

## CHAPTER 27

### WILDLIFE AND HABITAT IMPACTS

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## **27. WILDLIFE AND HABITAT IMPACTS**

### **27-1 OVERVIEW**

This chapter establishes the procedures for interagency coordination under Section 7 of the Endangered Species Act (ESA) of 1973, as amended. The Act requires Federal agencies, in consultation with and with the assistance of the Secretaries of the Departments of Interior and Commerce, to insure that their actions are not likely to jeopardize the continued existence of endangered or threatened species or result in the destruction or adverse modification of critical habitat of such species. Amendments to the Act in 1978, 1979 and 1982 changed the consultation requirements of Section 7.50 CFR Part 402 established procedural regulations to comply with these changes. These procedures permit Federal agencies to consolidate these requirements with interagency cooperation procedures required by other statutes, such as the National Environmental Policy Act (NEPA) (42 USC 4321 et seq.).

Under the law, the Secretary of the U.S. Department of Interior, acting through the Fish and Wildlife Service (FWS), and the Secretary of the U.S. Department of Commerce, acting through the National Marine Fisheries Service (NMFS), have broad powers to protect and conserve all forms of wildlife, plants, and marine life they find in serious jeopardy.

The assessment process begins with the determination of involvement with a Federally-threatened or endangered species; proposed (under review) threatened or endangered species, or designated critical habitat. This is accomplished by utilizing a computer program, literature search, and personal contacts with known specialists, requesting confirmation of the list from the FWS and/or NMFS and a field survey. If a species or critical habitat involvement exists then an Endangered Species Biological Assessment (ESBA) is prepared. This assessment is incorporated into the Environmental Assessment (EA), Draft Environmental Impact Statement (DEIS), or as a supporting document for a Categorical Exclusion (CE).

During the development of this assessment, the analyst will informally coordinate with the FWS Field Office or NMFS. This coordination may be done by telephone and the results of the communication documented. Written coordination correspondence with the FWS should only be done when unresolved issues exist.

When an agreement has been reached that the project may not affect the species, this information is incorporated in the CE, EA, or EIS. For CEs, concurrence should be obtained before the CE is sent to the Federal Highway Administration (FHWA) for signature. For EAs, the District Environmental Management Office (DEMO) will send a copy of the signed FHWA document to the FWS or the NMFS asking for their concurrence. For DEISs, the Environmental Management Office (EMO) will provide copies under the NEPA circulation procedures (Part 1, Chapter 6).

If an unresolved issue exists or the impacts are adverse, FHWA will initiate formal consultation under "Section 7" of the ESA. This will only occur on rare occasions. This consultation will utilize the biological assessment prepared in the EA or EIS or for the CE. The results of consultation are documented in the CE, FEIS, or the Finding of No Significant Impact (FONSI). The FWS and/or NMFS will issue a biological opinion or provide suggested modifications to the project if appropriate. The FHWA / FDOT may accept the recommendations and incorporate them into the project. If a jeopardy opinion is given, FHWA / FDOT may accept or they may apply for an exemption from the jeopardy opinion to the Secretaries of the Departments of Interior and/or Commerce. This opinion is final.

For off-site highway construction activities, the District follows the same procedures for identifying possible involvement in the area with Threatened or Endangered Species or Critical Habitat. If it is determined that there is no involvement then the District provides the contractor with a letter of clearance and the activity may proceed. If it is determined that there may be involvement then a Biological Assessment is prepared. The process then follows that described above; however, no environmental document is prepared. The results of the process are provided to the contractor for compliance.

The final section of this chapter deals with other wildlife impacts. Florida is blessed with a wide array of unique habitats and wildlife which to date are not threatened or endangered. As habitat continues to diminish, the importance of these habitats and the species dependent on them will increase. The fragmentation of habitats will make preservation of corridors of habitat across our highways an important consideration when looking at wildlife impacts. The Official Lists of Endangered and Potentially Endangered Fauna and Flora in Florida compiled by the Florida Game and Fresh Water Fish Commission (FGFWFC) is an excellent source of information about those species in Florida which deserve special consideration. State listed endangered species, threatened species or species of special concern should be evaluated in the Other Wildlife section. Procedures for handling other wildlife involvements are described for the various document types. Guidelines for developing a study design, habitat description and conducting a literature search and wildlife survey are presented. Finally, measures to compensate for impacts are discussed.

## **27-2 PROCEDURE**

### **27-2.1 Advance Notification**

Information for the Advance Notification (AN) Fact Sheet (Part 1, section 2-2.2.2) should be gathered utilizing the computer program, SPECIES, described in section 27-2.2.1 and by literature review and personal contacts described in section 27-2.2.2.

The AN should address the proximity of the proposed action and identify any potential encroachment relative to populations or habitat of plant and animal species listed as endangered or threatened by the FWS including those areas that have been designated by the FWS as being "critical habitat."

## **27-2.2 Determination of Involvement**

### **27-2.2.1 Computer Program**

The computer program, SPECIES, will produce a list of endangered and threatened species which may be encountered in any particular Florida county. The list produced by the program is based on the best available information from the Federal Register (the "Federal" list), from the FGFWFC (the "Florida" list), from the Florida Department of Agriculture and Consumer Services (the "FDA" list), from the Florida Natural Areas Inventory (the "FNAI" list), and from "Inventory of Rare and Endangered Biota of Florida", published by the Florida Audubon Society (the "Audubon" list). The program is available on the Florida Department of Transportation's (FDOT) main-frame computer system. To access the program, a qualified Time Sharing Option (TSO) user should proceed with the following steps :

- Step 1.** Logon to the FDOT's DOTNET TSO system using the L TSO command. In response the computer screen will request the USERID, PASSWORD, APPLICATION NUMBER (6700 for this program), and the PROJECT NUMBER.
- Step 2.** When the MASTER APPLICATION MENU is displayed, the user will enter the following in the command: 5; M; 7; 1. After pressing the ENTER key, the user will be taken directly to a list of counties in Florida (listed in alphabetical order).
- Step 3.** The next step is to select the county or counties desired by placing an X in the proper location. The entire district or state list can also be produced by selecting either of these options. After the appropriate option(s) is selected, press the ENTER key.
- Step 4.** After the selected information is displayed on the screen, the user may elect to print the list by pressing the PF3 key and following the prompts on the screen. The screen will ask for the user's output destination and the number of hardcopies desired. If no hardcopy is desired, the screen will prompt the user to press the PF3 key to by-pass the print command.
- Step 5.** Using the prompts on the screen, the user can exit the program and logoff.

A detailed users' manual entitled "How To Use PPLENV39 : The Engmenu System Version of the FDOT Endangered Species Computer Program", is available from the EMO in Tallahassee.

The column labeled US shows the status on the Federal list, as compiled by the FWS. That status will be E for endangered, T for threatened, P for proposed listing, and U for under review. The column labeled FL shows the status in Florida, as compiled by FGFWFC. That status will be E for endangered, T for threatened, and S for species of special concern. The column labeled FDA shows the status of plants in Florida, as compiled by the Florida Department of Agriculture and Consumer Services. That status will be E for endangered, T for threatened, and C for commercially exploited. The column labeled CH (if marked) stands for Critical Habitat as designated by the FWS.

Species which are "Endangered" or "Threatened" on the Federal list must receive the highest priority for consideration in environmental documents, followed by those "Proposed" and "Under Review" on the Federal list.

The state lists are often similar to the Federal list for endangered and threatened species. If this is not the case, these species should be addressed in the Other Wildlife and Habitat analysis.

The SPECIES program is updated immediately upon receipt of information on new species and status changes or new distribution information for listed species. This information comes from the sources identified above.

### **27-2.2.2 Literature Search and Personal Contacts**

Information for discussion on endangered species may be gathered from literature reviews. For details regarding distribution of Federally-listed species within Florida Counties, the "Statewide Matrix of Habitats and Distribution by County of Rare / Endangered Species in Florida" developed by FNAI and the FWS's Region 4 "Red Book" (i.e., "Endangered and Threatened Species of the Southeastern United States") is recommended. The relationship of the proposed project to FWS's "Critical Habitat" maps should be determined. Informal coordination must also be initiated with a FWS Field Office and/or NMFS (see Figure 27.2 for telephone numbers to contact).

Personal contacts with individuals who are specialists or have knowledge about a particular species may be contacted (i.e., a professor at a university, a private citizen, an FNAI or FGFWFC employee).

### **27-2.2.3 Request List of Species**

Section 7(c) of the Endangered Species Act of 1973, as amended, requires that FWS or NMFS be contacted for an official list of Endangered, Threatened, and Proposed species that may be present in the area of a proposed construction project. A construction project is defined to be "any major Federal Action authorized, funded, or carried out by a Federal agency which significantly affects the quality of the human environment and which is designed primarily to result in the building or erection of manmade structures, such as dams, buildings, roads, pipelines, channels, and the like." In a meeting with FDOT and FHWA on March 27, 1987, the Jacksonville Field Office, FWS, issued the opinion that construction projects are those which require the preparation of an EIS.

Therefore, if a review of comments solicited through the AN process and consultation with the FHWA Area Engineer results in the determination that an EIS must be prepared for a particular project (Part 1, Chapter 3) then the FWS and/or NMFS must be contacted for an official list of Endangered, Threatened, and Proposed species. The Department may provide a list of species to the FWS and/or NMFS in lieu of requesting a list. The Services will respond within 30 days by concurring with the list or adding to the list. This request will be made by the DEMO in writing to the FWS Field Office or NMFS. The request should be sent to the addresses listed in Figure 27.2.

Copies of the letter should be sent to the EMO and FHWA for their information. An example request is shown in Figure 27.3. Even though an official list is not required for projects requiring

the preparation of an EA or CE, the analyst is encouraged to contact the Services by telephone and discuss a list. This may be documented by a note to the file and discussed in the document.

#### **27-2.2.4 Field Survey**

A field survey is conducted to determine if habitat is available in the project area for the species identified in sections 27-2.2.1, 27-2.2.2 and 27-2.2.3 or if other species which have not been identified are in the area. The field survey should determine the presence of listed species in the area, and if suitable habitat exists. This field survey should be conducted by a biologist and should include a definition of the study limits including delineation of cover types and species evaluations. The survey should also include a habitat assessment calculating the total area of available habitat with baseline and impact assessments.

### **27-2.3 Actions Taken After Determination of No Involvement**

#### **27-2.3.1 Categorical Exclusion**

When the Class of Action (COA) Determination is made (Part 1, Chapter 3) and if the project is determined to be a CE having no effect on any Endangered or Threatened Species or Critical Habitat, then the DEMO will check "None" on Form 508-01. If there are no Endangered or Threatened Species or Critical Habitat on the project, "No Involvement" is checked on Form 508-01. The District files must document methodology used to formulate the finding. The FHWA, after review of the Environmental Determination, will approve the determination which constitutes agreement with the finding. Once the determination is approved by FHWA, they will send one copy each to the District and to the EMO (Part 1, Chapter 3). The project may then proceed to design.

#### **27-2.3.2 Environmental Assessment and Draft EIS**

When the COA Determination is made (Part 1, Chapter 3) and the project is determined to require an EA or DEIS having no effect on any Endangered or Threatened Species or Critical Habitat, then the District will check "None" on Form 508-01. If no Endangered or Threatened Species or Critical Habitat are present then "No Involvement" is checked on Form 508-01 (Part 1, Chapter 3).

The EA or DEIS will be prepared and processed as described in Part 1, Chapter 4 or Part 1, Chapter 6, and the appropriate document should include the following standard statement :

*"This project has been evaluated for impacts on threatened and endangered species. A literature review was conducted to determine those possible threatened or endangered species which may inhabit the project area. This search resulted in findings that no listed species would be affected by the proposed action. This determination was made after review of the advance notification responses and field survey of the project area by a biologist. Furthermore, the potential for impacts to critical habitat was assessed as to the relationship of the project to the Fish and Wildlife's designated "Critical Habitat."*

(For an EIS only include the following statement) *In addition, the FWS and/or NMFS were contacted for a list of species and they concurred that no listed species are in the area. The determination was made that the project will not impact any proposed threatened or endangered species, any threatened or endangered species, or affect or modify any critical habitat. A determination of "no effect" has been made, and the project is consistent with the Endangered Species Act."*

## **27-2.4 Actions Taken After Determination of Involvement**

### **27-2.4.1 Categorical Exclusion**

When the COA Determination is made (Part 1, Chapter 3) and if the project is determined to be a CE involving either Endangered or Threatened Species or Critical Habitat, the DEMO must prepare an ESBA (section 27-2.4.3.1). Coordination with the FWS and/or NMFS should be conducted on an informal basis. Precautionary measures identified as necessary will be included in the Biological Assessment such that concurrence from the FWS and/or NMFS is obtained prior to submittal of the CE to FHWA for signature. The Assessment should be processed with Form 508-01 (Part 1, Chapter 3), submitted to the FHWA Division Office with a copy to the EMO. The Biological Assessment should contain the results of informal coordination with the FWS and/or NMFS and any precautionary measures used to come to a conclusion of no effect.

The FHWA will review the ESBA to determine if the proposed project will affect any listed species or critical habitat and if formal consultation with the FWS and/or NMFS is necessary. If FHWA makes a determination of "No Effect" then the obligatory requirements for endangered species have been completed. One copy of the determination is sent to the District with one copy to the EMO and a copy to the FWS and/or NMFS.

If, however, FHWA makes a finding of "May Effect" then FHWA initiates the consultation process with the FWS and/or NMFS. The appropriate agency subsequently issues a response. If the biological opinion states that the proposed action is not likely to jeopardize the continued existence of a listed species or destroy or adversely modify Critical Habitat then the obligatory requirements for endangered species have been met. One copy of the agency's response is sent to the District with one copy to the EMO.

If the agency issues a statement that the proposed action "Is Likely" to jeopardize the continued existence of a listed species or destroy or adversely modify Critical Habitat then a copy of the determination is provided to the District with a copy to the EMO. When this finding occurs, then the project must be processed as an environmental document under section 27-2.4.2 and not as a CE.

#### **27-2.4.2 Environmental Assessment and Draft EIS**

When the COA Determination is made (Part 1, Chapter 3) and the project is determined to require an EA or DEIS involving either Threatened or Endangered Species or Critical Habitat, then the DEMO will check Form 508-01 to have an involvement. The District must prepare an ESBA (section 27-2.4.3.1). The Biological Assessment will be incorporated as part of the Threatened and Endangered Species section in the appropriate environmental document.

The EA or DEIS will be prepared and processed as described in Part 1, Chapter 4 or Part 1, Chapter 6. If it is determined that the action is to be an EA, no official list is needed, but telephone communication with the FWS and/or NMFS is encouraged. If it is determined that a DEIS must be prepared, the Field Office of FWS and/or NMFS must be contacted with an Official List of Endangered, Threatened, and Proposed Species (section 27-2.2.3). FHWA will review the environmental document to determine if the proposed project will affect any listed species or Critical Habitat and if consultation with the FWS and/or NMFS is necessary.

If FHWA makes a determination of "No Effect" then the obligatory requirements for endangered species have been completed. The District will provide a copy of the FHWA-signed EA to the FWS and/or NMFS office for their concurrence. This will complete the informal consultation process. The final environmental document should make a statement of "No Effect" in the Threatened and Endangered Species section.

If, however, FHWA makes a finding of "May Effect" then FHWA initiates the formal consultation process with the FWS and/or NMFS. The Regional Director of the appropriate agency subsequently issues a biological opinion. If the biological opinion states that the proposed action is not likely to jeopardize the continued existence of a listed species or destroy or adversely modify Critical Habitat then the obligatory requirements for endangered species have been met. One copy of the Regional Director's biological opinion is sent to the District with one copy to the EMO. The final environmental document should make a statement of "No Effect" and summarize the consultation in the Threatened and Endangered Species section of the final document.

If the FWS and/or NMFS issues a statement that the proposed action "Is Likely" to jeopardize the continued existence of a listed species or destroy or adversely modify Critical Habitat then a copy of the determination is provided to the District with a copy to the EMO. This finding will require extensive coordination between FDOT, FHWA, and the agency commenting. The effort should be made to develop mitigation measures to change the jeopardy finding. This probably will include modification of the project. The results of the consultation process and any mitigation measures or alternatives to be implemented should also be included in the Threatened and Endangered Species section and any commitments made are listed in the Recommendation and Commitments section of the final document. The coordination efforts to resolve this finding are summarized in the Comments and Coordination section of the final document.

### **27-2.4.3 Endangered Species Biological Assessment**

#### **27-2.4.3.1 Biological Assessment Data Format**

The Biological Assessment should discuss the following information in the format presented.

- a. Identify those Federally-listed species and critical habitats present within the area affected by the proposed project.
- b. Describe the methodology used to determine presence of listed species and critical habitat within the area affected by the proposed project (sections 27-2.2.1, 27-2.2.2, 27-2.2.3, 27-2.2.4).
- c. State results of a comprehensive survey of the affected area (section 27-2.2.4).
- d. Identify any data gaps and discuss any difficulties in obtaining data pertinent to the comprehensive survey.
- e. Describe the proposed project (with emphasis on those activities occurring within the area inhabited by a listed species).
- f. Describe the methods and results of studies made to determine actual and potential impacts of the proposed project or associated activities on a listed species or critical habitat. In addition to the direct (site-related) impacts of project construction, the assessment should include, when applicable, a description of :
  - 1) Impacts associated with project operation;
  - 2) Secondary impacts from activities, such as development, which will be generated by the proposed project;
  - 3) The cumulative effects of the proposal on a listed species or critical habitat. (Cumulative effects are defined as the direct and indirect impacts of the proposed project under consideration as well as other projects which may be proposed for the general vicinity in the foreseeable future);
  - 4) Discuss efforts that will be taken to eliminate, reduce, or compensate for any adverse impacts to a listed species or critical habitat;
  - 5) Conclusions of the agency including recommendations regarding further studies;  
and
  - 6) Any other relevant information.

### **27-2.4.3.2 Biological Assessment Content**

The Biological Assessment should include all Federally-listed and proposed species and critical habitats present within the area affected by the proposed project. The computer program SPECIES, the literature search and personal contacts, the official list of species from the FWS and/or NMFS (if EIS) and field survey which are all described in section 27-2 should be used to identify the resources. The results of the survey of the affected area should comply with the survey section of this Chapter (section 27-2.2.4). The assessment should describe how the survey was conducted and who did it.

Identify any data gaps, that is, any information pertinent to the comprehensive evaluation of species and/or critical habitat impacts. If information is lacking in the assessment, this must be explained. Where there are gaps, their effects must be addressed. The assessment should also discuss how the validity of the assessment will be affected and if future studies will be required, to validate the Biological Assessment.

The description of the proposed project should discuss all activities related to construction with emphasis on anticipated impacts both long-term and short-term on identified species and habitat in the project area. Such items as project location and design alternatives (including construction methods) must be addressed.

The assessment must include methods and results of studies made to determine actual and potential impacts of the proposed project. The types of studies include information on the mating, nesting, reproduction, feeding, and migration habit of those species that may be found in the affected project area. Impacts, such as noise, wetland destruction, loss of water quality, and habitat affected both directly and indirectly must also be evaluated. Consideration of possible impacts, as discussed above, must be assessed for other projects which may be proposed for the general vicinity in the foreseeable future. The cumulative effect of the proposal on listed species and critical habitat after being assessed should be evaluated along with any precautionary measures and special construction methods that will eliminate or reduce adverse impacts.

The assessment must address all efforts including construction design and special compensation proposed for the project. The final step is to draw a conclusion as to the significance of the impacts for those listed species and critical habitat of the project area.

### **27-3 ENDANGERED SPECIES PROCESS FOR OFF-SITE HIGHWAY CONSTRUCTION ACTIVITIES**

Many off-site construction activities performed by the Department or contractor may impact an endangered species. Examples of such activities are borrow pits, disposal sites, concrete plants, asphalt plants, and material or equipment storage sites. No off-site activities are exempt from this requirement.

Early planning is the key to avoiding endangered species conflicts. The possibility of endangered species involvement should be explored at the earliest opportunity so that consideration can be given to protection, relocation, or scientific study prior to unavoidable disturbance.

A field survey will be performed by District environmental personnel. The field survey applies to all contractor or Departmental maintenance activities which might involve endangered species consideration. Any activity which, through reduction of habitat or physical presence, would impact an endangered species requires an ESBA.

### **27-3.1 Procedure**

The contractor and project engineer must be advised at the preconstruction conference that it is the contractor's responsibility to initiate a request that the district conduct an endangered species biological investigation of any site at which he proposes to conduct off-project activities in relation to a project. It should be emphasized that the contractor must plan his activities so that requests for biological investigations are received by the District with sufficient lead time to allow a reasonable period for completion of the biological investigation without delaying the related off-project activity.

At the earliest opportunity, the contractor or Maintenance Engineer will notify, in writing (Figure 27.4), the DEMO (copying in the District Materials Engineer, and Resident Engineer) of the proposed activity. The proposal should include the location of the activity (Township, Range, Section, County, City) with a description map which includes haul or access roads. Project description will be identified by State Project Number and Contract Number. This procedure will provide District environmental personnel the opportunity to research environmental documents to see if any endangered species are reported for the specified area. The area evaluation will be conducted by District environmental personnel. Prior to site evaluation, the District environmental personnel will notify the Resident or Maintenance Engineer of his scheduled arrival (date, time).

Upon completion of the field investigation, the District will notify the contractor that he may proceed if no endangered species involvement is identified (Figure 27.5). The notice will be provided to the contractor or Maintenance Engineer with copies to the District Materials Engineer, Resident Engineer, and FHWA.

If a potential endangered species is identified, the District will informally coordinate with the appropriate Service (FWS and/or NMFS) to determine if a Biological Assessment is re-quired. The District will also notify the contractor or Maintenance Engineer as well as the EMO and the FHWA Area Engineer. If a Biological Assessment is required, the District will prepare the assessment in accordance with section 27-2 and forward a copy to FHWA and the EMO.

If formal consultation is determined necessary, this will be conducted as per section 27-2. Upon completion of the consultation process, FHWA will provide the EMO with written record of the resulting determination. At such time, the EMO will notify, in writing, the DEMO, the District Materials Engineer, and the Resident or Maintenance Engineer of the intention of the determination. The contractor or Maintenance Engineer shall comply with the determination.

## **27-4 OTHER WILDLIFE AND HABITAT IMPACT EVALUATION**

### **27-4.1 Advance Notification**

Information for the AN Fact Sheet (Part 1, Chapter 2, section 2-2.2.2) should be gathered utilizing the current "Official Lists of Endangered and Potentially Endangered Fauna and Flora in Florida" published by the FGFWFC, and information gathered by literature review and personal contacts described in section 27-4.2.3.

The proximity of the project to habitat of plants or animal species should be addressed in the AN. Special attention should be given to species contained on the official lists so that comments can be obtained from the various responsible agencies.

### **27-4.2 Determination of Involvement**

#### **27-4.2.1 Study Design**

Since the magnitude of involvement with wildlife and their habitat can range from minimal to significant, it is desirable to develop a study design. The design should include the project location with all alternatives. The area to be studied also needs to be identified. For smaller organisms with limited range, the area would include just the highway right-of-way. However, for the larger mammals, such as deer or bear, a much larger study area is necessary. Therefore, the size of the study area will be dictated by the types of wildlife and habitat in the project area.

Another factor which will influence the study design is the relative scarcity of the wildlife or the habitat. The last of a kind for an area deserves more consideration than a common species or habitat. On the other hand, wide ranging species of more common animals (deer, etc.) may require a wider study design. Each project and habitat differs. Therefore, a habitat description and wildlife survey should be included in the study design.

With continuing development in Florida, all wildlife habitat continues to decrease. As this occurs, wildlife habitat which was once abundant will become critical. This has happened for wetlands in many areas of the State. Less obvious is the loss of upland communities which are rapidly being developed because they are the most suitable areas. The scrub communities and associated wildlife are an example of a decreasing upland habitat which is becoming critical. Therefore, it is important that all communities be considered in the study design. This development has also resulted in the fragmentation of habitats such that areas of continuous habitat required by many species are becoming more scarce.

#### **27-4.2.2 Habitat Description**

Since wildlife is intrinsically tied to its habitat, a well prepared habitat description will go a long way toward evaluating wildlife involvements. Smaller projects can be handled simply by walking the alignment and recording the types and extent of the habitats encountered. One of the most useful tools in describing habitat is good aerial photography which can be ground-truthed. Photography is essential for larger projects because of the time it would take to develop habitat maps from ground

surveys. Black and white photography may suffice on more straight-forward projects. However, color or infrared photography may be more useful for complex habitat analysis. The FWS's National Wetland Inventory Maps are another source of habitat information. Delineation of habitats on overlays provides an easy reference for analyzing involvements. This visual presentation of habitat can also be used in determining and describing encroachments and the magnitude of impacts. A complete habitat description provides a sound base from which further analysis is possible. During the habitat description phase, areas of habitat fragmented by the project will become evident. A good source of information about the relationship of Florida's remaining habitats to wildlife corridors is the "Wildlife Habitat System Plan (Landsat Plan)" developed by the Office of Environmental Services at the FGFWFC.

### **27-4.2.3 Literature Search and Personal Contacts**

Concurrently with the habitat description, a literature search and contact with known experts are desirable. The majority of projects can be analyzed by a complete habitat analysis and obtaining information from the literature and experts.

Several FHWA and FDOT publications deal with wildlife and highways. The following publications will be helpful.

Leedy, D.L. 1975. Highway-Wildlife Relationships, Vol. 1, A State-of-the-Art Report and Vol. 2, An Annotated Bibliography. FHWA-FD-76-5.

Ward, A., et. al. 1976. Effects of Highway Construction and Use on Big Game Populations. FHWA-RD-76-174.

Erickson, P.A., et. al. 1978. Highways and Ecology : Impact Assessment and Mitigation. FHWA-RWE/DEP-78-2.

Adams, L.W. and A.D. Geis. 1978. Effects of Highways on Wildlife : Phase I, Selection and Evaluation of Procedures. FHWA-RD-78-92.

Adams, L.W. and A.D. Geis. 1981. Effects of Highways on Wildlife. FHWA-RD-81-067

Leedy, D.L. and L.W. Adams. 1982. Wildlife Considerations in Planning and Managing Highway Corridors. FHWA-TS-82-212.

Greenberg, Katie. 1990. Florida Highways and Landscape. Linkages : Considering Wildlife in Transportation Planning, FDOT, District 2, Project Development and Environment, Lake City, Florida.

Nesbitt, S., et al. 1981. Report of the Investigation of Red-Cockaded Woodpeckers in Charlotte County, Florida. FDOT ER-14.

Evink, G. L., et al. 1983. Management of Native Vegetation Along Highway Rights-of-Way. FDOT ER-23.

Skoog, P. 1984. Highways and Endangered Wildlife in Florida : Impacts and Recommendations. FDOT ER-27.

These documents contain a wealth of references dealing with wildlife impacts. They will be a starting place for the literature review.

Experts on a particular habitat or species are another source of valuable information. Statewide experts on most habitats and wildlife species can be reached at the FGFWFC, Wildlife Research Laboratory, 4005 South Main, Gainesville, Florida (904) 376-6481. A staff of wildlife biologists specializing in wildlife ecology, some with specific transportation-related experience, conduct wildlife research from this facility.

A valuable source of habitat and wildlife information is the FNAI staff at 1018 Thomasville Road, Suite 200-C, Tallahassee, Florida (904) 224-8207. A diverse group of experts is inventorying Florida's remaining natural areas and wildlife. They have developed a matrix of the distribution of important plants and animals which is used for updating the SPECIES program.

Another area for experts is the university system. Each school has faculty specializing in different areas of environmental sciences. Become familiar with who is doing what; they can be valuable resources. In fact, the University of Florida has a Wildlife Ecology program.

Finally, the FDOT has ecological staff at both the District and Central Office levels. These are experts with specific ecological and transportation experience. Often it is possible to find someone who has dealt with similar projects. Similarly, other States have expert environmental staff which may have similar experience.

#### **27-4.2.4 Wildlife Survey**

Most projects will just involve a general survey along the corridor to document the species making up the biological community. Amphibians, reptiles, birds, small and large mammals, aquatic organisms, and plants should be considered.

Occasionally, a project may warrant a more extensive survey where quantification of the occurrence of wildlife may be desirable. In these cases, the aforementioned documents (section 27-4.2.3) should be used to determine an appropriate survey technique. Specific procedures for each of the major wildlife groups are described in the publications.

An alternative habitat and wildlife evaluation technique is the Fish and Wildlife's Habitat Evaluation Procedure (HEP). Although the procedure is described in HEP Ecological Service Manuals (ESM 100 through 104), Estimating Wildlife Habitat Variables (FWS/OBS 81/47) and a series of Habitat Suitability Index Models for various species, it is necessary to obtain FWS training in order to most effectively use the procedure. Scheduling of training can be done through your FWS Ecological Services Field Offices (Figure 27.2). This is an extensive analysis which is only suitable for major involvements.

The Habitat Suitability Analysis of the Wetland Evaluation Technique (WET II) may also be of use in wetland dependent species analysis. This analysis looks at the suitability of wetland habitats for a number of species.

### **27-4.3 Type 2 Categorical Exclusion**

Projects which are categorically excluded may have an involvement with other wildlife so long as this involvement is determined not to be significant. Once a project has been determined to be categorically excluded, the Environmental Determination Form 508-01 becomes the CE document. The Wildlife and Habitat block should be checked as of no involvement or none. A Wildlife Impact Assessment detailing the involvement should be included in the project file.

### **27-4.4 Environmental Assessment and Draft EIS**

#### **27.4.4.1 Affected Environment Section of Draft EIS**

The discussion of wildlife in the Affected Environment section of a DEIS is generally limited to an overall description of the habitat and associated wildlife through which the proposed project is passing. Information included :

1. Description of habitats impacted by project directly or secondarily.
2. Description of wildlife associated with the various habitats.

This section does not evaluate the impact of the project on the wildlife and their habitats, but enhances the reader's understanding of the value of wildlife and their habitat.

#### **27-4.4.2 Impact / Environmental Consequences Sections of EA or Draft EIS**

All EAs and DEISs involving new construction must contain an evaluation of wildlife impacted to the level of detail appropriate for the involvement. The following should be included in the impact discussion.

1. The aerial extent of the various habitats impacted. Habitat should be classified according to "Land Use, Cover and Forms Classification System - A Technical Manual", Department of Transportation, Remote Sensing Center, W. H. Kuyper, et. al., May, 1981.
2. The associated wildlife species impacted. The importance of each species and its relationship to the project should be described.
3. Describe the impacts of each viable alternative on the wildlife and habitat, including the number of acres per site and the relationship to the wildlife.

In areas of fragmented habitats, describe the relationship of the project to maintenance of corridors of habitat for important species.

4. Identify and evaluate alternatives which would avoid impacts.
5. Identify all practicable measures used to minimize harm to wildlife.
6. Provide exhibits showing locations of habitats impacted in relation to each alternative.
7. Discuss importance and scarcity of various wildlife and habitat to surrounding community. This includes consideration of :
  - a. The primary functions of the wildlife and its habitats
  - b. The relative importance of these functions to the total habitat
  - c. Other factors such as uniqueness that may contribute to its importance
  - d. The relationship to maintenance of wildlife corridors
8. Determine the significance of each alternative's impact. This includes evaluation of :
  - a. How the project affects the quality and stability of wildlife populations and their habitat
  - b. Short and long-term effects
  - c. Significance of loss
9. Based on importance and significance, determine what efforts are necessary to minimize harm. Measures which should be considered include :
  - a. Enhancement of existing habitat
  - b. Creation of new habitat
  - c. Acquisition of private lands for preservation purposes
  - d. Relocation of wildlife
10. Discussion of coordination with wildlife agencies (FWS and FGFWFC) and recommended agreement upon measures to handle adverse impacts.

#### **27-4.5 FONSI and Final EIS**

When there is no practicable alternative to an action having a significant impact on important wildlife, the FONSI or the FEIS should contain a discussion of the basis for the determination that there are no practicable alternatives and that the proposed action includes all practicable measure to minimize harm.

If there exist areas of disagreement then these are identified in the Unresolved Conflicts portion of the Summary and detailed in the Comments and Coordination section of the FONSI and FEIS.

## **27-5 COMPENSATING MEASURES FOR ENDANGERED SPECIES IMPACTS**

Compensation will be handled on a site by site basis. For each significantly impacted site, strategies will be developed. Present philosophy calls for in-kind replacement in the area of the project.

The planned measures can be finalized in one of three phases of project development. First, it can be described in the environmental document on a site by site basis. If it is later determined that it is "necessary and prudent to change from specific commitments made in the environmental document, these will be addressed in the reevaluation process".

The FHWA participation will be limited to what the environmental effects of the proposed action will be as described in the March 10, 1981, FHWA letter, "Federal-aid highway funds will not participate in the studying of past effects of the highway facilities or construction items to improve existing environmental conditions." However, remedy of existing conditions could be considered as mitigation for impacts of the proposed action.

Federal funding for off-site actions (outside of right-of-way) is permitted as a last resort. All funding for environmental measures must be based on scientifically valid analysis and must show documented support of how the cost was arrived at to compensate for the adverse impact.

However, if compensation remains an area of disagreement, then the environmental document must describe all measures proposed, the reasons for acceptance or rejection by FDOT, and the extent of coordination accomplished to reach a resolution. This information is contained in the Comments and Coordination section of the document. In pursuing the action, FDOT must determine, given such differences, what actions, if any, will be needed to develop a project that is in the public interest.

Usually such a stalemate does not occur and an appropriate plan is worked out. If FDOT expects to ultimately provide a level of compensation which will meet the commenting agencies and parties' concerns, these actions must be described in the final document (regardless of who will be funding them). If any of the measures would not be eligible for Federal funding, an understanding between FHWA and the State (in writing) must be reached.

## **27-6 REFERENCES**

1. Endangered Species Act of 1973, as amended 1978, 1979, and 1982.
2. 50 CFR Part 402, Interagency Coordination-Endangered Species Act of 1973, as amended; Final Rule, FR 19926-19963, June 3, 1986.

3. Standard Specifications for Road and Bridge Construction, Florida Department of Transportation, Article 7-1.3, 1986.
4. Florida Game and Fresh Water Fish Commission. Wildlife Habitat System Plan (Landsat Plan). Office of Environmental Services, Tallahassee, Florida.
5. Official Lists of Endangered and Potentially Endangered Fauna and Flora in Florida, Florida Game and Fresh Water Fish Commission, Tallahassee, Florida.

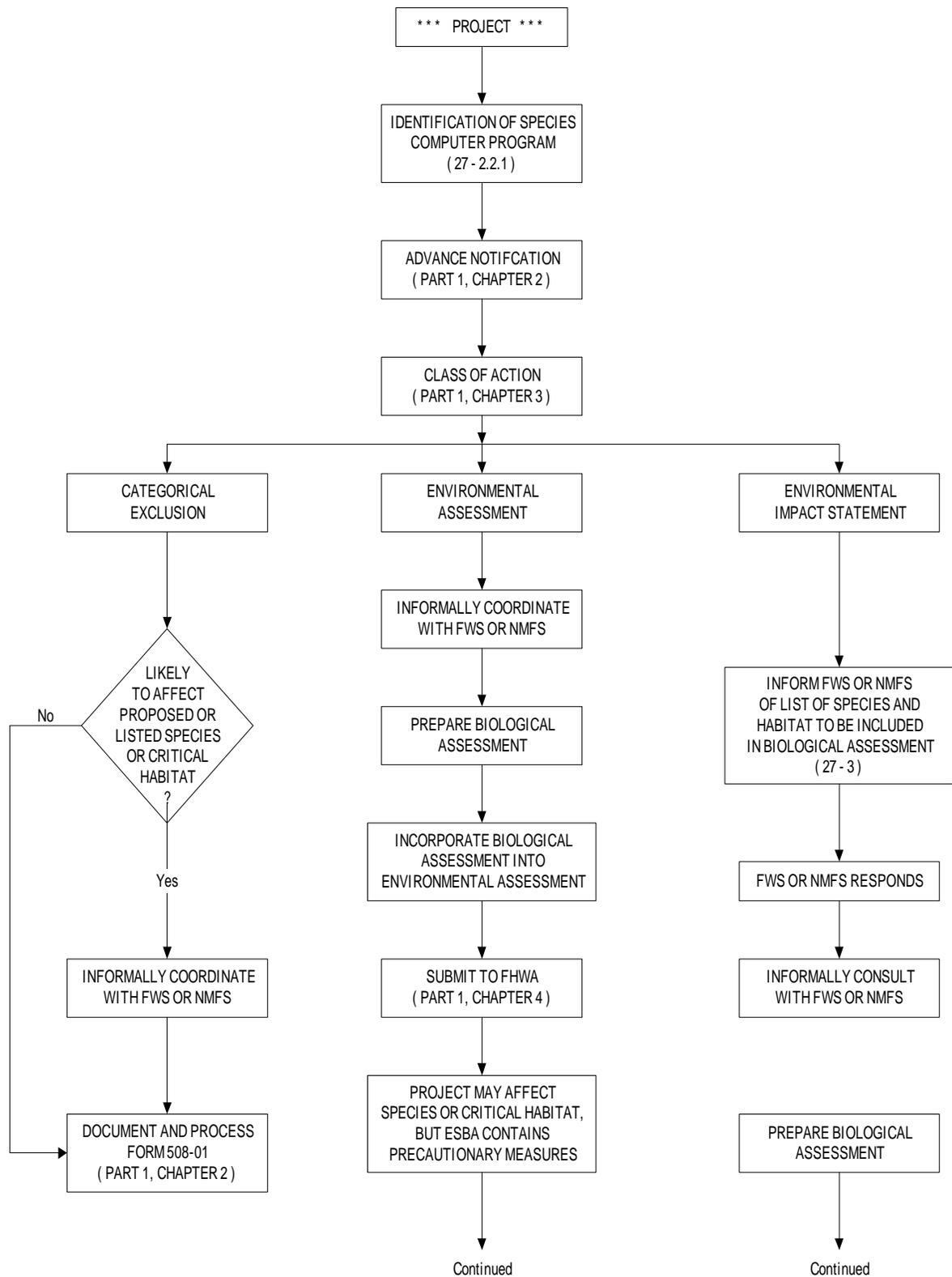


FIGURE 27.1 Endangered Species Process (continued)

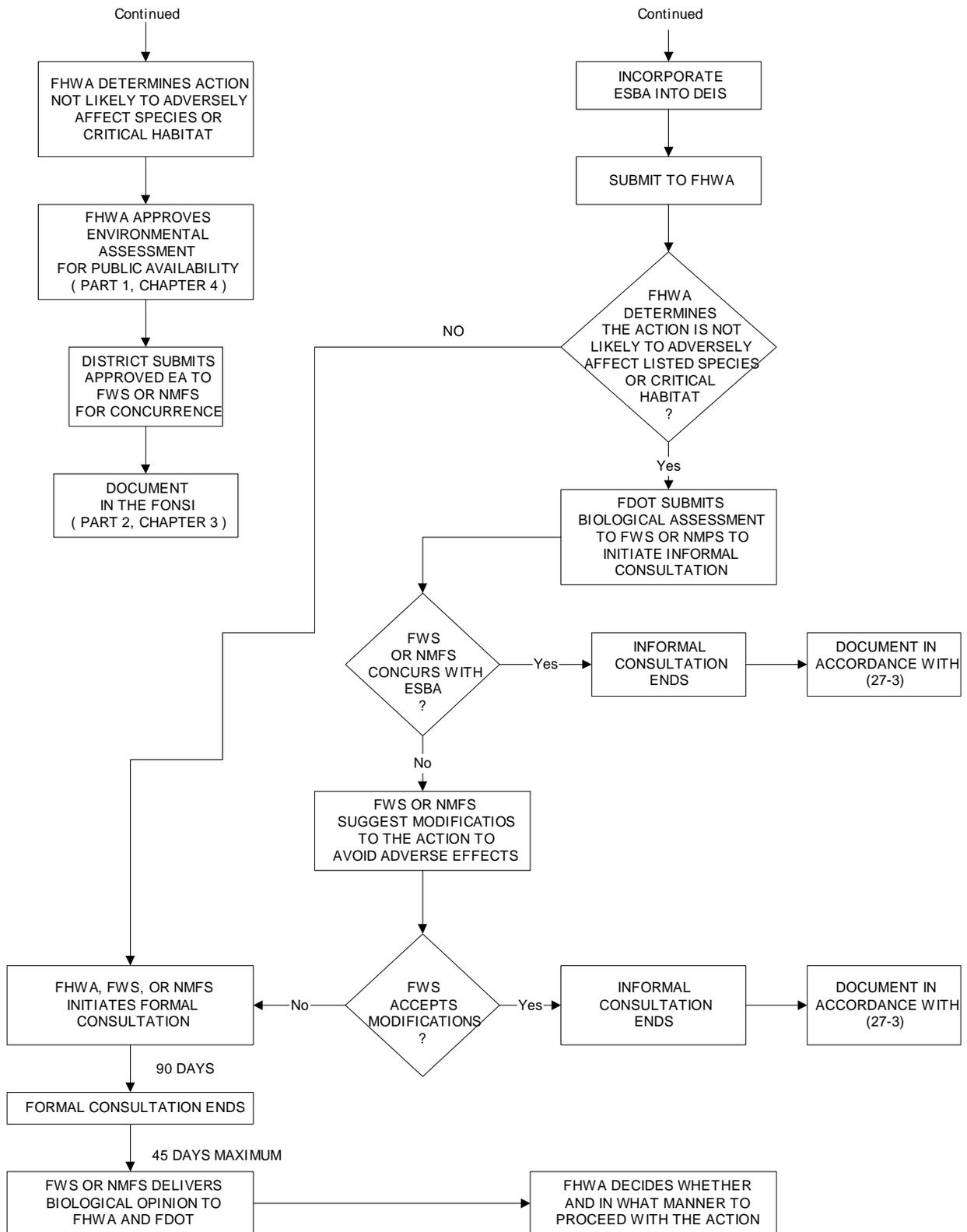


FIGURE 27.1 Endangered Species Process (concluded)

FIGURE 27.2 Offices Responsible for "Section 7" Consultation

(Date)

Jacksonville Field Office  
3100 University Blvd., S., Suite 120  
Jacksonville, Florida 32216

Dear Mr. Wesley :

RE : State Project Number XXXXX-XXXX  
Federal-Aid Project No. XXX-XXX(X)  
State Road Number XXX  
\_\_\_\_\_ County, Florida

The Florida Department of Transportation proposes to four-lane State Road XX between State Road XXX and State Road XXX in \_\_\_\_\_ County, Florida. We propose to prepare an Environmental Impact Statement for this action and in accordance with 50 CFR Part 402.12, we are requesting your concurrence in the following list of species.

1. Florida Panther
2. Red-Cockaded Woodpecker
3. American Crocodile
4. Florida Scrub Jay
5. Manatee

In addition, the project is located in designated critical habitat for the Manatee. Your prompt response is appreciated.

Sincerely yours,

John Doe  
Environmental Specialist

cc : Manager, Environmental Management Office  
FHWA Division Administrator

FIGURE 27.3 Sample Letter Request for List of Species

(Date)

District Environmental Management Engineer (Address)

Dear Mr. John Doe :

SUBJECT : New Borrow Pit / Mixture Plant /  
Construction Field Office  
State Job Number : XXXXX-XXXX  
Contract Number : XXXX  
\_\_\_\_\_ County, Florida

We propose, in the very near future, to establish an off-project activity in conjunction with construction of the above-referenced Department of Transportation project.

The proposed site is owned by (Name of property owner), and is located as follows:

Township : ..... Range : .....  
Section : ..... County : .....  
City : .....  
Description : ..... (see attached map) .....

Please initiate a field review of this site to determine the possible impact of our operation on any endangered species which might be located in this area. Please advise as to your findings at the earliest convenience. If you have any questions in regard to this request, contact (Contract's representative) at (telephone number).

Sincerely,

Johnny Buck Doe  
XXXXX Construction Company

Attachments

cc : District Materials Engineer  
District Resident Engineer

FIGURE 27.4 Sample Letter Requesting Endangered Species Survey

(Date)

Contractor (Address)

Dear Mr. John Doe :

SUBJECT : New Borrow Pit / Mixture Plant /  
Construction Field Office (Name of off-site activity)  
Work Program Number : XXXXXXXX  
State Job Number : XXXXX-XXXX  
Federal-Aid Project Number : XXXXX-XXXX  
Township \_\_\_\_\_, Range \_\_\_\_\_, Section \_\_\_\_\_  
\_\_\_\_\_ County, Florida

A field survey was conducted in accordance with Article 7-1.3 of the Florida Department of Transportation Standard Specifications for Road and Bridge Construction and in compliance with the Endangered Species Act of 1973 (amended 1978). No threatened or endangered species were observed within close proximity of the proposed activities.

It is the opinion of this office that there will be no adverse impacts to threatened or endangered species. You may proceed without further action from this office. However, if any threatened or endangered species are encountered during the course of the activities, please contact our office. Your interest and cooperation in helping to protect Florida's threatened and endangered species is appreciated.

If you have any questions concerning our comments, please do not hesitate to contact us.

Sincerely,

Buck Doe  
District Environmental Management Engineer

\_\_\_\_ : \_\_\_\_

cc : FHWA Division Administrator  
District Materials Engineer  
District Resident Engineer

FIGURE 27.5 Sample Letter to Contractor on Endangered Species Survey