusia Audubon Society
Stan Simpkins	U.S. Fish and Wildlife Service
Parks Small	Florida Department of Environmental Protection
Caroline Stahala	U.S. Fish and Wildlife Service
*Tony Steffer	Raptor Management Consultants
Andy Stevens	Charlotte County
Becky Sweigert	Lee County
Tim Telfer	Flagler County
Kim Trebatoski	Lee County
Tom Trettis	Wilson Miller Engineering
Christina Uranowski	Osceola County
Carol Wehle	South Florida Water Management District
*Lynda White	Audubon of Florida
*Julie Wraithmell	Audubon of Florida