



American
Society of
Mammalogists



Society for Conservation Biology

August 28, 2017

David Shindle
South Florida Ecological Services Field Office
US Fish and Wildlife Service
12085 State Road 29
Immokalee, FL 34142

RE: 5-Year Status Review of the Florida panther (FWS-R4-ES-2017-N024) and Scientific Support for DPS status

Dear Mr. Shindle:

On behalf of the Society for Conservation Biology North America (“SCBNA”) and the American Society of Mammalogists (“ASM”), please accept these comments in response to a request for information on the Florida panther (*Puma concolor coryi*) made by the U.S. Fish and Wildlife Service (“Service”) as part of a 5-year review of the taxonomic status of this species (Federal Register, Vol. 82, No. 125: 29916). SCBNA is an independent affiliate of the Society for Conservation Biology, an international professional organization of over 3,000 members dedicated to advancing the science and practice of conserving the Earth’s biological diversity. The American Society of Mammalogists (ASM) was established in 1919 for the purpose of promoting the global study of mammals. With nearly 2,500 members, ASM has long provided information for public policy, education and resources management, and this Society strongly supports the conservation and responsible use of wild mammals based on current, sound, and accurate scientific knowledge.

It is our professional opinion that additional work is needed before definitive conclusions can be drawn regarding the taxonomic status of the Florida panther. However, until those data are available, it is critical that this population receive protection through either continued recognition as an endangered species or recognition as a distinct population segment (DPS). As requested, we are providing information on taxonomy, biology, status, and conservation threats to support our recommendation.

Uncertainty of Florida Panther Taxonomy

The Florida panther was first described as a distinct subspecies (*Felis concolor coryi*) by Nelson and Goldman (1929). This designation was later affirmed by Young and Goldman (1946) based on morphology and fur color. Morphological and pelage differences were confirmed by Wilkins et al. (1997), who described Florida panthers as consistently darker in color and differing in cranial structure relative to panthers from other regions in North and South America. Wilkins et al. (1997:254) concluded that “the Florida panther exhibits a combination of unique and shared characters that are measurable and quantifiable.”

In contrast, Culver et al. (2000:186) used analyses of mitochondrial DNA and microsatellite loci to conclude that the “entire North American population . . . was genetically homogeneous.”

These authors speculated this lack of genetic diversity reflects local extinction followed by recolonization by a small number of individuals during the late-Pleistocene, when many large North American vertebrates went extinct. Based on these findings, Culver et al. (2000) recommended synonymizing all panthers in North America as a single subspecies. This work, however, was on limited genetic and geographic sampling and thus a re-evaluation of genetic structure within North American panthers based on genome-wide analyses and more extensive geographic sampling is needed.

In part due to the conflicting results of morphological and genetic analyses these recommendations have received mixed support (Sunquist and Sunquist 2009; Kitchener et al. 2017), and they underscore the need for additional research before a final determination can be made regarding the status of the Florida panther as a distinct subspecies, particularly given existing disagreement about the criteria used to recognize subspecies (Haig et al. 2000). The Service recently reached a similar conclusion as part of a proposed rule to delist the eastern puma (*Puma concolor cougar*), stating:

“In particular, there has been disagreement about whether the scientific community should accept the use of genetics as the driving factor in puma taxonomy, as was done by Culver et al. (2000). The Service’s position is that until a comprehensive evaluation of the subspecies status of North American pumas, including genetic, morphometric, and behavioral analyses, is completed, the best available information continues to support the assignment of the eastern taxon to *Puma concolor cougar* as distinct from other North American subspecies” (USFWS 2015).

Proposed Florida Panther DPS

Presumably, the conclusion reached for eastern pumas also applies to the Florida panther. However, should the U.S. Fish and Wildlife Service determine that the Florida panther no longer warrants recognition as a distinct subspecies (which we believe would be premature), we urge the continued protection of these animals as a DPS. The Service considers a population to represent a DPS if (1) the population is “discrete” in “relation to the remainder of the species to which it belongs;” (2) the population is “significant” to the species to which it belongs; and (3) the conservation status of the population — if it were considered as species — was either threatened or endangered (USFWS 1996:4725). We believe that the Florida panther unequivocally meets all criteria of a DPS.

According to the DPS policy, a species is considered discrete if it is “markedly separated from other populations” because of “physical, physiological, ecological, or behavioral factors.” Florida panthers are isolated from the nearest populations of other panthers (located in Texas) by over 1,000 miles. This clearly exceeds the typical dispersal distance for this wide-ranging animal (Elbroch et al. 2009) and thus there is little doubt that Florida panthers are spatially discrete from other populations.

Consideration of the significance of a population segment (USFWS 1996:4725) “may include, but is not limited to” several characteristics, including (1) “persistence of the discrete population segment in an ecological setting unusual or unique for the taxon,” (2) “evidence that loss of the

discrete population segment would result in a significant gap in the range of a taxon”, or (2) if the population “differs markedly from other populations of the species in its genetic characteristics”. The Florida panther occurs in the Everglades and southern coastal plain ecoregions, which comprise one of the only subtropical regions in the lower 48 states. These areas are characterized by unique vegetative communities, soil, and climate (Omernick and Griffith 2014). The Florida panther is the last population of panthers in the US east of the Mississippi River, and thus their loss would create a significant gap in distribution of the species. Additionally, Florida panthers possess distinctive cranial morphology and pelage color and patterns, differences that have persisted despite the introduction of eight females from Texas to mitigate concerns about inbreeding in Florida panthers (Wilkins et al. 1997, Finn et al. 2013). These distinctive phenotypic characteristics suggest marked genetic differences between Florida animals and panthers from other geographic areas. This conclusion is further supported by Culver et al. (2000), who—despite reporting a lack of genetic differentiation—reported that Florida panthers are one of several smaller populations with “unique features.” In combination, this information provides a strong basis for recognition of the Florida panther as a distinct population segment.

Status and Threats

Regardless of whether it is considered a subspecies or a distinct population segment, it is clear that the Florida panther remains an endangered entity based on both population status and ongoing conservation threats. The Florida Fish and Wildlife Commission and the Service currently estimate that the Florida panther population ranges from 120–230 animals, excluding kittens.¹ Given that there were as few as 20 Florida panthers at the time that they were listed as endangered in 1967, this is a testament to the success of the Endangered Species Act. However, the population remains well below the recovery goal of at least 240 individuals (USFWS 2008).

Florida panthers face persistent threats from vehicle collisions and habitat loss, both of which are related to a growing human population (Gross 2005, Onorato et al. 2010, Fei 2011, Frakes et al. 2015). Collisions with vehicles remain the primary cause of mortality for Florida panthers (Onorato et al. 2010); between 1994 and 2013, 176 Florida panthers were killed in vehicle collisions and the number of collisions has steadily increased (Florida Fish and Wildlife Commission, unpublished data). This increase is partially explained by the growing number of panthers, but also reflects the growing human population and an increase in both roads and traffic. For example, Gross (2005) reported that southern Florida gained 11,000 miles of road from 1991 to 2003, and road construction continues. Concordant with this, southwest Florida, where extensive portions of the panther distribution overlaps with private lands, has for decades been one of the fastest growing regions in the nation in terms of human density, leading to both loss of habitat and increasing fragmentation of remaining habitats (Onorato et al. 2010).² Adding to the threats discussed above, the panther’s habitat is now threatened by sea-level rise (Frakes et al. 2015). Collectively, these findings indicate that the Florida panther remains subject to severe conservation threats.

¹ See: <http://myfwc.com/media/4156723/DeterminingPantherPopulation2017.pdf>

² Also see: <http://www.naplesnews.com/story/news/local/2017/03/23/census-southwest-florida-metros-among-nations-fastest-growing/99556262/>

For the above reasons, we strongly support and encourage continued recognition of the Florida panther as endangered, either in its current status as a distinct subspecies or as a distinct population segment. We believe that this protected status should be maintained at least until additional data permit a rigorous re-evaluation of the relationship of the Florida population to other populations. These additional studies should be given high priority with regard to the expenditure of conservation funds.

Thank you for considering these comments. Please do not hesitate to contact us if we can provide additional input.

Sincerely,

A handwritten signature in cursive script that reads "Jessa Madosky".

Jessa Madosky, Ph.D.
President
Society for Conservation Biology North America

A handwritten signature in cursive script that reads "Robert Sikes".

Robert Sikes
President
American Society of Mammalogists

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