

To Secretary of the Interior Ken Salazar and
the U.S. Fish and Wildlife Service

Petition for Rule-making:

Critical Habitat Designation for the Endangered Florida Panther



Center for Biological Diversity,
Public Employees for Environmental Responsibility,
Council of Civic Associations

**Before the Department of the Interior
U.S. Fish and Wildlife Service**

WASHINGTON, D.C. 20240

**In Re: Florida panther recovery, Florida.)
Petition for rule-making to designate)
critical habitat and ensure recovery of)
the endangered Florida panther, in)
accordance with Florida Panther)
Recovery Plan and scientific findings.)**

TO THE SECRETARY OF THE INTERIOR AND

THE DIRECTOR, U.S. FISH AND WILDLIFE SERVICE

Petition for Rule-making

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September 17, 2009

Red-shouldered hawks cruise the low cypress and the marshlands, marsh hawks balance and tip, showing white rump marks, and far over at the edge of a thicket a deer feeds, and flicks his white-edged tail before he lifts his head and stares.

From high in a plane at that time of year the Big Cypress seems an undulating misted surface full of peaks and gray valleys changing to feathering green. East of it, sharply defined as a river from its banks, move the vast reaches of the saw grass.

The brown deer, the pale-colored lithe beautiful panthers that feed on them, the tuft-eared wildcats with their high-angled hind legs, the opossum and the rats and the rabbits have lived in and around it and the Devil's Garden and the higher pinelands to the west since this world began.

Marjorie Stoneman Douglas, *The Everglades: River of Grass* (1947)

The purposes of this Act are to provide a means whereby the ecosystems on which endangered species and threatened species depend may be conserved . . .

Endangered Species Act (1973)

Petition for Rule-making

The Center for Biological Diversity, Public Employees for Environmental Responsibility, and Council of Civic Associations, Inc., pursuant to the Endangered Species Act,¹ Administrative Procedure Act, and Department of the Interior regulations,² hereby petition the U.S. Fish and Wildlife Service to designate critical habitat for the Florida panther.³ The Endangered Species Act requires that the Secretary of the Interior, to the maximum extent practicable, within 90 days after receiving a petition to revise a critical habitat designation, make a finding as to whether the petition presents substantial scientific information indicating whether the action may be warranted. Under the Endangered Species Act, this petition to designate critical habitat for a species listed prior to the 1982 Endangered Species Act amendments is treated as a petition to revise critical habitat. Additionally, the Administrative Procedure Act directs that “[e]ach agency (of the Federal Government) shall give an interested person the right to petition for the issuance...of a rule.”⁴ Therefore, this petition to designate critical habitat for the Florida panther constitutes both a petition to revise a critical habitat designation under the Endangered Species Act, as well as a petition for the issuance of a rule to designate critical habitat under the Administrative Procedure Act. We request that it be considered along with the petition for critical habitat designation that was previously submitted by the Conservancy of Southwest Florida.

¹ 16 U.S.C. § 1533(b)(3)(D)(i).

² 5 U.S.C. § 553(e); 43 C.F.R. Part 14.

³ 50 C.F.R. 17.11(h).

⁴ 5 U.S.C. § 553(e).

BEFORE THE

SECRETARY OF THE UNITED STATES DEPARTMENT OF THE INTERIOR

AND

THE DIRECTOR OF THE UNITED STATES FISH AND WILDLIFE SERVICE

**PETITION TO DESIGNATE CRITICAL HABITAT FOR THE
ENDANGERED FLORIDA PANTHER**

**CENTER FOR BIOLOGICAL DIVERSITY, PUBLIC EMPLOYEES FOR
ENVIRONMENTAL RESPONSIBILITY, COUNCIL OF CIVIC ASSOCIATIONS,
INC.**

Petitioners

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PETITION TO DESIGNATE CRITICAL HABITAT FOR THE ENDANGERED FLORIDA PANTHER

The Center for Biological Diversity, Public Employees for Environmental Responsibility, and Council of Civic Associations, Inc. (“Petitioners”), pursuant to the Administrative Procedure Act (“APA”),⁵ and pursuant to section 4 of the Endangered Species Act (“ESA”),⁶ hereby petition the Secretary of the United States Department of the Interior (“Secretary”) and the Director of the United States Fish and Wildlife Service (“FWS”) to designate critical habitat for the endangered Florida panther (*Puma concolor coryi*).

EXECUTIVE SUMMARY

This petition filed by the Center for Biological Diversity, Public Employees for Environmental Responsibility and Council of Civic Associations, Inc. requests that the Department of the Interior and the U.S. Fish and Wildlife Service promulgate regulations designating critical habitat for the endangered Florida panther on approximately 3,110,619 acres or 4,860 square miles in south Florida.

The Administrative Procedure Act provides a vehicle to petition for federal government action to ensure compliance with other statutes. The Endangered Species Act requires conservation of species that are listed as threatened or endangered. Conservation is defined as use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to the act are no longer necessary; in other words, conservation is equivalent to recovery of the species so that it can be taken off the threatened and endangered list. The law provides several methods, procedures and measures to accomplish conservation, including designation of critical habitat – defined as the specific areas on which are found those physical or biological features essential to the

⁵ 5 U.S.C. § 553(e).

⁶ 16 U.S.C. § 1533(b)(3)(D)(i).

conservation of the species and which may require special management considerations or protection. The Act allows citizens to petition the agency to revise the designation of critical habitat for endangered and threatened species, and forbids the federal government from aiding in the destruction or adverse modification of critical habitat – which along with other measures in the law ensures that once so designated, conservation will indeed take place.

The breeding population of the Florida panther in South Florida subsists on less than five percent of its original range, with just 100 to 120 animals surviving – largely as a result of loss of most of its habitat. It also suffers from loss of genetic diversity. Its plight is so dire that it will likely become extinct, and cannot be conserved, unless habitat that has been identified in the Florida Panther Recovery Plan as the Primary Zone (where the existing breeding population lives), Secondary Zone (which offers some potential for that population to expand), and Dispersal Zone (the last migration corridor for dispersing panthers to reach and potentially recolonize habitats in south-central Florida) are protected from residential and commercial development and road construction, and receive special management.

Notwithstanding a recent lull that is likely to be short-lived, development of habitat in southwestern Florida is proceeding rapidly. Existing measures to protect the Florida panther's habitat are helpful but woefully insufficient. Only designation of critical habitat can ensure that the Primary, Secondary and Dispersal Zones are fully protected, as specified in the recovery plan. Failure to designate critical habitat will prevent the conservation of the panther and violates the Endangered Species Act. On this basis, and under the provisions of the Endangered Species Act and Administrative Procedure Act that require a timely and rational response to such petitions as this one, the Fish and Wildlife Service must make an affirmative finding on this petition.

I. PETITIONERS

The Center for Biological Diversity (“Center”) is a non-profit 501(c)(3) conservation organization dedicated to protecting and restoring imperiled species and their ecosystems. The Center has over 240,000 members and on-line activists, including thousands who reside and

recreate in the State of Florida. Many of the Center's members and activists spend time in the habitats of the Florida panther. A large part of their enjoyment of those habitats stems from the knowledge that panthers survive there, and that they will have the opportunity to observe a panther or its tracks or other sign.

Public Employees for Environmental Responsibility (PEER) is a national non-profit organization based in Washington, D.C. with field offices nationwide, including Florida. PEER works with local, state, and federal resource professionals to monitor, advocate, and uphold the environmental laws of the United States. PEER members reside in the State of Florida and study wildlife, including the Florida panther, in the Everglades ecosystem for professional, recreational, and aesthetic benefits.

In addition, PEER members, who are also U.S. Fish and Wildlife Service (FWS) professionals, are being harmed by having to engage in practices they believe are detrimental to the Florida panther which violate the ESA and scientific ethics. Further, these members are being personally and professionally harmed by the failure of FWS to comply with environmental laws requiring conservation and restoration of wildlife and in accordance with the mission of the agency.

The Council of Civic Associations, Inc. (CCA) is a non-profit organization founded in 1996 and affiliated with over 70 civic organizations, government liaisons and community leaders in South Florida. The CCA's mission is to make government at all levels accountable for enforcing the laws for which they are responsible, for the benefit of all citizens and not just for special interests. The CCA supports responsible growth that safeguards natural resources. To the CCA, the Florida panther, one of the most endangered species in the world, represents what is left of an imperiled ecosystem, a symbol of everything else that is going to disappear unless the federal government undertakes protective measures that actually work.

II. INTRODUCTION: RECOVERY OF FLORIDA PANTHERS WILL BENEFIT NATURAL ECOSYSTEMS AND HUMAN COMMUNITIES

The recovery program for the Florida panther (*Puma concolor coryi*) is intended to fulfill a pledge in the Endangered Species Act to conserve endangered species and the ecosystems upon which they depend. The ecosystems of south Florida evolved with panthers. The deer, raccoons and other wildlife on which panthers prey developed their alertness and other survival traits in part to avoid predation by panthers. The vegetation in south Florida is sensitive to overuse by deer and other animals, including non-native feral hogs, and is in part protected through panther culling of these animals. Furthermore, protection of panther habitat to facilitate recovery would also protect the habitat for many other species of animals and plants.

South Florida is also home to millions of human beings. Many of these people benefit physically, recreationally and spiritually by access to nearby areas that are still wild, and still house Florida panthers as well as most of the panoply of life native to the region.

Just as individuals grow and become more than the sum of their needs and desires through acts of unfettered generosity, so human communities are enriched through arresting their collective appetites for land and resources, and thus reining in their dominion over other life forms. Nothing enhances civilization more than to reserve open lands for human contact with wild nature, and the greater the forbearance displayed the more the people in those communities may discover opportunities to enhance their own individual humanity.

Living in proximity to pumas, including the Florida panther subspecies, cultivates a sensibility and experience different from almost any other in North America. Many if not all natural landscapes touch the human heart and may be considered beautiful. Many wild animals can be considered majestic. Many, sadly, can be counted as endangered. Some animals, whether they be rattlesnakes or alligators, are potentially dangerous.

Florida panthers in their natural environments personify all those attributes, not just for their beauty and their rarity, but also for a unique sublimity attributable in part to their uncanny

ability to stay hidden. Their presence in the wild, or in partially cultivated landscapes and even at the ragged edge of suburbia, is a constant reminder, whether one is hiking or merely setting out the garbage before dawn, that something grander, with its own designs, ancient instinct entwined with discerning intelligence, blends into the landscape and makes every rock and stump seem animate, enriched, and our own lives more meaningful – if even for a startled second.

The landforms of South Florida would not be the same without their iconic, unique Florida panthers. Future generations of humanity would be impoverished beyond coinage and beyond words in the event that the current trajectory of habitat loss continues and the Florida panther goes extinct.

III. ADMINISTRATIVE PROCEDURE ACT

The Administrative Procedure Act of 1946 is one of three statutes, along with the National Environmental Policy Act and the Freedom of Information Act, that together operate as a three-legged legal stool connecting citizens to their government and supporting the integrity of federal decision-making. The APA provides citizens with a means to compel issuance of government rules that are unlawfully withheld or unreasonably delayed, and to overturn government action that is arbitrary, capricious, or an abuse of discretion.

The APA attends to the form of governmental rule-making, not its substance. The Act does not provide a cause of legal action in the absence of a relevant statute whose violation forms the legal basis for the complaint. The standards for unlawful withholding or unreasonably delaying action, and for arbitrary, capricious or abusive rule-making, come from other statutes. This petition is filed pursuant to the APA and with reference to the authorities and requirements of the ESA, whose means and ends provide the legal and managerial context for this petition.

The Supreme Court has held in interpreting the APA that “an action called for in a plan may be compelled when the plan merely reiterates duties the agency is already obligated to

perform.”⁷ The ESA obligates the FWS to conserve and recover the Florida panther. As this petition demonstrates, the agency developed and revised a Florida Panther Recovery Plan which specifies how recovery can occur and, conversely, what conditions will inevitably lead to failure to recover the panther and its eventual extinction. The recovery plan makes clear that critical habitat designation is necessary for recovery.

IV. ENDANGERED SPECIES ACT

Congress passed the Endangered Species Act in 1973 in order “to provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved [and] to provide a program for the conservation of such endangered species and threatened species.”⁸ Critical habitat designation for the Florida panther would provide a means of conserving the ecosystems on which the Florida panther’s survival and recovery depends, and is also a necessary and time-sensitive component of the ongoing recovery program. The ESA provides the means for citizens to petition the FWS to revise critical habitat designation for endangered and threatened species.

A. Conservation

Once a species (or subspecies or population) is placed on the threatened and endangered species list, the ESA mandates its conservation. The act defines “conserve,” “conserving,” and “conservation” as “to use and the use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to [the Act] are no longer necessary.”⁹ That means that conservation is to continue until the goal of recovery has been assured. The law instructs Federal agencies to utilize their authorities to effect conservation. The ESA specifies conservation methods, procedures and authorities that may be used to affect recovery – such as research, census, law enforcement, habitat acquisition and maintenance, propagation, live trapping, transplantation, critical habitat designation, consultation, prohibiting or restricting take, and recovery planning. While not all authorities are appropriate for use for all endangered species, no authority may be withheld if it

⁷ *Norton v. Southern Utah Wilderness Alliance*, 542 U.S. 55, 71 (2004).

⁸ 16 U.S.C. § 1531(b).

⁹ 16 U.S.C. § 1532(3).

is necessary to recover a particular endangered species. The listing, recovery planning, consultation, incidental take, and critical habitat designation measures that are mandated in the ESA – when viewed together with the plan and plight unique to the Florida panther – provide the legal basis under which the FWS must make an affirmative finding to this petition for rule-making.

B. Listing

Animal and plant species become protected under the ESA after placement on the list of threatened and endangered species, known as “listing.” A species must be listed as endangered if it is “in danger of extinction throughout all or a significant portion of its range” (or for threatened species, “likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range”)¹⁰ due to one or more of the following factors: (A) the present or threatened destruction, modification, or curtailment of its habitat or range; (B) overutilization for commercial, recreational, scientific, or educational purposes; (C) disease or predation; (D) the inadequacy of existing regulatory mechanisms; or (E) other natural or manmade factors affecting its continued existence.¹¹ The Florida panther was listed as an endangered subspecies on March 11, 1967.¹²

Once listed, it is illegal except under specified circumstances, to take any threatened or endangered species. Take is defined as harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting, or attempting to do any of those acts.

C. Recovery Planning

When a species is listed under the ESA, the FWS must “develop and implement plans... for the conservation and survival” of the species.¹³ Recovery plans include a description of site-specific management actions necessary to conserve the species, objective, measurable criteria which, when met, will allow the species to be removed from the endangered and threatened

¹⁰ 16 U.S.C. § 1532(6), (20).

¹¹ 16 U.S.C. § 1533(a)(1).

¹² 32 Fed. Reg. 4,001; *see also* 50 C.F.R. § 17.11.

¹³ 16 U.S.C. § 1533f(1).

species list, and estimates of the time and funding required to achieve the plan's goals and intermediate steps.

FWS approved the first recovery plan for the Florida panther on December 17, 1981, and revised that plan on June 22, 1987, March 13, 1995 and November 1, 2008. The recovery plan identifies limited habitat, and continued habitat loss and fragmentation as the “most important threats to panther persistence.”¹⁴ The recovery plan calls for establishing three viable, self-sustaining populations of at least 240 panthers each and maintaining them for a minimum of twelve years, and for retaining, protecting or securing sufficient habitat to support these populations, as the delisting criteria.¹⁵ To reach that goal, the recovery plan's first of three objectives is to “maintain, restore, and expand the panther population and its habitat in south Florida and expand the breeding portion of the population in south Florida to areas north of the Caloosahatchee River.”¹⁶ Management actions designed to maintain, restore and expand the panther population and its habitat in south Florida include, among others:

- Develop and implement regulatory procedures and guidance that avoid habitat loss, degradation, and / or fragmentation as a result of federally funded or authorized projects and actions. If incompatible development, conversion of natural habitat types, and / or land use intensification cannot be avoided then such procedures and guidance should ensure that equivalent habitat protection and restoration are provided, especially within the Primary Zone, to compensate for both the quantity and functional value of the lost habitat.¹⁷
- Ensure that the section 7 consultation process is utilized and that the best available science is used in development of biological opinions.¹⁸
- Identify, restore, maintain, and enhance habitat corridors to facilitate movements by resident panthers, promote dispersal, and prevent peripheral areas from becoming further isolated from habitat in the Primary Zone.¹⁹
- Maintain and enhance existing habitat corridors.²⁰
- Secure Camp Keais Strand to maintain connectivity from FPNWR to Corkscrew Regional Ecosystem Watershed.²¹
- Secure a corridor between BCNP and Okaloacoochee Slough to assure this pathway is not degraded or severed.²²

¹⁴ FWS, Florida Panther Recovery Plan (2008)(hereinafter “2008 Recovery Plan”), 76.

¹⁵ *Id.* at xi-xii.

¹⁶ *Id.* at x.

¹⁷ *Id.* at 102-103.

¹⁸ *Id.* at 103.

¹⁹ *Id.* at 104.

²⁰ *Id.*

²¹ *Id.*

²² *Id.* at 102-103.

- Consider maintenance of habitat corridors for panthers during Everglades restoration to avoid isolation of the ENP subpopulation. High water levels in Shark River Slough may prevent panthers from moving in and out of ENP, thus separating them from the rest of the population.²³
- Maintain spatial extent and arrangement of habitat. Areas currently used by panthers and habitat conditions within the Primary Zone should be maintained. According to Root (2004), “Unless the current condition, amount, and configuration of the currently occupied panther habitat are safeguarded, the long-term viability of the panther is not secure.” In addition, Kautz et al (2006) suggests that unavoidable losses in the Primary Zone should be offset by habitat restoration or enhancement of habitat elsewhere in the Primary Zone, thereby increasing the functional value and carrying capacity of the remaining habitat. Restoration of the Secondary Zone will help maintain spatial extent.²⁴
- Ensure that panther habitat needs are incorporated in the planning of new roads and road expansion projects.²⁵
- Ensure that panthers and their prey are adequately considered and provided for in management of public lands. Management of public lands should include, but is not limited to, restoration and maintenance of natural habitat through prescribed fire, invasive plant control, regulation of ORV use as appropriate, restoration and maintenance of hydrologic quality and quantity, and regulation of recreational hunting to ensure that it does not negatively impact the panthers’ prey base.²⁶
- Minimize and prevent injuries and mortalities by modifying conditions on existing roads and implement appropriate actions to protect panthers during the planning, permitting, and construction of new roads and highway expansion projects.²⁷
- Build mechanisms into permits for road projects to provide for adaptive management for panther mortality and / or other unforeseen problems. These could include conditions for when the FWS will reinitiate consultation pursuant to section 7 of the ESA or require additional project alterations to avoid impacts.²⁸

Noting that “[t]he potential for the persistence of the existing population in south Florida can be enhanced by its expansion into south-central Florida”, the recovery plan also calls for the following management action, among others:

- Conserve lands buffering the Caloosahatchee River by fostering compatible land uses and riparian habitat protection directly along the river in order to maintain enough characteristics of panther habitat to allow dispersal

²³ *Id.* at 104.

²⁴ *Id.* at 104-105.

²⁵ *Id.* at 105.

²⁶ *Id.* at 106.

²⁷ *Id.* at 110.

²⁸ *Id.* at 110.

northward and genetic exchange should female panthers be successfully established north of the river.²⁹

Several of the recovery plan's most critical site-specific management items, its first of three objectives, and the recovery goal and criteria as a whole cannot be accomplished absent the designation of critical habitat.

D. Consultation

The ESA provides that

Each Federal agency shall, in consultation with and with the assistance of the Secretary, insure that any action authorized, funded, or carried out by such agency...is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species which is determined by the Secretary... to be critical.³⁰

If an agency determines that a proposed action may affect a listed species, that agency must engage in formal consultation with the FWS.³¹ As part of consultation, the FWS must provide that agency with a biological opinion explaining how the proposed action will affect the species or its critical habitat.

If the action will jeopardize the continued existence of a listed species or result in the destruction or adverse modification of its critical habitat, the biological opinion must suggest any "reasonable and prudent alternatives" that will avoid jeopardy or adverse modification.³² Such measures accompany issuance of an "Incidental Take Statement" that specifies the "impact of such incidental taking on the species," any "reasonable and prudent measures that the [FWS] considers necessary or appropriate to minimize such impact," and sets forth "the terms and conditions...that must be complied with by the Federal agency...to implement" those measures."³³

²⁹ *Id.* at 115.

³⁰ 16 U.S.C. § 1536(a)(2).

³¹ 50 C.F.R. § 402.14.

³² 16 U.S.C. § 1536(b)(3)(A).

³³ 16 U.S.C. § 1536(b)(4).

Through the mandatory terms and conditions, consultation ensures that federal agencies do not undertake activities that are likely to jeopardize the continued existence of endangered species or destroy or adversely modify their critical habitats.

E. Incidental Take Statements

The ESA requires FWS to issue permits to take endangered species if such taking is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity, and if a series of provisions applies. Applicants for such permits must submit a conservation plan that specifies the likely impact of such taking, steps to minimize and mitigate such impacts, the funding that will be available to implement such steps, and the alternative actions to such taking that the applicant considered and the reasons why such alternatives are not being utilized – plus any other necessary or appropriate measures required by the FWS.

Before granting such a permit, the agency must ensure adequate funding of the plan and that it will be implemented, that to the maximum extent practicable the permit applicant will minimize and mitigate the impacts of the taking, and that the taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild.

To inform the development and propriety of conservation plans, a key tool should be a scientifically-developed map of the areas necessary for conservation; critical habitat designation provides such a map. The process of designating critical habitat also provides a means of ensuring that adequate scientific information is used in development of conservation plans and that the habitat needs of the species have been considered simultaneously with the economic and other effects of habitat protection.³⁴

F. Critical Habitat Designation

The protections to an endangered species' critical habitat provided through consultation are different from the protections that consultation provides through preventing actions that are likely to jeopardize the species' existence. That is because the ESA defines "critical habitat" for a threatened or endangered species as —

³⁴ Baldwin.

- (i) the specific areas within the geographical area occupied by the species, at the time it is listed in accordance with the provisions of section 4 of this Act, on which are found those physical or biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protection; and
- (ii) specific areas outside the geographical area occupied by the species at the time it is listed in accordance with the provisions of section 4 of this Act, upon a determination by the Secretary that such areas are essential for the conservation of the species.³⁵

Areas essential for the conservation of an endangered species and that may require special management consideration or protection must be viewed in light of the sweeping definition of conservation, encompassing “all methods and procedures which are necessary” to recover threatened and endangered species. Critical habitat comprises the areas that are necessary for recovery whether or not those areas are currently occupied by the listed species. By preventing federal agencies from destroying or adversely modifying these areas through consultation, the designation of critical habitat provides an additional level of protection – that necessary for recovery – beyond the protection of areas where the species’ current existence is at stake.

In 1976, Congress highlighted the importance of critical habitat: “[i]t is the Committee’s view that classifying a species as endangered or threatened is only the first step in insuring its survival. *Of equal or more importance is the determination of the habitat necessary for the species’ continued existence.*”³⁶ The legislative intent to designate critical habitat is unambiguous: critical habitat is necessary for species conservation. In receiving a petition to revise a critical habitat designation, such as this petition to designate critical habitat for the Florida panther, “the Secretary shall make a finding as to whether the petition presents substantial scientific information indicating that the revision may be warranted.”³⁷ The Secretary must make this finding “[t]o the maximum extent practicable, within 90 days after receiving the petition.”³⁸ Petitioners need not demonstrate that the designation of critical habitat is warranted.

³⁵ 16 U.S.C. § 1532(5)(A).

³⁶ *Ctr. For Biological Diversity v. Norton*, 240 F. Supp. 2d 1090, 1098 (D. Ariz. 2003), quoting H.R. Rep. No. 94-887, at 3 (1976).

³⁷ 16 U.S.C. § 1533(a)(3)(D)(i).. For species such as the Florida panther listed prior to the 1982 ESA amendments, critical habitat designation is treated as critical habitat revision. Pub. L. No. 97-304, § 2(b)(2), 96 Stat. 1411 (1982).

³⁸ 16 U.S.C. § 1533(a)(3)(D)(i).

Rather, Petitioners must only present information demonstrating that such action “*may be warranted*.”³⁹ Because the substantial scientific information that has been summarized in the Panther Recovery Plan clearly warrants designation of critical habitat for the Florida panther, FWS should promptly make a positive initial finding on the Petition and commence preparation of proposed rulemaking to designate critical habitat.

As the remainder of this petition demonstrates, FWS may not lawfully withhold or further delay designation of critical habitat for the Florida panther. To do so would be to guarantee the frustration and non-achievement of the ESA’s non-discretionary goals through flouting use of the very means that the act provides to ensure success. The Florida panther needs critical habitat in order to survive and recover.

V. ECOLOGY OF THE FLORIDA PANTHER

A. Taxonomy and Description

The Florida panther is a type of puma (also known as cougar or mountain lion). The puma is the most widely distributed large, wild, terrestrial mammal in the Western Hemisphere – originally extending from northern Canada to the southern Andes of South America. A habitat generalist and a carnivore in the *Felidae* family, pumas stalk and ambush rather than course their prey, are more solitary than gregarious, and establish and defend home territories.

Florida panthers typically appear ferruginous on their backs, tawny on the sides and pale gray underneath. Adult males weigh an average of 116 pounds and females 75 pounds. The frontal region of their skulls is broader and flatter than in other pumas and their nasal bones are broader and arched higher.⁴⁰

³⁹ 16 U.S.C. § 1533(a)(3)(D)(i) (emphasis added).

⁴⁰ 2008 Recovery Plan, at 5.

The Florida panther has variously been characterized as its own species, *Felis coryi*; as a subspecies, *Puma concolor coryi*, of the puma; or as a population of the pan-North America subspecies of puma, *Puma concolor couguar*.⁴¹

The Florida Panther Recovery Plan, third revision,⁴² noting that “the degree to which the scientific community has accepted the use of genetics in puma taxonomy is not resolved at this time,” cites three genetic studies that find little variation in all pumas in North America, and one of those studies (Culver et al, 2000) that describes the Florida panther as a genetically unique and inbred population.⁴³ To address symptoms of inbreeding depression, the Florida panther population was bolstered by importation of eight female pumas from Texas, of which the genes of five of these animals are now significantly introgressed into the Florida panther population.⁴⁴ These introduced Texas pumas were carefully monitored and removed from the Florida population once the desired breeding occurrence target was achieved, in order to maintain the genetic integrity of the Florida panther as a distinct subspecies.

Florida panthers are the last remaining representation of the race or races of pumas that previously roamed throughout the eastern United States. They are adapted to a hot and wet climate, and inhabit forests, wetlands and grasslands unlike the habitats of any other extant puma population.

B. Population Trends and Distribution

Whether regarded as a subspecies or as a population with distinct morphological traits, Florida panthers originally ranged throughout much of the southeastern United States, from Arkansas and Louisiana eastward across Mississippi, Alabama, Georgia, Florida and parts of South Carolina and Tennessee. Today, the only known reproducing population of the Florida panther is located in the Big Cypress Swamp/Everglades physiographic region on approximately 3,548 square miles south of the Caloosahatchee River in the South Florida counties of Collier,

⁴¹ *Id.* at 8, 11-12.

⁴² *Id.* at 11.

⁴³ *Id.* at 12.

⁴⁴ *Id.* at 6, 70.

Lee, Hendry, Miami-Dade and Monroe.⁴⁵ In addition, between 1972 through 2004, Florida panthers have been confirmed in the following Florida counties that are north of the Caloosahatchee River: Flagler, Glades, Highlands, Hillsborough, Indian River, Okeechobee, Orange, Osceola, Polk, Sarasota and Volusia.⁴⁶ Furthermore, on November 16, 2008 a Florida panther was shot and killed in west-central Georgia within a few miles of the state border with Alabama.⁴⁷

Genetic analysis of current and historic Florida panthers suggests that “the population declined from a relatively high level in the 1890s, went through a bottleneck in Florida in the middle of the last [20th] century, for at least a few generations, and then increased somewhat at the end of the last century.”⁴⁸ Panther numbers are estimated to have dropped to as low as six animals, perhaps around 1970 when the big cats were believed extinct and prior to field investigations that revealed a few panthers and estimated their total population at 20 to 30. Since that nadir, the population has slowly increased to an estimated 100 to 120 animals today. The number of uncollared panthers that are captured increased each year between 2000 and 2006. More den sites were known of in 2006 than in 1999. Notably as well, more panthers are believed to have been killed by vehicles in 2006 than 1999.⁴⁹ This indicates that the size of the Florida panther population is increasingly limited by loss of habitat to development and by fragmentation of habitat by roads.

C. Reproduction

Male Florida panthers are polygynous, maintaining large, overlapping home ranges containing several adult females and their dependent offspring. Males normally first breed at about three years old, though some may breed as early as 17 months; females on average first breed at two years old, and some as early as 18 months. Courtship and breeding may last from

⁴⁵ *Id.* at 4, 12-13.

⁴⁶ *Id.* at 15.

⁴⁷ (U.S. Fish and Wildlife Service press release 8/5/2009, <http://www.fws.gov/news/newsreleases/showNews.cfm?newsId=F48F71C9-FD69-5C24-650FDEB42F9E60DF>, checked on 8/18/2009).

⁴⁸ Culver et al (2008) 107, 109.

⁴⁹ 2008 Recovery Plan at 15.

one to seven days, and may be the longest or only period of extensive interaction between mates.⁵⁰

Florida panthers may reproduce throughout the year but most often breed from December to March and bear kittens between March and June. Dens are usually located in dense understory vegetation such as saw palmetto (*Serenoa repens*) and typically house a female and her two or three kittens for up to two months until they are weaned.⁵¹ Young panthers tend to leave their mothers and disperse to seek to establish their own home ranges at 14 to 18 months, but occasionally set out on their own as early as one year.⁵²

Until the mid-1990s, male panther fertility was curtailed from cryptorchidism and low sperm quality, a result of inbreeding depression. As noted, those adverse conditions have been ameliorated through the 1995 importation of eight female pumas from Texas into the Florida panther population, and the successful introgression of the genes of five of them.⁵³ Once breeding had occurred, the introduced pumas were removed to ensure the genetic integrity of the subspecies was maintained.

D. Dispersal

Dispersal is the process by which juvenile Florida panthers leave their mothers and travel to locate home ranges of their own. It is likely that dispersal is in part a response to panthers' territorial imperatives. Because dispersal of their progeny may induce females to mate and reproduce again, and because those juveniles that successfully establish home ranges are thereby facilitated in future matings, dispersal is crucial in reproduction, population growth, and range expansion. But with shrinking habitat available for dispersal of Florida panthers, "successful male recruitment appears to depend on the death or home-range shift of a resident adult male."⁵⁴ Conversely, habitat loss and thwarted dispersal has led to mortality caused by other panthers; intraspecific aggression accounts for 42% of all mortalities among radio-collared panthers.⁵⁵

⁵⁰ *Id.* at 16, 21.

⁵¹ *Id.* at 16.

⁵² *Id.* at 17, 18.

⁵³ *Id.* at 6, 70.

⁵⁴ *Id.* at 17, quoting Maehr et al 1991.

⁵⁵ *Id.* at 17.

Juvenile male panthers travel an average of 25 miles in dispersal to establish new home ranges, with a maximum known dispersal distance of 139.2 miles followed by a secondary dispersal of 145 miles for one animal. Female panthers disperse shorter distances and usually establish home ranges less than one average home range width from their natal range. Most panther dispersal occurs south of the Caloosahatchee River, with only 20 male panthers confirmed north of the river since 1972, but no females nor reproduction documented north of the river since 1973. The river itself is channelized and not a significant barrier to panther movements, but development and roads, including State Route 80, may be restricting panther dispersal northward.⁵⁶ Vehicle collisions currently account for 19% of deaths of radio-collared panthers.⁵⁷

E. Movements within Home Ranges, and Intraspecific Interactions

Resident adult Florida panthers are largely nocturnal and move extensively within home ranges, not uncommonly moving twelve miles in a night. Peak panther activity occurs around sunrise and after sunset. They do not return to the same resting site day after day, with the exception of females with dens or panthers remaining near kill sites for several days. The sizes of panther home ranges are influenced by habitat quality, prey density, and landscape configuration. Male panthers have significantly larger home ranges than females. Home ranges for adult male resident panthers typically encompass 140 to 251 square miles, while adult resident females typically range across 69 to 153 square miles.

Panthers announce their territories through scent posts marked by urine and occasionally by feces. Most of a panther's life is solitary, interspersed with intraspecific interactions. Among those, three types of non-aggressive interaction predominate: courtship and mating, adult female rearing of kittens, and among independent subadult males. In addition, male panthers attack each other, and such incidents are the most common cause of male mortality as well as an important determinant of male spatial and recruitment patterns. Aggressive interactions between

⁵⁶ *Id.* at 18, 19.

⁵⁷ U.S. Fish and Wildlife Service, 17; FWS press release 8/5/2009, available at <http://www.fws.gov/news/newsreleases/showNews.cfm?newsId=F48F71C9-FD69-5C24-650FDEB42F9E60DF>.

adult males and females also occur and may be precipitated by defense of a kill and/or by male attacks on and female defense of kittens.⁵⁸

F. Food

Florida panthers primarily feed on white-tailed deer (*Odocoileus virginianus*) and feral hogs (*Sus scrofa*). Their diets vary geographically, with deer predominating north of I-75 and hogs south of the Alligator Alley section of Interstate 75, as measured by biomass. In addition to their primary diets of deer and hogs, secondary prey includes raccoons (*Procyon lotor*), nine-banded armadillos (*Dasypus novemcinctus*), marsh rabbits (*Sylvilagus palustris*) and alligators (*Alligator mississippiensis*). Deer density is greatest in hammocks, pine forests and marshes, but is subject to rapid decline in response to weather and habitat conditions.⁵⁹

G. Habitat

Florida panthers inhabit a mosaic of habitats in rough proportion to their availability within home ranges. While telemetry data indicate that panthers prefer forested cover types and in particular cypress swamps, pinelands, hardwood swamps, and upland hardwood forests, such data has been criticized as inaccurately measured and based solely on diurnal locations when in fact panthers are largely nocturnal and crepuscular. Panthers hide in small forest patches and use the cover of their edges to stalk and ambush prey.⁶⁰ However, they also move through and hunt in open areas such as freshwater marshes and agricultural fields which support many of their prey. As such, both open and forested areas have been identified as essential habitat and included in the Primary, Secondary, and Dispersal zones identified by Kautz et. al.

The Florida Panther Recovery Plan identifies and delineates three categories of habitat as priorities for habitat conservation: (1) Primary Zone – lands essential to the long-term viability and persistence of the panther in the wild; (2) Secondary Zone – lands contiguous with the Primary Zone, currently used by few panthers, but which could accommodate expansion of the panther population south of the Caloosahatchee River; and (3) Dispersal Zone – the area which may facilitate future panther expansion north of the Caloosahatchee River. The Primary Zone is

⁵⁸ 2008 Recovery Plan, 17, 19-21.

⁵⁹ *Id.* at 21-22, 29; Maehr and Lacy, 974.

⁶⁰ U.S. Fish and Wildlife Service, 28-29; Gross, 1527.

currently occupied and supports the breeding population of panthers. Although panthers move through the Secondary and Dispersal Zones, these are not currently occupied by resident panthers. Some areas of the Secondary Zone would require restoration to support panthers.⁶¹

The Primary Zone is 3,548 square miles in size, 73% of which is publicly owned, consisting of 45% forest, 41% freshwater marsh, 7.6% agricultural lands, 2.6% prairie and shrub lands, and 0.52% urban lands.⁶² Kautz et al, in originally identifying and defining the Primary Zone, called it “south Florida lands essential to the long-term viability and survival [as opposed to “persistence,” the word in the recovery plan] of the Florida Panther,” and added: “Survival is defined as ‘the condition in which a species continues to exist into the future while retaining the potential for recovery.’”⁶³

The Secondary Zone is 1,269 square miles, 38% of which is public land, comprised of 43% freshwater marsh, 36% agriculture, 11% forest, 6.1% prairie and shrub lands, and 2.3% low-density residential areas and open urban lands.⁶⁴ It consists of “additional natural and disturbed lands in south Florida that may be important to transient subadult male panthers and have potential to support an expanding panther population, especially if habitat restoration were possible.”⁶⁵

The Dispersal Zone is 44 square miles, with a mean width of 3.4 miles, and is all privately owned. It is composed of 49% agriculture (primarily improved pasture and citrus groves), 29% forest (wetlands and upland), 8.8% prairie and shrub land, 7.5% freshwater marsh, and 5.1% barren and urban lands.⁶⁶ The Dispersal Zone is the only area that permits panthers to disperse north of the Caloosahatchee River, based on telemetry data of three radio-collared panthers that all crossed the river into south-central Florida within that zone. The Dispersal Zone’s integrity and permeability for panther movements are critical for future genetic

⁶¹ *Id.* at 27.

⁶² *Id.* at 27-28.

⁶³ Kautz et al, 122.

⁶⁴ 2008 Recovery Plan, 28.

⁶⁵ Kautz et al, 123-24.

⁶⁶ 2008 Recovery Plan, at 27-28.

connectivity between the current population south of the river and an intended future northern extension of that breeding population.⁶⁷

Panther habitat requires both special management and protection. The Primary Zone is currently managed by five federal and state agencies, and one non-governmental organization, to mimic the natural fire dynamics of this habitat. Periodic prescribed fires in the vegetative understory improve habitat for deer and hogs. Panthers use pine habitats most in the first year after it has been burned, and less thereafter. These agencies also conduct other types of habitat management that may benefit panthers, including regulation of off-road vehicles and control of invasive plants.⁶⁸

The Primary, Secondary and Dispersal Zones all urgently need additional regulatory protection in order to ensure that ongoing and planned residential and commercial development and road construction do not undermine recovery. They also all need special management to ensure that existing roadways and developments are configured so as to minimize fragmentation of habitat, maximize permeability for panther movements, and reduce vehicle collisions with panthers – through, as one example, construction of panther underpasses and other features to allow for safe crossing.⁶⁹

VI. THREATS TO THE FLORIDA PANTHER STEM PRIMARILY FROM HABITAT LOSS, FRAGMENTATION, AND DEGRADATION

A. Habitat Degradation and Loss

Habitat loss, fragmentation, and degradation, and associated human disturbances, are the greatest threats to panther survival and among the greatest threats to its recovery. Throughout Florida in the half-century between 1936 and 1987, croplands and rangelands increased by 30%, urban areas increased by an astounding 538%, and, commensurately, herbaceous wetlands and forests decreased by 56% and 21%, respectively. That loss of forest alone represents the habitat

⁶⁷ *Id.* at 30-31, 92, 101; Kautz et al 122, 130-31.

⁶⁸ 2008 Recovery Plan, at 31-33.

⁶⁹ *Id.* at 65-66.

for the potential home ranges of between 35 to 70 male panthers and 100 to 200 females. Between the mid to late 1980s and 2003, over 5,000 additional square miles of natural and semi-natural lands were developed, urbanized, and/or converted to agriculture.⁷⁰

Habitat loss and degradation continue today in southwest Florida (as well as elsewhere in the state and in the broader multi-state historic range of the panther). Conversion of rangelands with significant value to panthers into row-crop agriculture and urban development that has minimal value for panthers continues to replace, degrade, and fragment panther habitat.⁷¹ Between the mid to late 1980s and 2003, approximately 570 square miles of natural and semi-natural lands in Glades, Hendry, Lee, Collier, Broward, Monroe, and Miami-Dade counties were converted to agriculture (340 mi²) or urbanized (230 mi²), with a possibly accelerating trend in habitat loss.⁷² In Collier, Lee, and Hendry Counties, alone, from 1985 through 2003, more than 223 square miles of natural and semi-natural lands were converted to agriculture and more than 145 square miles to development (while in the entirety of the Primary, Secondary, and Dispersal Zones from September 2003 to June 2008, as required compensation for some of these habitat losses, 62 square miles were set aside for conservation).⁷³

Human population growth is the driving factor behind habitat loss and degradation. The human population of Florida increased from 87,000 to over 17 million between 1850 to 2000, and is projected to continue: The ten counties in south Florida will likely increase their human population by 56% in the years 2000 through 2030, from 6.09 to 9.52 million residents; and in southwest Florida, in particular Collier and Lee Counties, between 2000 and 2010, humanity is anticipated to increase by 21%.⁷⁴

B. Habitat Fragmentation

Because of their wide-ranging movements and extensive spatial requirements, Florida panthers are sensitive to habitat fragmentation.⁷⁵ Fragmentation can take place on different

⁷⁰ *Id.* at 36-37, 76.

⁷¹ *Id.* at 35-37.

⁷² *Id.* at 38.

⁷³ *Id.* at 46-47.

⁷⁴ *Id.* at 40-41.

⁷⁵ *Id.* at 35.

scales, ranging from an almost complete blockade of animals' movements, to merely raising the risks inherent to such movements. In the former category, threatened development "expanding east from Ft. Myers along the State Road 80 corridor immediately south of the Caloosahatchee River," would destroy the already limited functionality of the Dispersal Zone.⁷⁶

Construction and expansion of highways play an inordinate role in the less absolute but still extraordinarily consequential level of habitat fragmentation that is piecemeal destroying the panther's opportunities for recovery. Not only do highways directly replace habitats by paving them over (a two-lane road at 108-feet-wide, and four-lane road at 328-feet-wide with cleared rights-of-way, occupy 2% and 6.2% of each 640 acres (one square mile) respectively of land through which they pass), but they also split natural and semi-natural areas into smaller patches and subject animals attempting to cross to the risk of vehicle collisions.⁷⁷

Nineteen percent of radio-collared panthers' known causes of deaths since 1981 were caused by vehicles – the third-largest cause of deaths. As a result, small wildlife populations, including subgroupings of the Florida panther population, may become isolated, subjecting them to demographic and stochastic factors that reduce their chances for survival and recovery.⁷⁸

Constructing new and upgrading existing highways may also increase traffic volume and impede panther movements within and between habitats. Increases in traffic, widening existing highways through adding lanes, and habitat alterations adjacent to roads may limit the panther's ability to cross highways and may ultimately separate panthers from each other.⁷⁹

Highways can also stimulate residential and commercial development, and not just in their immediate vicinities, but as far away as two miles on either side. Thus, for each mile that a highway is extended, four square miles are potentially opened to new development – furthering loss and fragmentation of habitat.⁸⁰

⁷⁶ Kautz et al, 122.

⁷⁷ 2008 Recovery Plan, at 35, 38.

⁷⁸ *Id.* at 39, 49.

⁷⁹ *Id.* at 39-40.

⁸⁰ *Id.* at 39.

Texas pumas temporarily introduced in an experiment into northern Florida established home ranges in an area with one-half the road density of the region in general, and tended to avoid crossing heavily traveled roads. Female Florida panthers rarely establish home ranges in areas bisected by highways. Because home ranges of resident males typically encompass the ranges of multiple female panthers, males are less likely than females to find sufficiently large areas devoid of major roads. Males tend to cross highways more frequently than females and are more often injured and killed by vehicles.⁸¹

C. Loss of Habitat Raises the Risks of Disease

The small size and absolute isolation of the Florida panther population makes it vulnerable to disease or parasite outbreaks. A number of infectious diseases and parasites are capable of threatening the population, including FeLV, PRV, PLV, hookworm, and rabies. While diseases and infections are not currently known to kill many Florida panther – only nine percent of known deaths of radio-collared panthers since 1981 – detection is biased toward radio-collared individuals who are vaccinated at the time of their capture. Unmonitored and unvaccinated panthers, including kittens, may be dying from illnesses at a higher rate, and especially from diseases that are curbed through vaccination. As panther population density increases, the risk of diseases transmitted through intraspecific interactions increases as well.⁸²

Panther population density is growing due to the recently increasing population bumping up against the limits of a shrinking habitat. The risk of epizootic disease significantly affecting the panther population points to the possibility that future panther demographics may not track habitat loss directly, but instead will decrease precipitously once a tipping point in habitat loss is reached, combined with the presence of a pathogen (or combined with recrudescence of inbreeding depression) – just as allowing fallen tree branches to accumulate by a rural house does not reduce the rooms in the house until and unless the branches ignite. In the event of such an occurrence, which cannot be predicted precisely but is nonetheless a real possibility, it may be too late to save the Florida panther; in the above analogy with a house, the prudent action is to move the nearby fuels rather than wait till a wildfire may reach them.

⁸¹ *Id.*

⁸² U.S. Fish and Wildlife Service, 43-45, 49, 91.

D. Shrinking Habitat Increases Intraspecific Strife and Associated Mortality

The growing population density of Florida panthers also contributes to the largest cause of their mortality – intraspecific strife – which accounts for 42% of radio-collared panthers' known causes of deaths since 1981. When this 42% is added to the 19% mortality due to vehicle collisions, and to the nine percent due to disease infection – totaling 70% – it becomes obvious why the recovery plan concluded that habitat loss, fragmentation and degradation, and associated human disturbance are the greatest threats to panther survival.⁸³

While some fatal intraspecific strife would occur even under ideal habitat conditions, as would perhaps a substantial proportion of the deaths due to illness, such exculpatory accounting must be offset in consideration that in 24% of all known panther deaths the cause cannot be ascertained – but some of those mortalities are likely to have been precipitated by anthropogenic limitations of habitat as well.⁸⁴ Thus, it seems probable that approximately two-thirds, if not more, of the deaths of Florida panthers in the past 28 years were caused in part by habitat loss, degradation and fragmentation.

E. Population Viability Undermined as Habitat Disappears

While the number and percentage of panther mortalities caused by destruction of habitat can never be known precisely, that number is increasing. Fifty-eight out of 153 panther deaths that were documented from February 1972 through June 2004 – that is 41% – occurred in just the last four years of that 32-year period. This increase in panther mortality due in large part to intraspecific aggression and collisions with vehicles corresponds with increases in the panther population, but bodes poorly for sustaining such increases. Even by the early 1990s, development in southwest Florida had compromised the ability of landscapes to support a self-sustaining panther population.⁸⁵

The most current, reliable and objective population viability analysis available found that even an initial population of 2,000 panthers would have no greater probability of persistence than

⁸³ *Id.* at 36, 49.

⁸⁴ *Id.* at 49.

⁸⁵ *Id.* at 39, 50.

75%, except under the most optimistic assumptions of the population's fecundity and survival rates. Under "moderate" assumptions regarding fecundity and survival rates, coupled with loss of one percent of available habitat per year for 25 years, totaling roughly the amount of private land within the Primary Zone, the population would drop by 26% and its chances of extinction over a 100-year period would increase by one percent.⁸⁶

This would be a sobering prognostication for any species that is losing habitat, but is all the more alarming since the panther population stands at just five to six percent of the 2,000 animals described in the hypothetical instance above, has insufficient habitat in south Florida for viability, faces formidable habitat obstacles to expansion into south-central Florida,⁸⁷ and cannot be assured of optimistic or even of moderate fecundity and survival rates.

VII. THE FLORIDA PANTHER RECOVERY PLAN MAKES CLEAR THAT NOT DESIGNATING CRITICAL HABITAT WILL PREVENT RECOVERY

Habitat conservation is necessary for Florida panther recovery, and conversely, the continued loss and fragmentation of habitat threatens conservation and recovery.⁸⁸

A. In-breeding Depression or Genetic Swamping will Occur Absent Habitat Expansion

One indication of the urgency of habitat protection is the fact that the Florida panther lost about 60 to 90% of its genetic diversity during its population bottleneck, and consequently suffered inbreeding depression. That condition has temporarily been ameliorated through the introduction of eight female pumas from Texas beginning in 1995 and the ensuing introgression of the genes of five of them after their removal.⁸⁹ However, future translocations risk swamping the native Florida panther genome and losing the population's uniqueness.⁹⁰

⁸⁶ *Id.* at 84-85.

⁸⁷ *Id.* at 86.

⁸⁸ *Id.* at 89.

⁸⁹ *Id.* at 10, 53, 91.

⁹⁰ Maehr & Lacy, 974-976.

Instead, to maintain genetic diversity and avoid the Scylla and Charybdis choice of inbreeding depression and consequent lower fertility and eventual extinction, on one shore, and on the other shore the genetic homogenization of the Florida panther through hybridization with exogenous pumas, the panther population must be allowed to expand rapidly to maximize expression and perpetuation of remaining genetic diversity. That means that panthers will have to occupy not just their current habitats, but additional habitats as well.

B. Reaching Recovery Goals is Impossible Without Habitat Protection

As noted, the recovery plan calls for establishing three viable, self-sustaining populations of at least 240 panthers each and maintaining them for a minimum of twelve years, and for retaining, protecting or securing sufficient habitat to support these populations.⁹¹ Viable populations may have to be considerably larger than 240 individuals, because not all panthers reproduce and contribute genetically, and because 500 reproducing individuals may be necessary for long-term genetic viability.⁹² Leaving this consideration aside, and leaving establishment of a second and third panther population to the future, increasing the current population to 240 animals will require its doubling, at the least, with commensurate increases in the area occupied by panthers and in their long-term protection.

One of the factors that would foreclose recovery options is the complete containment and therefore permanent isolation of the south Florida panther population from future, not-yet-established panther populations further north, thereby preventing the necessary level of population growth in the existing population. Such containment would be accomplished through development of the Dispersal Zone – an eventuality which is “expected to reach the area where the panthers crossed the river” – referring to three radio-collared panthers that dispersed into south central Florida by crossing the Caloosahatchee River all near the same locale.⁹³ Without timely habitat protection, that development will sever this crucial migration corridor. However, if the dispersal zone were to be protected but the Primary Zone which is currently occupied were to remain insufficiently protected, the core population from which dispersing individuals stem could be lost.

⁹¹ 2008 Recovery Plan at xi-xii.

⁹² *Id.* at 26.

⁹³ Kautz et al, 122.

C. Land Costs and Inadequate Regulations Impede Habitat Protection

In 2005, approximately 22% of the land in the Primary Zone, 60% in the Secondary Zone, and all the land in the Dispersal Zone were in private ownership. Yet, the cost of land is an impediment to habitat protection and therefore to panther recovery. Despite the purchase of almost 200,000 hectares (494,000 acres or 772 mi²) of Florida panther habitat for public ownership from the mid 1980s to mid 1990s, remaining unprotected land is vital for the panther's survival.⁹⁴

Even if conservation organizations or government agencies could afford to buy up all the threatened land required by panthers over the short term (i.e. excluding land that may be required for future populations outside of south Florida), there are other impediments to current efforts to protect panther habitat. Existing regulatory programs focused on individual development projects, along with statutorily-set processing time frames, plus other constraints such as high workloads, have constrained local, State, and Federal regulatory agencies from reviewing and effectively assessing all potential impacts to panthers. Furthermore, these agencies sometimes have difficulty monitoring permit compliance and tracking the precise impact on species and habitat from authorized actions, not to mention from unauthorized actions.⁹⁵

Assessing current baseline conditions and accurately predicting future impacts are also challenging because the panther is a wide-ranging species that uses a wide array of habitat types. Finally, baseline conditions for the panther are continually changing due to ongoing development and to a lesser extent from conservation actions.⁹⁶ All of these factors bode poorly for protecting the land needed to save the sole existing panther population, unless new measures are undertaken.

D. The Recovery Plan's Specific Action Items Require Designation of Critical Habitat

⁹⁴ *Id.* at 38-39; Kautz et al, 119.

⁹⁵ 2008 Recovery Plan, 48-49.

⁹⁶ *Id.* at 48.

As noted, the Florida Panther Recovery Plan calls for actions that, given the inadequacy of other means of habitat protection and restoration, can only be effectively accomplished through designation of critical habitat. These include but are not limited to:

- Developing and implementing regulatory procedures and guidance that avoid habitat loss, degradation, and / or fragmentation as a result of federally funded or authorized projects and actions. If incompatible development, conversion of natural habitat types, and / or land use intensification cannot be avoided then such procedures and guidance should ensure that equivalent habitat protection and restoration are provided, especially within the Primary Zone, to compensate for both the quantity and functional value of the lost habitat.⁹⁷
- Ensuring that the section 7 consultation process is utilized and that the best available science is used in development of biological opinions.⁹⁸
- Restoring, maintaining, and enhancing habitat corridors to facilitate movements by resident panthers, promote dispersal, and prevent peripheral areas from becoming further isolated from habitat in the Primary Zone.⁹⁹
- Maintaining and enhancing existing habitat corridors.¹⁰⁰
- Securing Camp Keais Strand to maintain connectivity from FPNWR to Corkscrew Regional Ecosystem Watershed.¹⁰¹
- Securing a corridor between BCNP and Okaloacoochee Slough to assure this pathway is not degraded or severed.¹⁰² Consider maintenance of habitat corridors for panthers during Everglades restoration to avoid isolation of the ENP subpopulation. High water levels in Shark River Slough may prevent panthers from moving in and out of ENP, thus separating them from the rest of the population.¹⁰³
- Maintaining spatial extent and arrangement of habitat. Areas currently used by panthers and habitat conditions within the Primary Zone should be maintained.¹⁰⁴
- Ensure that panther habitat needs are incorporated in the planning of new roads and road expansion projects.¹⁰⁵
- Ensuring that panthers and their prey are adequately considered and provided for in management of public lands. Management of public lands should include, but is not limited to, restoration and maintenance of natural habitat through prescribed fire, invasive plant control, regulation of ORV use as

⁹⁷ *Id.* at 102-03 (emphasis added).

⁹⁸ *Id.* at 103 (emphasis added).

⁹⁹ *Id.* at 104.

¹⁰⁰ *Id.* at 104.

¹⁰¹ *Id.* at 104.

¹⁰² *Id.* (emphasis added).

¹⁰³ *Id.* at 104.

¹⁰⁴ *Id.* at 104.

¹⁰⁵ *Id.* at 105.

- appropriate, and restoration and maintenance of hydrologic quality and quantity.¹⁰⁶
- Minimizing and preventing injuries and mortalities by modifying conditions on existing roads and implement appropriate actions to protect panthers during the planning, permitting, and construction of new roads and highway expansion projects.¹⁰⁷
 - Building mechanisms into permits for road projects to provide for adaptive management for panther mortality and / or other unforeseen problems. These could include conditions for when the FWS will reinitiate consultation pursuant to section 7 of the ESA or require additional project alterations to avoid impacts.¹⁰⁸
 - Conserve lands buffering the Caloosahatchee River by fostering compatible land uses and riparian habitat protection directly along the river in order to maintain enough characteristics of panther habitat to allow dispersal northward and genetic exchange should female panthers be successfully established north of the river.¹⁰⁹

As noted, the ESA requires the FWS to consult on and develop a formal biological opinion regarding any federally funded or permitted action that may affect critical habitat, and precludes approval of projects that would destroy or adversely modify critical habitat. This legal requirement, once critical habitat is in place, provides the assurances, security and mechanisms to carry out the provisions of the recovery plan listed above; such protection cannot be ensured nor secured in any other way, including through the currently-required ESA section 7 consultations on projects that directly affect panthers in the absence of designation of critical habitat. Critical habitat designation provides a separate basis, in addition to species listing, for federal agencies to consult with the Secretary regarding actions they perform or permit in the Section 7 consultation process. If a federal action threatens to destroy or adversely modify a species' critical habitat, consultation must occur even if the action will not jeopardize the continued existence of the species.¹¹⁰

¹⁰⁶ *Id.* at 106 (emphasis added).

¹⁰⁷ *Id.* at 110.

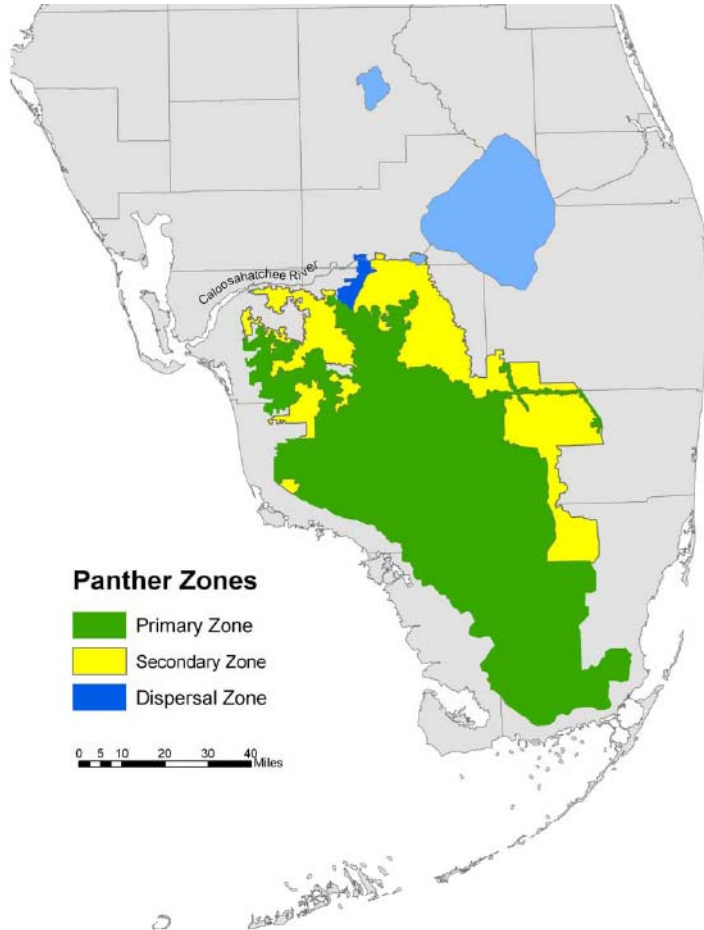
¹⁰⁸ *Id.* at 110 (emphasis added).

¹⁰⁹ *Id.* at 115.

¹¹⁰ 16 U.S.C. § 1536(a)(2).

VIII. REQUESTED AREAS FOR CRITICAL HABITAT

We hereby petition for designation of critical habitat for the Florida panther to include the entirety of the Primary Zone, the Secondary Zone and the Dispersal Zone as described and mapped in the Florida Panther Recovery Plan (2008) and Kautz (2006), and depicted below.



The total area described and depicted above consists of approximately 3,110,619 acres or 4,860 square miles.

IX. CONCLUSION

The Florida panther still suffers from a dangerously low population that has lost significant genetic diversity and whose potential to increase is limited by present and future

development of its habitat. Without increase in the population, genetic diversity will continue to decline or it will have to be enhanced through introductions of exogenous pumas that could swamp the genes that are unique to Florida panthers. In either eventuality, recovery of the Florida panther will be foreclosed, and loss of this unique population is assured and will only be a matter of time. To prevent this, all remaining habitat in the Primary, Secondary and Dispersal Zones must receive additional regulatory protection.

Existing efforts to protect habitat are insufficient to the magnitude of the panther's urgent need. Critical habitat designation fills the gaps in other efforts by requiring federal review of development projects carried out by the federal government, permitted by the federal government, and/or funded by the federal government. The federal government is not permitted to approve or carry out such projects if they will destroy or adversely modify critical habitat.

Critical habitat is defined in the ESA as areas that are essential for the conservation of an endangered species and that may require special management consideration or protection. The Primary Zone, Secondary Zone and Dispersal Zone described and identified in the Florida Panther Recovery Plan are each essential in their entirety to the conservation of the Florida panther and do require special management consideration and protection. Most if not all of the habitats in the Primary, Secondary and Dispersal Zones are subject to permitting by or directly managed by the federal government, and therefore would be protected from destruction and adverse modification if designated as critical habitat.

Expeditious designation of critical habitat for the Florida panther is therefore necessary to fulfill the ESA's requirement for conservation of this listed subspecies. The APA requires a decision on this petition consistent with the ESA's conservation mandate and the tools that the ESA provides – most notably, critical habitat designation.

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