U.S. Fish & Wildlife Service

Florida Panther Effect Determination Key

Florida panther

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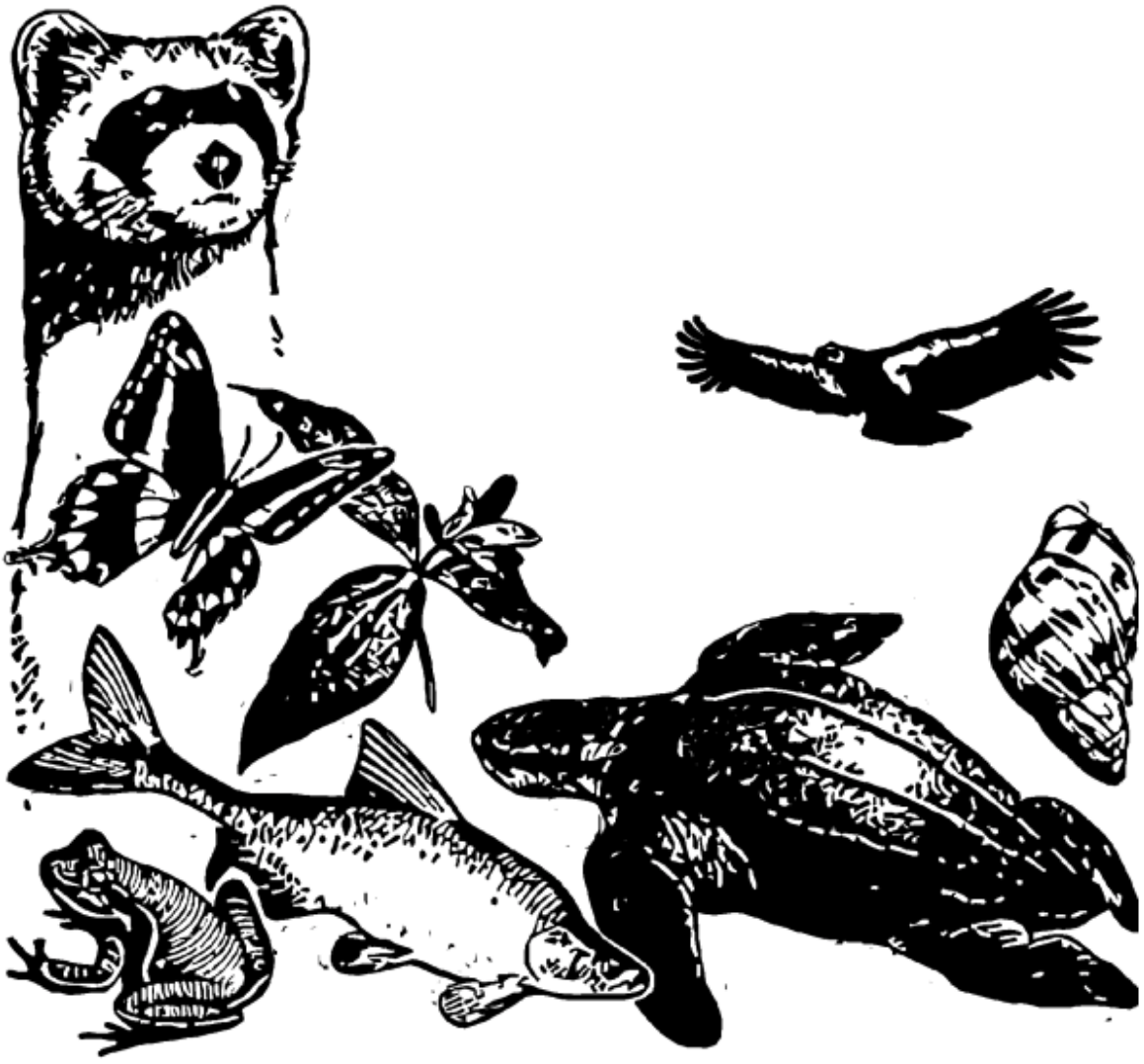

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United States Department of the Interior

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

February 19, 2007

David S. Hobbie
Chief, Regulatory Division
U.S. Army Corps of Engineers
P.O. Box 4970
Jacksonville, Florida 32232-0019

Dear Mr. Hobbie:

The Fish and Wildlife Service (Service) has reviewed your letter dated December 20, 2006, referencing the development of a revised Panther Key, which will assist the Corps project managers in their effect determinations as prescribed under Section 7(a) (2) of the Endangered Species Act of 1973 as amended (Act) (87 Stat 884 16 U S C 1531 *et seq*) and its implementing regulations at 50 CFR Section 402. The original Panther Key has been used since August 8, 2003, by the Corps to evaluate all applications for a Department of Army permit under Section 404 of the Clean Water Act for projects in the consultation area. The Florida panther consultation area was depicted in the Service's interim Standard Local Operating Procedures for Endangered Species (SLOPES) for the Florida Panther (Service 2000).

In our original 2000 evaluation we provided a consultation area map (MAP) to assist the Corps in determining which projects may have an effect of the Florida panther. The MAP was generated by the Service by overlaying existing and historical panther telemetry data on a profile of Florida and providing a connecting boundary surrounding most of these points. Since the development of the MAP, we have received more accurate and up-to-date information on Florida panther habitat usage. Specifically we have received two documents that the Service believes reflect the common panther habitat usage profiles. These documents are the publications by Kautz et al. (2006) and Thatcher et al. (2006). Based on the information in these documents, we changed the boundaries of the MAP to better reflect areas where we believe project may have an effect on the Florida panther and provided this map to you in correspondence dated December 8, 2006. Upon receipt of this information, you provided a revised Panther Key and Rationale, dated December 20, 2006, and labeled as Panther Key and Rationale-January 2007. You also requested concurrence from the Service that the utilization of the Panther Key-January 2007 may affect but is not likely to adversely affect the Florida panther.

To assist the Corps in developing a Panther Key that fully reflects the Service's desire to identify those projects that may have an effect on the Florida panther and the need for consultation with the Service, we are providing a revised Panther Key and Rationale – February 19, 2007, that we believe meets this objective (enclosed).

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We have used Kautz et al. (2006) and Thatcher et al. (2006) to outline a Panther Focus Area, where we believe sufficient data are present that, in most cases, warrants consultation with the Service. In addition, panther research data, including scientific publications, telemetry, photographs, tracks, prey kills, and other verifiable evidence, provide direct evidence of the presence of, and use of areas by panthers, in locations that may or may not be within the Panther Focus Area or original MAP. For example, panther mortality by vehicle interactions is a significant threat; although a proposed project may not be within the Panther Focus Area, traffic generated by the project in or adjacent to the Panther Focus Area may increase risk of panther-vehicle mortality, warranting consultation with the Service.

The key and rationale provide guidelines to help us identify when proposals may affect the panther. As always, information obtained in the future will help us refine these guidelines further, or possibly identify additional issues for consideration. As an important partner in our program to conserve and the Florida panther, your cooperation and assistance are greatly appreciated. Again, thank you for your cooperation and effort in protecting federally listed species. If you have any questions, please do not hesitate to contact either myself or Allen Webb at 772-562-3909.

Sincerely yours,

Paul Souza
Field Supervisor
South Florida Ecological Services Office

Enclosure

cc: Noreen Walsh, ARD-Ecological Services, U.S. FWS

Kautz, R., R. Kawula, T. Hoctor, J. Comiskey, D. Jansen, D. Jennings, J. Kasbohm, F. Mazzotti, R. McBride, L. Richardson, and K. Root. 2006. How Much Is Enough? Landscape-scale Conservation for the Florida Panther. Biological Conservation.

Thatcher, C., F.T. van Manen, and J.D. Clark. 2006. An assessment of habitat north of the Calssoahatchee River for Florida panthers. Final Report to U.S. Fish and Wildlife Service. University of Tennessee; Knoxville, Tennessee.

U.S. Fish and Wildlife Service (Service). 2000. Florida panther final interim standard local operating procedures (SLOPES) for endangered species. Fish and Wildlife Service; Vero Beach, Florida.

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Enclosure

Florida Panther Effect Determination Key
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A. Project is not within Panther Focus Area ……. B

Project is within Panther Focus Area…… C

B. Project will have no increase and/or change in vehicle traffic patterns or other identifiable effects to panthers or their habitat…….. *No effect*

Project is greater than 1 acre in size and will have a net increase and/or change in vehicle traffic patterns or other identifiable effects to panthers or their habitat …… *May affect*
Consultation with the Service is requested[1]

C. Project is less than 1 acre…….……*May affect, not likely to adversely affect*

Project is greater than 1 acre…….*May affect*
Consultation with the Service is requested[1]

1 Consultation may be concluded informally or formally depending on project effects.

Rationale for the
Florida Panther Effect Determination Key
February 19, 2007

The following discussion provides background for terms used in the key and areas delineated on the accompanying map.

Panther Focus Area (see accompanying map)

The Panther Focus Area was based on results from recent panther habitat models south of the Caloosahatchee River and north of the Caloosahatchee River (Kautz et al. 2006 and Thatcher et al. 2006). In addition, marked panthers have been found throughout the delineated area.

The Kautz et al. (2006) model of landscape components important to Florida panther habitat conservation was based on an analysis of panther habitat use and forest patch size south of the Caloosahatchee River. This model was used in combination with radio-telemetry records, home range overlaps, land use/land cover data, and satellite imagery to delineate primary and secondary areas that would comprise a landscape mosaic of cover types that are especially important to support the current panther breeding population south of the Caloosahatchee River.

Thatcher et al. (2006) developed a habitat model using Florida panther home ranges in south Florida to identified landscape conditions (land-cover types, habitat patch size and configuration, road density and other human development activities, and other similar metrics) north of the Caloosahatchee River that were similar to those associated with the current panther breeding population south of the Caloosahatchee River.

The Panther Focus Area south of the Caloosahatchee River is divided into Primary, Secondary, and Dispersal Zones. North of the Caloosahatchee River it is named the Primary Dispersal/Expansion Area.

Primary Zone is currently occupied and supports the only known breeding population of Florida panthers in the world. These lands are important to the long-term viability and persistence of the panther in the wild.

Secondary Zone lands are contiguous with the Primary Zone and although these lands are used to a lesser extent by panthers, they are important to the long-term viability and persistence of the panther in the wild. Panthers use these lands in a much lower density than in the Primary Zone.

Dispersal Zone is a known corridor between the Panther Focus Area south of the

Caloosahatchee River to the Panther Focus Area north of the Caloosahatchee River. This zone is necessary to facilitate the dispersal of panthers and future panther population expansion to areas north of the Caloosahatchee River. Marked panthers have been known to use this zone.

Primary Dispersal/Expansion Area is the Fisheating Creek/Babcock-Webb Wildlife Management Area region. These are lands identified by Thatcher et al. (2006) as potential panther habitat with the shortest habitat connection to the Panther Focus Area in south Florida. Several collared and uncollared male panthers have been documented in this area since 1973, and the last female documented north of the Caloosahatchee River was found in this area.

In addition, the Thatcher Model Dispersal Pathways delineate model locations that show some areas where panthers have historically moved to areas further north.

Thatcher Model Dispersal Pathways are the most likely dispersal routes, based on Thatcher's (2006) least-cost pathways model, to potential habitats to the north. Panthers have historically been documented in this area.

Project Analysis

Projects within the Panther Focus Area can negatively affect panthers in different ways, such as loss and fragmentation of habitat, loss of available prey, increase potential for traffic related mortalities, and increase potential for human/panther interactions.

In addition, projects outside the Panther Focus Area, depending on type and size, can affect panthers and habitat used by panthers in different ways such as increasing traffic within or adjacent to the Panther Focus Area, changing hydrological conditions that affect the habitats that support panther or panther prey in the Panther Focus Area, increasing potential for human/panther interactions, and modifying habitat that provides some functional value for panthers.

Net Increase in Traffic

A net increase in traffic in or adjacent to the Panther Focus Area such as an increase in the number of trips per day averaged over a week is considered a traffic increase that may lead to adverse effects for purposes of this key.

Other Identifiable Effects

Dispersing panthers are known to occur outside of the Panther Focus Area. South of the Caloosahatchee River, where the only breeding population of panthers is known to exist, a project is considered to potentially have an effect on panthers if it occurs in

non-urbanized lands in areas adjacent to the Panther Focus Area (e.g., agricultural lands) where panthers have been documented.

Although non-urban lands outside of the Panther Focus Area do not provide the same habitat value as natural lands within the Panther Focus Area, they do provide important buffers between urban developments and the Panther Focus Area, dispersal and travel routes between higher quality habitats, refugia areas for sub-adult males, and foraging habitat for panther prey species. Generally, areas adjacent to the Panther Focus Area are defined as areas within the Service's 2000 consultation boundary (Service 2000) where urbanization has not replaced lower intensity land uses. Areas that have become urbanized no longer have habitat that can sustain panthers, although additional traffic generated in or adjacent to the Panther Focus Area from development in these locations may affect panthers.

Two-Mile Radius Buffer

A project is also considered to potentially have an effect on panthers if there has been documented physical evidence of panther occurrence within a two-mile radius of a project within the past two years. Documented physical evidence of panther occurrence includes telemetry locations, as well as photographs, tracks, prey kills, and other verifiable evidence that may be available.

Comiskey et al (2000) in the article "Panthers and Forests in South Florida: an Ecological Perspective" referenced that the mean movement distance between sequential telemetry locations was 6.6 km (4.1 miles) for males and 3.2 km (1.99 miles) for females. If flights to monitor panther telemetry are normally three times a week, generally every other day, the travel distance between two points per day would be roughly half the distance between the two points, roughly 2 miles for the male panther. In their habitat analysis, Comiskey et al (2000) considered lands within a circle where the radius is equal to the mean movement distance between sequential telemetry locations, as panther habitat. Following this approach, we believe land alterations within a two-mile radius of a verified panther occurrence, both north and south of the Caloosahatchee River, may potentially have an effect on the panther.

Projects Less than One Acre

On an individual basis, single-family residential developments on lots no larger than one acre will not have a measurable effect on panthers. Panthers are a wide ranging species, and individually, a one acre habitat change is not likely to adversely affect panthers. However, collectively they may have an effect and therefore regular monitoring and reporting of these effects are important.

<u>Monitoring and Reporting Effects</u>

For the Service to monitor effects, it is important for the Corps to monitor the number of permits and provide information to the Service regarding the number of permits issued that were determined “may affect, not likely to adversely affect.” It is requested that information on date, Corps identification number, project acreage, project wetland acreage, latitude and longitude in decimal degrees, and county parcel identification number of these projects be sent to the Service quarterly.

Determination

With a determination of “no effect” or “may affect, not likely to adversely affect” (“NLAA”) as outlined in this key, the requirements of section 7 of the Endangered Species Act are fulfilled and no further action is required.

A determination of “may affect” in the key may be concluded in either a “may affect, not likely to adversely affect” and written concurrence or “may adversely affect” and formal consultation with the Service is requested.

Literature Cited

Comiskey, E. J., O. L. Bass, Jr., L. J. Gross, R. T. McBride, and R. Salinas. 2002. Panthers and forests in south Florida: an ecological perspective. Conservation Ecology 6:18.

Kautz, R., R. Kawula, T. Hoctor, J. Comiskey, D. Jansen, D. Jennings, J. Kasbohm, F. Mazzotti, R. McBride, L. Richardson, and K. Root. 2006. How much is enough? Landscape-scale conservation for the Florida panther. Biological Conservation 130:118-133.

Thatcher, C. A., F. T. van Manen, and J. D. Clark. 2006. An assessment of habitat north of the Caloosahatchee River for Florida panthers. Leetown Science Center, Southern Appalachian Research Branch, U.S. Geological survey, Knoxville, Tennessee, USA.

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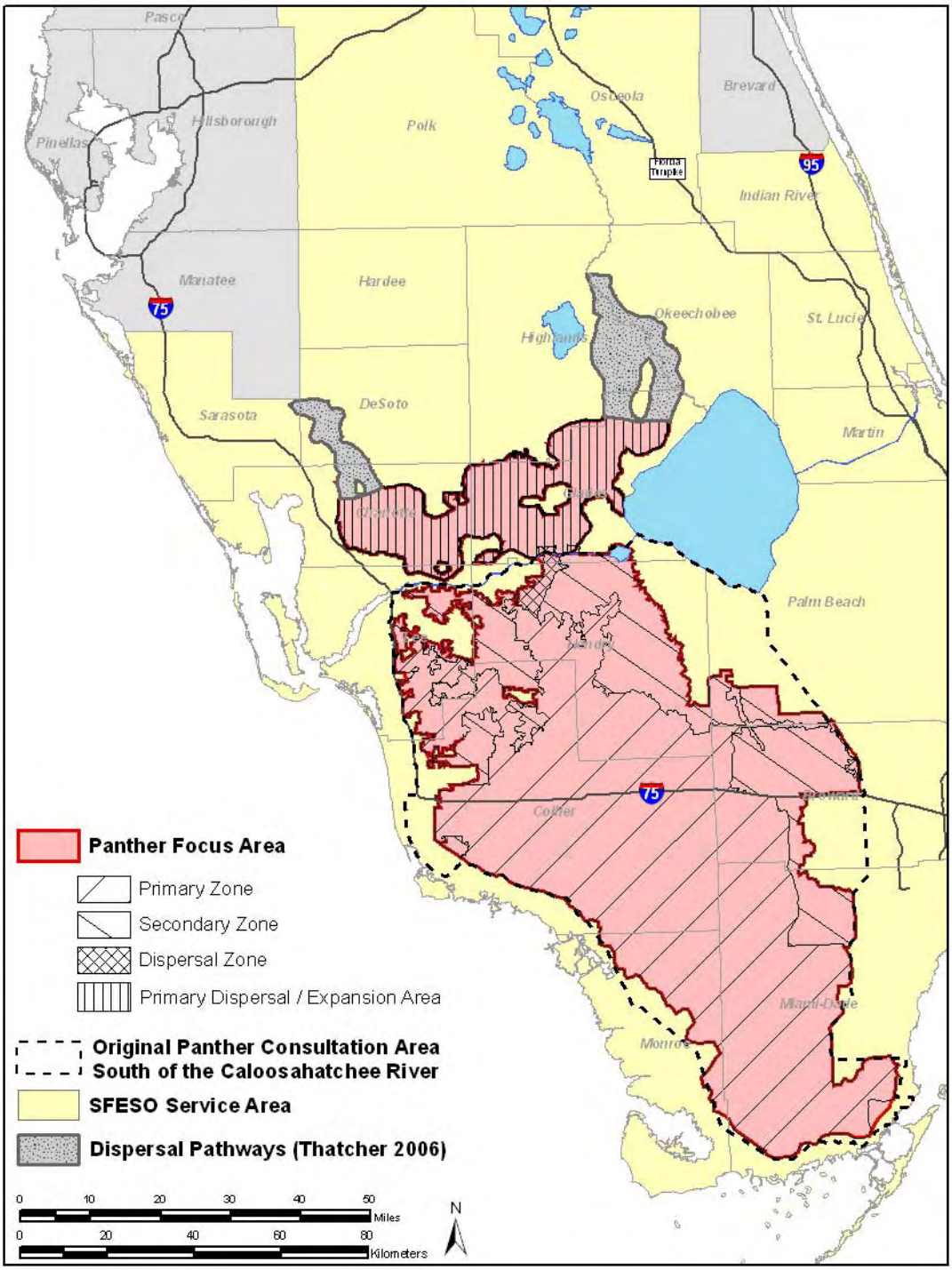
David S. Hobbie