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January 20, 2026

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Re: Sixty-Day Notice Of Intent To Sue For Violations Of The Endangered Species Act In Connection With The U.S. Army Corps Of Engineers' Issuance Of A Section 404 Permit Under The Clean Water Act To Tarpon Blue Silver King I, LLC d/b/a Collier Enterprises For The Rural Lands West Project, FWS 2023-0009232

Pursuant to 16 U.S.C. § 1540(g)(2)(A), on behalf of the Center for Biological Diversity ("the Center"), the Sierra Club, and the South Florida Wildlands Association ("SFWA"), I hereby notify you of violations of the Endangered Species Act ("ESA"), 16 U.S.C. §§ 1531-1544, and its implementing regulations, 50 C.F.R. §§ 402.01-402.17, in connection with the U.S.

Army Corps of Engineers' ("Army Corps") decision to issue a permit under Section 404 of the Clean Water Act ("CWA") to Tarpon Blue Silver King I, LLC d/b/a Collier Enterprises ("Proponent") for the Rural Lands West Project ("Project"), located in Collier County, Florida. Specifically, this notice concerns the U.S. Fish and Wildlife Service's ("FWS") February 25, 2025 Biological Opinion ("BiOp"), effectively authorizing the Army Corps under the ESA to issue the CWA permit for the Project, as well as the Army Corps' unlawful and arbitrary reliance on that facially illegal BiOp in issuing a CWA permit authorizing the Project.

Below, the Center, Sierra Club, and SFWA provide pertinent background information, and then identify the legal violations that they intend to pursue in federal court should FWS and the Army Corps fail to timely resolve these concerns within sixty (60) days. If FWS and/or the Army Corps are interested in doing so, the Center, Sierra Club, and SFWA would welcome the opportunity to discuss these matters by phone at the agencies' convenience.

BACKGROUND

I. ENDANGERED SPECIES ACT

The ESA is the "most comprehensive legislation for the preservation of endangered species ever devised by any nation." *Tenn. Valley Auth. v. Hill*, 437 U.S. 153, 180 (1973).[1] Section 9 of the ESA makes it unlawful for any person to "take" an endangered species without explicit written authorization from FWS. 16 U.S.C. § 1538(a)(1). "Take" is defined by the statute to mean "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." 16 U.S.C. § 1532(19). FWS defines "harm" by regulation to encompass habitat modification or degradation that injures an endangered species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. *See* 50 C.F.R. § 17.3. "Harass" is likewise defined as "an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding or sheltering." *Id.*

Section 7(a)(2) of the ESA requires federal agencies to "insure that any action authorized, funded, or carried out by such agency . . . is not likely to jeopardize the continued existence of any endangered species." 16 U.S.C. § 1536(a)(2). Thus, before undertaking any action that may affect listed species, the action agency must consult with FWS to evaluate the impact of the proposed action on listed species and critical habitat. *See id.* As defined by the ESA's implementing regulations, an action will cause jeopardy to a listed species if it "reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species." 50 C.F.R. § 402.02.

The evaluation of the effects of the proposed action on listed species during consultation must use "the best scientific . . . data available." 16 U.S.C. § 1536(a)(2). Moreover, after the initiation of consultation, the action agency is prohibited from making "any irreversible or

[1] The ESA defines "endangered species" as a "species that is in danger of extinction throughout all or a significant portion of its range." 16 U.S.C. § 1532(6).

irretrievable commitment[s] of resources with respect to the agency action which has the effect of foreclosing the formulation or implementation of any reasonable and prudent alternative measures." *Id.* § 1536(d).

Consultation under Section 7 may be "formal" or "informal" in nature. Informal consultation is "an optional process" consisting of all correspondence between the action agency and FWS, which is designed to assist the action agency, rather than FWS, in determining whether formal consultation is required. *See* 50 C.F.R. § 402.02. During an informal consultation, the action agency requests information from FWS as to whether any listed species may be present in the action area. If listed species may be present, the action agency is required by Section 7(c) of the ESA to prepare and submit to FWS a "biological assessment" that evaluates the potential effects of the action on listed species and critical habitat. 16 U.S.C. § 1536(c)(1). As part of the biological assessment, the action agency must make an initial finding as to whether the proposed action may affect listed species and submit the biological assessment to FWS for review and potential concurrence with its finding. *Id.* If the action agency finds that the proposed action "may affect, but is not likely to adversely affect" any listed species or critical habitat and FWS concurs with this finding, then the informal consultation process is terminated. 50 C.F.R. § 402.14(b).

If, on the other hand, the action agency (or FWS) finds that the proposed action "may affect" listed species or critical habitat, then the action agency must undertake formal consultation. 50 C.F.R. § 402.14; *see also* U.S. FWS, Endangered Species Consultation Handbook at 3-13 (1998) [hereinafter Consultation Handbook]. The result of formal consultation is the preparation of a BiOp by FWS, which provides FWS's analysis of the best available scientific data on the pre-existing status of the species and how it would be affected by the proposed action on top of the species' baseline condition.[2]

A BiOp must include a description of the proposed action, a review of the status of the species and any critical habitat, a discussion of the environmental baseline, and an analysis of the direct and indirect effects of the proposed action and the cumulative effects of reasonably certain future state, Tribal, local, and private actions within the action area. *See* Consultation Handbook at 4-14 to 4-31. At the end of the formal consultation process, FWS determines whether the proposed action—in addition to the pre-existing environmental baseline of the species—is likely to jeopardize the continued existence of a listed species or destroy or adversely modify any designated critical habitat. If FWS determines that the proposed action is not likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of critical habitat, but that the proposed action will nevertheless result in the incidental taking of listed species, then FWS must provide the action agency with a written Incidental Take Statement ("ITS") specifying the "impact of such incidental taking on the species" and "any reasonable and prudent measures that [FWS] considers necessary or appropriate to minimize such impact" and setting forth "the terms and conditions . . . that must be complied with by the [action] agency . . . to implement [those measures]." 16 U.S.C. § 1536(b)(4). If FWS determines

[2] When preparing a BiOp, FWS must (1) "review all relevant information," (2) "evaluate the current status of the listed species," and (3) "evaluate the effects of the action and cumulative effects on the listed species," 50 C.F.R. § 402.14, using "the best scientific and commercial data available," 16 U.S.C. § 1536(a)(2).

that the action will jeopardize a listed species or destroy or adversely modify designated critical habitat, then FWS must offer the action agency reasonable and prudent alternatives to the proposed action that will avoid jeopardy to a listed species or adverse critical habitat modification, if such alternatives exist. *Id.* § 1536(b)(3)(A).

Without an adequate BiOp and ITS in place, any activities likely to result in incidental take of members of listed species are unlawful. *Id.* § 1538(a)(1)(B). Accordingly, anyone who undertakes such activities, or who authorizes such activities, *id.* § 1538(g), may be subject to criminal and civil federal enforcement actions, as well as civil actions by citizens for declaratory and injunctive relief, *see id.* § 1540. This includes action agencies, which must ensure their own compliance with the ESA; an action agency "cannot abrogate its responsibility to ensure that its actions will not jeopardize a listed species" merely by relying upon a BiOp or other consultation document issued by FWS. *Pyramid Lake Paiute Tribe v. U.S. Dep't of Navy*, 898 F.2d 1410, 1415 (9th Cir. 1990).

II. FACTUAL BACKGROUND

A. The Florida Panther

1. *Habitat and Life-Cycle Needs*

The Florida panther—an iconic large feline whose current breeding range is restricted to southwest Florida—was first listed as endangered in 1967. *See* 32 Fed. Reg. 4001 (Mar. 11, 1967). Historically, panthers roamed the entire southeastern United States. However, today, the Florida panther has been restricted to a single breeding population occupying less than 5% of the species' historic range. It is the only puma population remaining east of the Mississippi River.

The last remaining breeding panther population is estimated to consist of 120 to 230 individuals and is located south of the Caloosahatchee River. *See* Florida Fish & Wildlife Conservation Comm'n, *Determining the Size of the Florida Panther Population* (Feb. 2017), https://myfwc.com/media/3107/determiningpantherpopulation2017.pdf. (Attach. A). The "last annual count" of panthers "was completed in 2015 *and has since been discontinued*." BiOp at 11 (emphasis added). Recent information indicates the population peaked in 2016, and panther numbers have declined between 2016 and 2020. *See* Dave P. Onorato et al., *Multi-generational benefits of genetic rescue*, Sci. Rep. fig. 5 (art. 17519, July 30, 2024) [hereinafter Dave P. Onorato et al., *Multi-generational benefits*], https://www.nature.com/articles/s41598-024-67033-6 (Attach. B); *accord* U.S. FWS, *Species Status Assessment for the Florida Panther* 88 (Sept. 1, 2020) [hereinafter SSA] (Attach. C). Subsequent abundance estimates are considered by FWS to be "too imprecise to inform conservation decisions" due to the wide margin of error inherent in the modeling techniques. *See* SSA at 88. Despite the uncertainty, FWS agrees that it is "apparent that [panther] population growth has slowed in the last [four] years and even declined in 2018 for the first time during the study period." *Id.*

Panthers are "wide ranging, secretive, and occur at low densities." U.S. FWS, *Florida Panther* Recovery Plan viii (3d. rev. Nov. 1, 2008) [hereinafter Recovery Plan], https://ecos.fws.gov/docs/recovery_plan/081218.pdf (Attach. D). The species therefore requires "large contiguous areas" of suitable habitat "to meet their social, reproductive, and energetic

needs." *Id.* Male panthers are polygynous, maintaining large home ranges that overlap with those of several adult females and their dependent kittens. SSA at 51, 53-54. Female panthers produce litters throughout the year, with the majority of births occurring between May and June. *Id.* at 51. Litters generally consist of two or three kittens. *Id.* Kittens are weaned at approximately eight weeks, and juvenile panthers stay with their mothers for an average of fourteen months, after which they disperse to establish their own territories. *Id.* at 60. While home range overlap is extensive among female panthers, there is limited overlap among the home ranges of male panthers. Recovery Plan at 20.

Panther home range size is influenced by numerous factors, including habitat quality, prey density, and landscape configuration. BiOp Encl. D at 4. Home range size for both sexes "is inversely related to habitat quality; the greater the extent of agricultural land and wetland habitats, the larger the home range, and the greater the extent of mixed hardwood forests and dry pine forests, the smaller the home range." BiOp at 18. "High quality habitat produces abundant prey"—primarily white-tailed deer and feral hog—"and promotes female panther reproductive success." *Id.*

Most panther dispersal occurs south of the Caloosahatchee River. *See* SSA at 76; BiOp Encl. D at 4.[3] While panthers are likely capable of crossing the relatively narrow Caloosahatchee River, it is thought that "the combination of the river, [State Route] 80, and land uses along the river . . . have somewhat restricted panther distribution northward." BiOp Encl. D at 4. Even if such dispersal were to occur, what little suitable panther habitat remains in south-central Florida (i.e., habitat north of the Caloosahatchee River) is "widely scattered and fragmented." *Id.* at 6. Panther habitat on both sides of the river is "rapidly being lost" as major highway projects and ongoing commercial, residential, and agricultural development worsen habitat isolation and fragmentation. *Id.* at 6-7.

2. ***The 2008 Recovery Plan***

FWS last completed a Recovery Plan for the Florida panther in 2008. The Recovery Plan identified "[h]abitat loss, fragmentation, and degradation, and associated human disturbance" as the "greatest threats to panther survival and among the greatest threats to its recovery." Recovery Plan at 36. These threats are unlikely to be mitigated in the future; in fact, they are expected to increase exponentially as Florida continues to experience rapid population growth and urban expansion. *Id.* at 37. The conversion of land for new commercial or residential developments present a particularly acute threat. Panthers have large ranges, and are very sensitive to human disturbance. As their suitable habitat shrinks and is further fragmented due to development, panthers are confined to ever-smaller patches. As individuals are pushed closer together,

[3] While a few adult panthers and kittens have been sighted north of the river, FWS cautions that "it is too soon to conclude that this marks an expansion of the breeding range given the absence of evidence that kittens born [in this area] have survived to independence and successfully reproduced." SSA at v. Thus, there is no evidence of recruitment north of the Caloosahatchee River. Notably, the BiOp reiterates outdated information regarding the panther's dispersal, *see* BiOp Encl. D at 4 (insisting that neither female panthers nor reproduction have been documented north of the Caloosahatchee River), further undermining the BiOp's assertion that it relied on the best available science, *see infra* at Legal Violations, Section I.B.

intraspecies aggression, a "[l]eading source[] of panther mortality," Recovery Plan at 89, increases, causing additional mortalities and threatening the species' viability. *See also id.* at 21 (identifying intraspecies aggression as "the most common cause of male mortality").

New residential and commercial developments bring with them new infrastructure, including roads and highways, which "are known to result in loss and fragmentation of habitat, traffic related mortality, and avoidance of associated human development." Recovery Plan at 39. Indeed, the Recovery Plain identified "[p]anther-vehicle collisions" as "a significant source of mortality" and an "on-going threat." *Id.* at 51. The threats posed to the panther by vehicle collisions are exacerbated by "new and existing roads, expansion of highways, and increases in traffic volume and speed," which "contribute to loss of panther habitat and impede movement within and between high use habitat blocks throughout the landscape." *Id.* at 51. As a result, "[n]ew and expanded highways could increase the threat of panther mortality and injuries due to collisions if they are not accompanied by adequate fencing and crossings." *Id.*

Additionally, "[i]ncreases in traffic volume, increasing size of highways (lanes), and habitat alterations adjacent to key road segments may limit the panther's ability to cross highways and *may ultimately isolate some areas of panther habitat*." *Id.* at 39-40 (emphasis added). Thus, as panther habitat is fragmented and isolated by new and expanding infrastructure, "small populations may become isolated, subjecting them to demographic and stochastic factors that reduce their chances for survival and recovery." *Id.* at 39.[4] The best available science suggests "[m]ajor roads present a stronger barrier to [panther] movement than minor roads." Autumn C. Schwab & Paul A. Zandbergen, *Vehicle-related mortality and road crossing behavior of the Florida panther*, 31 Applied Geography 859, 859 (2011) (Attach. E). Additionally, "the movement of females is more affected than that of males." *Id.* Accordingly, major roads not only present a major threat to male panthers, who must cross these roads to breed and establish territory, but also essentially segregate movement of the sexes and fragment the limited remaining habitat available to the panther. These risks are keenly felt in the Project's Action Area.[5] Between 1985 and 2003, more than 145 square miles of semi-natural and natural lands in Collier, Lee, and Hendry Counties ("a stronghold for the panther population") were lost to development. Recovery Plan at 46-47.[6] Moreover, the "extensive developments planned in

[4] For instance, the fragmenting effects of increased traffic may result in in less available prey, fewer den sites, the increased risk of intraspecific aggression, and decreased genetic variability, as the population becomes further confined and unable to move freely across the landscape. *See* SSA at 131-140, 53, 62, 149-50; *see also* Recovery Plan at 38 ("Rapid development in southwest Florida has compromised the ability of landscapes to support a self-sustaining panther population.").

[5] The Action Area for the Project is defined to include all lands within a twenty-five-mile radius of the Project. BiOp at 9.

[6] Many of these projects required Section 7 consultation pursuant to the ESA. *See* Recovery Plan at 46-47. However, hundreds of other projects planned within the Project's action area are exempt from regulatory review because they do not require a federal license or permit to proceed. *See* BiOp at 31 (reporting that from 2020 through 2023, at least 156 projects within the Project's Action Area affecting over 4,600 acres of panther habitat were exempt from regulatory

Collier County . . . will expand local road networks and extend the human/panther interface into primary panther habitat," increasing the risk of vehicle mortalities (among other impacts) to panthers. *Id.* at 52. In fact, Immokalee Road (co-signed as County Road 846), which abuts the Project, is specifically identified by the Recovery Plan as posing a serious mortality risk to panthers. *Id.* at 51.

On top of the threats posed by habitat fragmentation, isolation, and vehicle collisions, human encroachment into panther habitat has been directly linked to the spread of diseases and parasites in panther populations. For instance, feline leukemia virus ("FeLV") weakens the immune systems of infected felids, rendering them vulnerable to opportunistic infection. While "common in domestic cats," it is "quite rare in non-domestic felids." Recovery Plan at 43. However, FeLV has been detected in the panther population and has been linked to several panther mortalities. *Id.* at 22. The disease was likely introduced into the population by domestic or feral housecats, brought into close proximity to panther habitat by humans. The potential for the introduction and spread of novel diseases into the population is particularly concerning because, "[a]s a single contiguous population, there is potential for an infectious disease to have a catastrophic impact on the panther." Recovery Plan at 43; *see also id.* at 45 ("Should a virulent pathogen enter the population, there is no absolute barrier in south Florida that could prevent such a disease from impacting the entire population").

The Recovery Plan established three priority zones for the conservation of panther habitat: the Primary Zone; the Secondary Zone; and the Dispersal Zone. *See* Recovery Plan at 27. The Primary Zone is defined to include "lands *essential* to the long-term viability and persistence of the panther in the wild." *Id.* (emphasis added). It consists of 3,548 square miles, roughly seventy-three percent of which is publicly owned, and is the only zone that is currently occupied. *Id.* The best available science deems "[t]he maintenance of existing home ranges and habitat function" within this zone to be "*essential* to maintaining a viable [panther] population." Randy Kautz et al., *How much is enough? Landscape-scale conservation for the Florida panther*, 130 Biol. Conservation 118, 131 (2006) (Attach. F). Accordingly, the total areal extent of the Primary Zone should be maintained and proposed developments "should strive to achieve no net loss of landscape function or carrying capacity for panthers *within* the Primary Zone." *Id.* (emphasis added).

Next, the Secondary Zone includes "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." Recovery Plan at 28. This zone consists of 1,269 square miles, thirty-eight percent of which is publicly owned. *Id.* "Some areas of the Secondary Zone would require restoration to support panthers." *Id.*

Finally, the Dispersal Zone includes "the area which may facilitate future panther expansion north of the Caloosahatchee River." *Id.* This zone consists of forty-four square miles, all of which are privately owned. *Id.* Although panthers move through the Secondary and Dispersal Zones, no resident population in these areas has been established. *Id.* Additionally, while "[d]ispersing male panthers from the south Florida population have immigrated into south-

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review). Indeed, FWS estimates that approximately 1,166.89 acres of panther habitat within the Action Area are lost to development without any federal oversight. *Id.*

central Florida," an "absence of females has inhibited expansion of the breeding population into this area." *Id.* at 92.

Because much of the land upon which the panther relies for its habitat is in private ownership, it is essential that land managers take the needs of the panther into account when approving projects, particularly where the projects fall under federal regulatory review. *See id.* at 90. Yet, since FWS issued the Recovery Plan in 2008, many new, large development projects have been approved in the Primary, Secondary, and Dispersal Zones based on no-jeopardy BiOps issued by FWS for those projects. These projects include, but are not limited to:

- Citygate, a mixed-use, commercial/industrial office park in Collier County that "substantially modif[ied]" 240 acres of panther habitat;[7]
- Hogan Island Quarry, a limestone mine in Collier County that resulted in the loss of 967.65 acres of panther habitat;[8]
- University Highlands, a development project that resulted in the loss of 208.42 acres of panther habitat;[9]
- Hacienda Lakes, a development project that resulted in the loss of 728.39 acres of panther habitat;[10]
- the Section 20 Mine, a rock mine that resulted in the loss of 615.51 acres of panther habitat, including 511.70 acres of panther habitat within the Primary Zone;[11]

[7] *See* 73 Fed. Reg. 61,896, 61,896 (Oct. 28, 2008); Letter from Paul Souza, Field Supervisor, S. Fl. Ecological Servs., U.S. FWS, to Jack Arnold, Asst. Reg'l Dir., Ecological Servs., U.S. FWS (Mar. 30, 2009) (BiOp for Issuance of a Section 10(a)(1)(B) incidental take permit to Citygate Development, LLC and CG II, LLC for the Florida panther and red-cockaded woodpecker) (Attach. G).

[8] *See* Letter from Larry Williams, Field Supervisor, S. Fl. Ecological Servs., U.S. FWS, to Col. Alfred A. Pantano, Dist. Commander, U.S. Army Corps of Eng'rs 71 (Oct. 19, 2011) (BiOp for the Hogan Island Quarry) (Attach. H).

[9] *See* Letter from Larry Williams, Field Supervisor, S. Fl. Ecological Servs., U.S. FWS, to Donnie Kinard, U.S. Army Corps of Eng'rs 68 (Jan. 25, 2012) (BiOp for the University Highlands project) (Attach. I).

[10] *See* Letter from Larry Williams, Field Supervisor, S. Fl. Ecological Servs., U.S. FWS, to Col. Alan M. Dodd, Dist. Commander, U.S. Army Corps of Eng'rs 77 (July 18, 2012) (BiOp for the Hacienda Lakes project) (Attach. J).

[11] *See* Letter from Larry Williams, Field Supervisor, S. Fl. Ecological Servs., U.S. FWS, to Col. Alan M. Dodd, Dist. Commander, U.S. Army Corps of Eng'rs 69 (Apr. 30, 2013) (BiOp for the Section 20 Mine) (Attach. K).

- Collier County Resource Recovery Park, a public recycling facility that resulted in the loss of 344.2 acres of panther habitat;[12]
- Indian Hills Estates, a development project that resulted in the loss of 524.97 acres of panther habitat;[13]
- the Cemex Alico North Quarry-Phase 3C Expansion, a mine that resulted in the loss of 262.58 acres of panther habitat;[14]
- the State Route 80 project, an infrastructure improvement project that resulted in the loss of 70 acres of panther habitat and an increase of traffic within panther-occupied areas;[15]
- the State Route 29 project, an infrastructure improvement project that resulted in the loss of 169.04 acres of panther habitat and an increase of traffic within panther-occupied areas;[16]
- Rockedge Residential Development, a residential development project that resulted in the loss of 79 acres of panther habitat;[17]
- Oyster Harbor, a development project that resulted in the loss of 718.8 acres of panther habitat;[18]

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[12] *See* Letter from Craig Aubrey, Field Supervisor, S. Fl. Ecological Servs., U.S. FWS, to Col. Alan M. Dodd, Dist. Commander, U.S. Army Corps of Eng'rs 5 (Feb. 19, 2014) (BiOp for the Collier County Resource Recovery Park) (Attach. L).

[13] *See* Letter from Craig Aubrey, Field Supervisor, S. Fl. Ecological Servs., U.S. FWS, to William DeFrance, U.S. Army Corps of Eng'rs 8 (May 21, 2014) (BiOp for Indian Hills Estates) (Attach. M).

[14] *See* Letter from Craig Aubrey, Field Supervisor, S. Fl. Ecological Servs., U.S. FWS, to Col. Alan M. Dodd, U.S. Army Corps of Eng'rs 31-32 (May 22, 2014) (BiOp for the Cemax Alico North Quarry Phase 3C Expansion) (Attach. N).

[15] *See* Letter from Donald Progulske, Everglades Program Supervisor, S. Fl. Ecological Servs., U.S. FWS, to Col. Alan M. Dodd, Dist. Commander, U.S. Army Corps of Eng'rs 29 (Feb. 4, 2015) (BiOp for State Route 80 expansion) (Attach. O).

[16] *See* Letter from Roxanna Hinzman, Field Supervisor, S. Fl. Ecological Servs., U.S. FWS, to James Christian, Div. Adm'r, Fed. Highway Admin. 5 (Jan. 22, 2016) (BiOp for State Route 29 expansion) (Attach. P).

[17] *See* Letter from Roxanna Hinzman, Field Supervisor, S. Fl. Ecological Servs., U.S. FWS, to Col. Jason A. Kirk, Dist. Commander, U.S. Army Corps of Eng'rs 14 (Aug. 26, 2016) (BiOp for the Rockedge Residential Development project) (Attach. Q).

[18] *See* Letter from Roxanna Hinzman, Field Supervisor, S. Fl. Ecological Servs., U.S. FWS, to Col. Jason A. Kirk, Dist. Commander, U.S. Army Corps of Eng'rs 19 (Apr. 4, 2017) [hereinafter Oyster Harbor BiOp] (BiOp for the Oyster Harbor Project) (Attach. R).

- San Marino, a golf course that resulted in the loss of 144.77 acres of panther habitat;[19]
- Addie's Corner, a development project that resulted in the loss of 19.84 acres of panther habitat;[20]
- Corkscrew Crossing, a development project that resulted in the loss of 177.43 acres of panther habitat;[21]
- State Route 82, a road improvement project that resulted in the loss of 23.13 acres of panther habitat;[22]
- Ave Maria University Development of Regional Impact, a development project that resulted in the loss of 2,817.1 acres of panther habitat, including 1,177.1 acres of panther habitat in the Primary Zone and 1,640.0 acres of habitat in the Secondary Zone;[23]
- Timber Creek, a development project that resulted in the loss of 594.54 acres of panther habitat;[24]
- Habitat for Humanity, a development project that resulted in the loss of 67.9 acres of panther habitat;[25]

[19] *See* Letter from Roxanna Hinzman, Field Supervisor, S. Fl. Ecological Servs., U.S. FWS, to Col. Jason A. Kirk, Dist. Commander, U.S. Army Corps of Eng'rs 23 (Apr. 6, 2017) (BiOp for the San Marino golf course) (Attach. S).

[20] *See* Letter from Roxanna Hinzman, Field Supervisor, S. Fl. Ecological Servs., U.S. FWS, to Col. Jason A. Kirk, Dist. Commander, U.S. Army Corps of Eng'rs 15 (June 19, 2017) (BiOp for Addie's Corner) (Attach. T).

[21] *See* Letter from Roxanna Hinzman, Field Supervisor, S. Fl. Ecological Servs., U.S. FWS, to Col. Jason A. Kirk, Dist. Commander, U.S. Army Corps of Eng'rs 13 (Jan. 23, 2018) (BiOp for the Corkscrew Crossing Development Project) (Attach. U).

[22] *See* Letter from Roxanna Hinzman, Field Supervisor, S. Fl. Ecological Servs., U.S. FWS, to Col. Jason A Kirk, Dist. Commander, U.S. Army Corps of Eng'rs 16 (June 29, 2018) (BiOp for State Route 82 expansion) (Attach. V).

[23] *See* Letter from Roxanna Hinzman, Field Supervisor, S. Fl. Ecological Servs., U.S. FWS, to Col. Jason A. Kirk, Dist. Commander, U.S. Army Corps of Eng'rs 19 (Aug. 31, 2018) [hereinafter Ave Maria Proj. BiOp] (BiOp for the Ave Maria University Development of Regional Impact) (Attach. W).

[24] *See* Letter from Roxanna Hinzman, Field Supervisor, S. Fl. Ecological Servs., U.S. FWS, to Col. Andrew D. Kelly, Dist. Commander, U.S. Army Corps of Eng'rs 24 (Sept. 11, 2018) (BiOp for the Timber Creek Project) (Attach. X).

[25] *See* Letter from Roxanna Hinzman, Field Supervisor, S. Fl. Ecological Servs., U.S. FWS, to Col. Andrew D. Kelly, Dist. Commander, U.S. Army Corps of Eng'rs 20 (Sept. 24, 2018) (BiOp for the Habitat for Humanity project) (Attach. Y).

- Collier County Sports and Events Complex, which resulted in the loss of 128.04 acres of panther habitat;[26]
- Garcia Mine, a mining project that resulted in a loss of 495.7 acres of panther habitat;[27]
- Babcock Ranch, a development that resulted in the loss of 9,532.78 acres of panther habitat;[28]
- Fort Myers Mine #2.83, a mine that resulted in the loss of 2,735 acres of panther habitat;[29]
- Hyde Park, a development project that resulted in the loss of 242.01 acres of panther habitat;[30]
- Fort Myers Contact Center, a project that resulted in the loss of 12.51 acres of panther habitat;[31]
- Veranda, a development project that resulted in the loss of 1,054.43 acres of panther habitat;[32]

[26] *See* Letter from Roxanna Hinzman, Field Supervisor, S. Fl. Ecological Servs., U.S. FWS, to Col. Andrew D. Kelly, Dist. Commander, U.S. Army Corps of Eng'rs 16 (Nov. 4, 2018) (BiOp for the Collier County Sports and Events Complex) (Attach. Z).

[27] *See* Letter from Roxanna Hinzman, Field Supervisor, S. Fl. Ecological Servs., U.S. FWS, to Col. Andrew D. Kelly, Dist. Commander, U.S. Army Corps of Eng'rs 9 (Dec. 21, 2018) (BiOp for the Garcia Mine) (Attach. AA).

[28] *See* Letter from Paul Souza, Field Supervisor, S. Fl. Ecological Servs., U.S. FWS, to Col. Alred A. Pantano, Jr., U.S. Army Corps of Eng'rs 10 (Aug. 9, 2019) [hereinafter Babcock Ranch BiOp] (amending 2009 Babcock Ranch Community BiOp in response to planned increase in project footprint) (Attach. BB).

[29] *See* Letter from Paul Souza, Field Supervisor, S. Fl. Ecological Servs., U.S. FWS, to Col. Paul L. Grosskruger, U.S. Army Corps of Eng'rs 25 (Oct. 1, 2019) (amending 2009 Fort Myers Mine #2 BiOp in response to planned increase in project footprint) (Attach. CC).

[30] *See* Letter from Roxanna Hinzman, Field Supervisor, S. Fl. Ecological Servs., U.S. FWS, to Col. Andrew D. Kelly, Dist. Commander, U.S. Army Corps of Eng'rs 13 (Jan. 6, 2020) (BiOp for the Hyde Park project) (Attach. DD).

[31] *See* Letter from Roxanna Hinzman, Field Supervisor, S. Fl. Ecological Servs., U.S. FWS, to Col. Andrew D. Kelly, Dist. Commander, U.S. Army Corps of Eng'rs 11 (Jan. 28, 2020) (BiOp for the Fort Myers Contact Center) (Attach. EE).

[32] *See* Letter from Roxanna Hinzman, Field Supervisor, S. Fl. Ecological Servs., U.S. FWS, to Col. Andrew M. Kelly, Dist. Commander, U.S. Army Corps of Eng'rs 17 (Mar. 31, 2020) (BiOp for the Veranda project) (Attach. FF).

- Willow Run, a development project that resulted in the loss of 341 acres of panther habitat;[33]
- the C-139 Flow Equalization Basin, a water management project that resulted in the loss of 2,650 acres of panther habitat;[34] and
- Kingston, a development project that will result in the loss of 3,394 acres of panther habitat, including 498 acres in the Primary Zone and 2,896 acres in the Secondary Zone.[35]

See also infra Table 1.

Collectively, these projects—which represent a fraction of authorized projects within panther habitat—have effectively allowed the destruction of *over 29,000 acres* of panther habitat over a period of sixteen years (2009-2025), all of which post-date FWS's Recovery Plan for the panther. This does not include the significant amount of acreage that is lost—and that was specifically lost during that same time period—to development without any federal regulatory review. *See, e.g.*, BiOp at 31.

[33] *See* Letter from Roxanna Hinzman, Field Supervisor, S. Fl. Ecological Servs., U.S. FWS, to Col. Andrew D. Kelly, Dist. Commander, U.S. Army Corps of Eng'rs 28 (May 19, 2020) [hereinafter Willow Run BiOp] (BiOp for the Willow Run Project) (Attach. GG).

[34] *See* Letter from Donald Progulske, Everglades Program Supervisor, S. Fl. Ecological Servs., U.S. FWS, to Col. Andrew D. Kelly, Dist. Commander, U.S. Army Corps of Eng'rs 26 (Sept. 24, 2020) [hereinafter C-139 Flow Equalization Proj. BiOp] (BiOp for the South Florida Water Management District's C-139 Flow Equalization Project) (Attach. HH).

[35] *See* Letter from Robert Carey, Manager, Div. of Envt'l R., Fl. Ecological Servs., U.S. FWS, to Col. Brandon Bowman, Dist. Commander, U.S. Army Corps of Eng'rs 4, 24 (Jan. 17, 2025) [hereinafter Kingston BiOp] (BiOp for the Kingston Project) (Attach. II).

Table 1 Projects since 2008 (not including the Rural Lands West Project) that have resulted in the destruction of panther habitat.

Project Name	Year[36]	County	Panther Habitat Lost (acres)
Citygate	2009	Collier	240.00
Hogan Island Quarry	2011	Collier	967.65
University Highlands	2012	Lee	208.42
Hacienda Lakes	2012	Collier	728.39
Section 20 Mine	2013	Collier	615.51
Collier County Resource Recovery Park	2014	Collier	344.20
Indian Hills Estates	2014	Collier	524.97
Cemax Alico North Quarry Phase 3C Expansion	2014	Lee	262.58
State Route 80	2015	Glades and Hendry	70.00
State Route 29	2016	Hendry and Collier	169.04
Rockedge Residential Development	2016	Collier	79.00
Oyster Harbor	2017	Collier	718.80
San Marino	2017	Collier	144.77
Addie's Corner	2017	Collier	19.84
Corkscrew Crossing	2018	Lee	177.43
State Route 82	2018	Collier	23.13
Ave Maria University Development of Regional Impact	2018	Collier	2,817.10
Timber Creek	2018	Lee	594.54
Habitat for Humanity	2018	Collier	67.90
Collier County Sports and Events Complex	2018	Collier	128.04
Garcia Mine	2018	Hendry	495.70
Babcock Ranch	2019	Charlotte and Lee	9,532.78
Fort Myers Mine #2	2019	Lee	2,735.00
Hyde Park	2020	Collier	242.01
Fort Myers Contact Center	2020	Lee	12.51
Veranda	2020	Lee	1,054.43
Willow Run	2020	Collier	341.00
C-139 Flow Equalization Project	2020	Hendry	2,650.00
Kingston	2025	Lee	3,394.00
TOTAL			**29,358.74**

[36] If a BiOp was later superseded, only the most recent, legally valid BiOp is listed.

When added to the impacts of the Rural Lands West Project (which will destroy 4,909.1 acres of panther habitat, *see* BiOp at 34), FWS has effectively allowed, through no-jeopardy BiOps, the destruction of over *34,000 acres* of panther habitat in southern Florida. As a result, there is less suitable, and more highly fragmented, panther habitat at present than at the time FWS issued the Recovery Plan seventeen years ago.

The Recovery Plan discussed the panther's population dynamics and the requirements to maintain viability.[37] Based on the best scientific evidence available, the Recovery Plan established recommendations for panther population size as it relates to persistence. BiOp Encl. D at 11. Following these guidelines, populations of fewer than fifty individuals "are likely to become extinct in less than 100 years," and populations of sixty to seventy individuals "are barely viable and expected to decline by 25 percent over 100 years." BiOp Encl. D at 11. "Populations within the 80 to 100 range are likely stable with a low probability of extinction for 100 years," but will exhibit "slowly declining heterozygosity, and are vulnerable to habitat loss or catastrophes." Recovery Plan at 96; *accord* Randy Kautz et al., *supra* at 129 (noting that where panther populations fall below 100 individuals, "no habitat loss or catastrophes can be tolerated"). Only populations of greater than 240 individuals are truly stable—i.e., have "a high probability of persistence, low probability of extinction over 100 years, . . . abil[ity] to retain 90% of their heterozygosity (representation), and [ability to] tolerate some habitat loss or mild catastrophes." Recovery Plan at 96.

Applying these guidelines to the panther's then-abundance of roughly 100 to 120 individuals, the Recovery Plan concluded that "unless we are able to safeguard the current condition, amount, and configuration of the occupied panther habitat, the long-term viability of the panther is not secure." *Id.* The current population size "is not sufficient to offset genetic drift in the long term." Recovery Plan at 91. The observed inbreeding depression and loss of genetic variability, coupled with the "small size and high degree of isolation," renders the population "vulnerable to catastrophic events," including storm events and disease outbreaks. *Id.* Accordingly, "[a]t current population levels," the loss of even a single panther "may pose an added risk to the existing population." *Id.* Compounding these problems, "[t]here is insufficient habitat in south Florida to sustain a viable panther population." *Id.* at 86. Habitat in south-central Florida is largely fragmented and unsuitable to support the species' life-cycle needs and biological functions. Therefore, even if the panther population expanded to 240 individuals—i.e., the minimum abundance necessary for a "stable" and "viable" population—absent significant

[37] A population is considered "viable" when it has the "capacity to maintain itself without significant demographic or genetic manipulation for the foreseeable ecological future—usually centuries—with a certain, agreed on, degree of certitude." Recovery Plan at 77. FWS considers the "minimum viable population" for a given species to be "the smallest isolated population" that has a ninety-five to ninety-nine percent "chance of remaining extant" for one hundred years, "despite the foreseeable effects of demographic, environmental and genetic stochasticity and natural catastrophes." *Id.* at 77-78. This generally corresponds to a one percent chance of "true extinction" over a 100-year time frame. *Id.*

habitat restoration efforts in south and south-central Florida, there would be no place with enough suitable habitat for them to go. [38]

The Recovery Plan thus paints, as of 2008, a desperate picture of the panther's condition. At the same time, it lays out the concrete steps necessary to panther survival and recovery. For the species to "recover" to the point at which it may be delisted, it must meet two criteria (the "recovery criteria"): (1) the establishment of "[t]hree viable, self-sustaining populations of at least 240 individuals" that are "subsequently maintained for a minimum of twelve years"; and (2) the protection and maintenance of "[s]ufficient habitat quality, quantity, and spatial configuration to support these populations." Recovery Plan at xi-xii. Additionally, the "exchange of individuals and gene flow among subpopulations must be natural (i.e., not manipulated or managed)." *Id.* at xii. The establishment of three viable populations, each of at least 240 panthers, "provide[s] an adequate margin of safety for full recovery," *id.* at 97, particularly with respect to environmental catastrophe and disease outbreaks. *Id.* (explaining that the "recovery criteria need to include more than one population (resiliency and redundancy) to safeguard against habitat loss (a major threat) and stochastic catastrophic events (e.g., disease outbreaks or major hurricanes)"); *cf. id.* at 45 (noting that because the single breeding population lacks any "absolute barrier" to the transmission of disease throughout the entire population, "until additional populations of panthers can be established elsewhere in their historic range, infectious diseases and parasites remain a threat").

To achieve these criteria, the Recovery Plan emphasizes that "sufficient habitat quality, quantity, and spatial configuration must be maintained and protected in the long-term to support multiple viable populations." *Id.* at 89. In fact, because the current extent of suitable habitat is insufficient to support viable panther populations, "protecting and maintaining habitat in the appropriate configuration to support a stable population is a necessary component of recovery efforts in the future." *Id.* at 96-97; *see also id.* at 89 ("[T]hose actions that maintain, restore, and expand panther habitat generally are *critical* for conservation and recovery." (emphasis added)). As the Primary Zone supports the only remaining breeding panther population, "[t]he continued loss of habitat functionality through fragmentation and loss of spatial extent" within this zone "pose[s] serious threats to the conservation and recovery of the panther." *Id.* at 89. Therefore, while the protection and expansion of suitable habitat across its range is important to the survival and recovery of the species, the Recovery Plan emphasizes the threshold importance of "maintaining the total available area quality and spatial extent of habitat within the Primary Zone" as critical to "prevent[ing] further loss of population viability." Recovery Plan at 89; *see*

[38] It should also be noted that the population viability analysis ("PVA") relied upon by the Recovery Plan generally assumes that there will be "no change in amount, quality, or configuration of habitat during [one hundred] years of simulation." Recovery Plan at 97. While the PVA model "included a variation for habitat loss approximating all private lands in the Primary Zone," FWS acknowledged that "several of the assumptions in the basic model (e.g., no change in amount, quality, or configuration of habitat; no difficulty finding mates; no catastrophies [sic]; no additional human-induced mortality) may be unrealistic." *Id.* at 84. Because "many of these unrealistic assumptions represent a significant departure from conditions in south Florida and the Southeast," FWS concluded that "recovery criteria need to include more than one population (resiliency and redundancy) to safeguard against habitat loss (a major threat) and stochastic catastrophic events (e.g., disease outbreaks or major hurricanes)." *Id.* at 97.

also id. ("[C]onserving lands within the Primary Zone and securing biological corridors are necessary to help alleviate these threats.").

The panther's future likewise hinges upon the expansion of panther populations to south-central Florida and other areas within the species' historic range. *See id.* at 86 ("[T]he long-term persistence of the panther will depend on multiple populations that are spatially discrete and able to fluctuate independently from one another in response to catastrophic or other environmental perturbations."). However, "[e]ven though some suitable panther habitat remains in this region, it occurs in widely scattered and relatively small patches that are fragmented by major highways and agricultural and urban development." *Id.* at 92. "Development pressure and human population growth" are expected to encroach upon these limited areas, "decreas[ing] the opportunity for panther expansion north of the Caloosahatchee River." *Id.* Accordingly, to achieve the species' ultimate recovery, human intervention will likely be necessary to restore significant amounts of habitat, facilitate population expansion, and establish self-sustaining populations north of the Caloosahatchee River. *Id.* at 92-93. However, despite FWS's evidence-backed conclusion nearly two decades ago that "range expansion and reintroduction of additional populations are recognized as essential for panther recovery," Recovery Plan at 88-89, the agency has failed to make any progress towards implementing the Recovery Plan's criteria by establishing two additional populations north of the Caloosahatchee River.[39] Recently, researchers have asserted that genetic introgression ("rescue") will once again be needed.[40]

To achieve the recovery criteria, the Recovery Plan emphasized the importance of rigorous regulatory review for new development and infrastructure projects. According to the Recovery Plan, ESA consultation allows FWS and action agencies to examine the risks of proposed development or infrastructure projects, identify opportunities to mitigate the adverse effects, and implement science-based measures to "set priorities" and "offset the[] [project's] impacts," such as the reconfiguration of roads and construction of wildlife crossings. Recovery Plan at 62-63; *accord id.* at 49 ("Rigorous assessments and close coordination and scrutiny of

[39] Call Notes Regarding FWS Response to FOIA Request from Center for Biological Diversity (June 14, 2024) at 22-27. Section 4(f) of the ESA directs the Secretary of the Interior to "develop *and implement* plans" for the conservation and survival of endangered species and threatened species." 16 U.S.C. § 1533(f)(1) (emphasis added). Although Recovery Plans do not carry the force of law, the impact of the proposed action on a listed species' ability to achieve the recovery criteria is a highly relevant factor to the jeopardy analysis under Section 7. *See, e.g.*, *Alaska v. Lubchenco*, 723 F.3d 1043, 1054 (9th Cir. 2013) (noting that "[t]he goal of the ESA is not just to ensure survival, but to ensure that the species recovers to the point that it can be delisted," and thus holding that, in order to "ensure against government action likely to jeopardize the continued existence of an endangered species," the consulting agency must "consider whether the proposed action [in addition to the baseline condition] . . . could prevent the species from achieving the Recovery Plan's goals for delisting").

[40] *See, e.g.*, Jeffrey A. Hostetler et al., *A cat's tale: the impact of genetic restoration on Florida panther population dynamics and persistence*, 82 J. Animal Ecology 608, 617 (2013) (Attach. JJ); Madelon van de Kerk et al., *Dynamics, persistence, and genetic management of the endangered Florida panther population*, 203 Wildlife Monographs 3, 3-4 (2019) (Attach. KK); Dave P. Onorato et al., *Multi-generational benefits*, *supra* at 4 (Attach. B).

project impacts by local, State, and Federal agencies during the planning phase could help maximize conservation benefits for the panther.").

The Recovery Plan also recommended specific "recovery actions"—i.e., "those actions necessary to bring each threat from its current state to the state described by the recovery criterion for that threat," FWS, *Recovery Planning and Implementation* (last visited Nov. 17, 2025), https://www.fws.gov/project/recovery-planning-and-implementation (Attach. LL)—designed to assist in the implementation of the Recovery Plan and improve the chances of achieving panther recovery, Recovery Plan at 101-26. For instance, the recovery actions recommended specific measures to "prevent and minimize the negative impacts of roads to panther habitat," such as improved planning and permitting processes, modification of existing roads, and requirements for the reinitiation of consultation in response to mortalities. *See id.* at 105, 110. To guide all federal agencies—including the Army Corps—in implementing the recovery actions, the Recovery Plan provided an implementation schedule. *See id.* at 129-55. The schedule directed FWS to work with action agencies (including the Army Corps) to "track permits, *especially incidental take and compensation received*, issued through Federal and State regulatory programs," *id.* at 130, and underscored the importance of reducing panther vehicle collisions by, e.g., "ensur[ing] that panther habitat needs are incorporated in the planning of new roads and road expansion projects," and "evaluat[ing] and implement[ing] other mechanisms to prevent mortalities on roads." *Id.* at 132-33, 137-38.

3. ***Continuing Decline of the Species***

FWS last completed a 5-year status review for the panther in 2009. *See* U.S. FWS, *Five-Year Review: Summary and Evaluation for the Florida Panther* (2009), https://tinyurl.com/49d7xb78 (Attach. MM). In 2020, FWS issued a Species Status Assessment ("SSA"). *See generally* SSA. While the public awaits the completion of a new 5-year review (as well as an updated population count), it is clear both legally and biologically that the highly imperiled Florida panther is in considerably worse shape today than it was at the time of the 2008 Recovery Plan or the 2009 status review (even though its recovery prospects were already quite poor then).

Since 2000, vehicle collisions are the leading cause of direct mortality for panthers. *See* U.S. FWS, Draft Biological Opinion for the Eastern Collier Multi-Species Habitat Conservation Plan 88 (2020) [hereinafter 2020 Draft HCP BiOp] (explaining that "panther mortality from vehicle collisions is presently the highest source of mortality for panthers and has increased significantly since 1972") (Attach. NN); *accord* Recovery Plan at 51 ("[P]anther-vehicle collisions are a significant source of mortality and pose an on-going threat.").[41] According to FWS's own data, 62.3% of all panther deaths between 1972-2019 were caused by vehicle collisions. *See infra* Fig. 1 (reproducing Figure 5-4 from the 2020 Draft HCP BiOp at 99). Even more troubling, since 2000, the number of panthers killed by vehicles has rapidly outpaced

[41] FWS later released an updated version of the Draft Eastern Collier HCP before announcing that the application for an Incidental Take Permit had been withdrawn. *See* U.S. FWS, Draft Biological Opinion and Conference Opinion for the Eastern Collier Multi-Species Habitat Conservation Plan (2021) [hereinafter 2021 Draft HCP BiOp] (Attach. OO).

mortalities from other causes. *See infra* Fig. 2 (reproducing Figure 5-5 from the 2020 Draft HCP BiOp at 100).

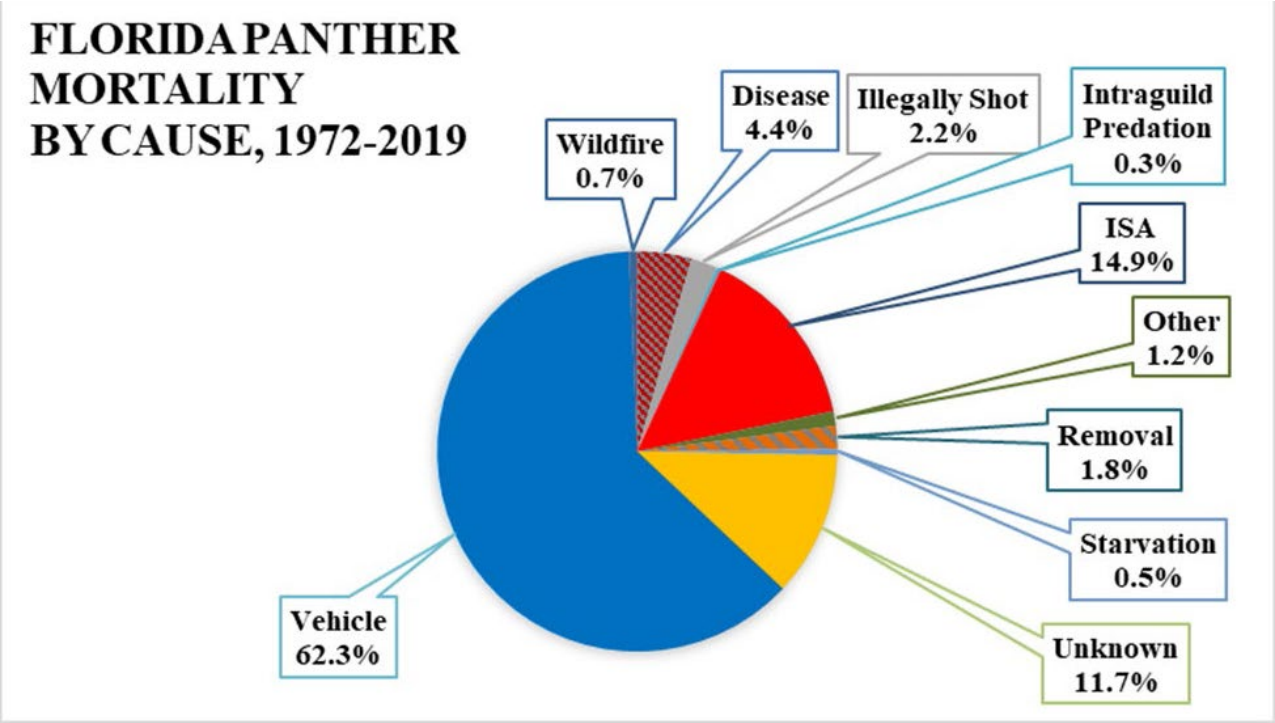

Figure 1. Percentage of each cause of Florida panther mortality from 1972 through 2019.

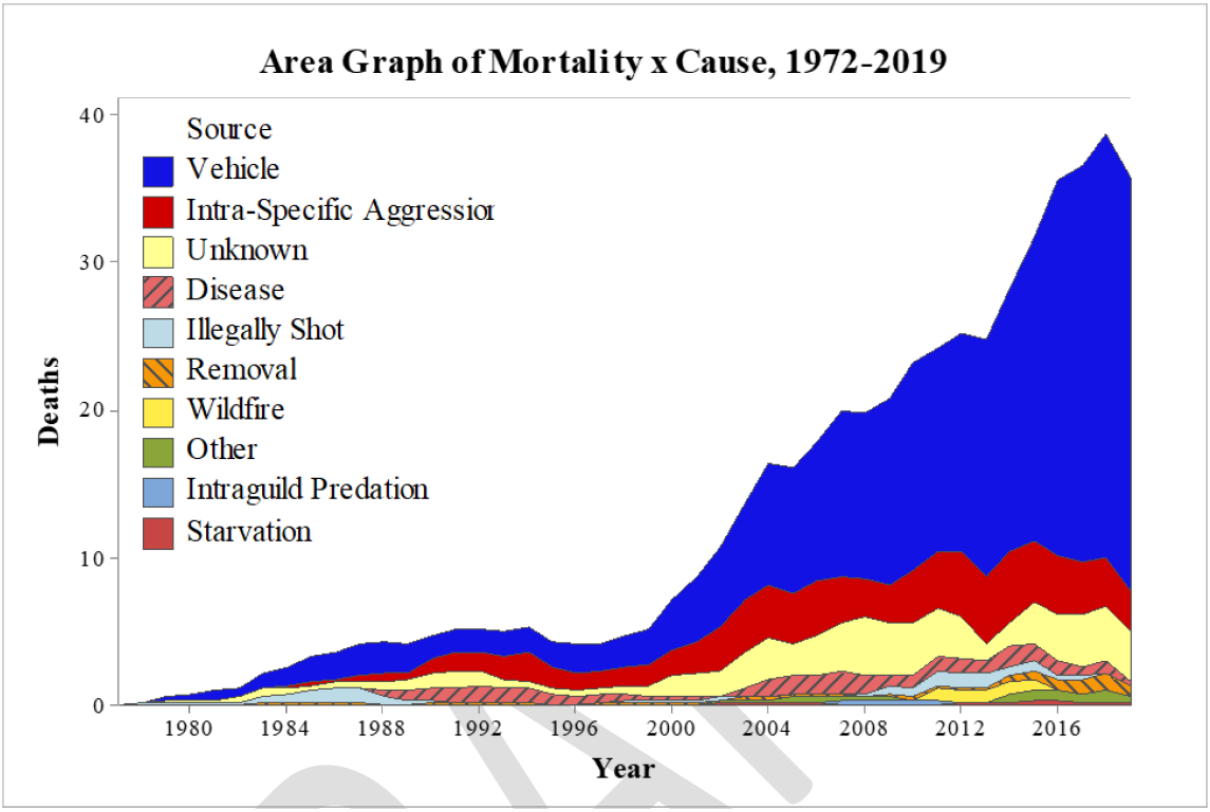

Figure 2. Magnitude of each source of Florida panther mortality over time from 1972 through 2019.

In 2024, twenty-nine panthers were killed by vehicle collisions, the highest number of vehicle mortalities in nearly ten years. *See infra* Table 2.[42] In 2025, at least sixteen panthers have been struck and killed by vehicles, including four female adults and two kittens.[43] On average, over the past five years, twenty-one panthers have been killed per year by vehicle collisions, meaning that vehicle collisions are responsible for the annual mortality of between nine and eighteen percent of all adult panthers.[44]

[42] Data from Fl. Fish & Wildlife Comm'n, *Panther Pulse: 2024 Litters, Deaths, and Depredations* (2024), https://myfwc.com/media/bczhyn24/2024pantherpulse.pdf (Attach. PP).

[43] Data from Fl. Fish & Wildlife Comm'n, *Panther Pulse: 2025 Litters, Deaths, and Depredations* (2025), https://myfwc.com/wildlifehabitats/wildlife/panther/pulse/ (Attach. QQ).

[44] *Id.*

Table 2

Florida Panther Mortalities[45]			
Year	**Total Recorded Mortalities**	**Total Vehicle Mortalities (excluding trains)**	**Percentage of Deaths caused by Vehicles**
2025[46]	17	16	94%
2024	36	29	80%
2023	13	13	100%
2022	27	25	92%
2021	27	21	78%
2020	22	19	86%
2019	27	23	85%
2018	30	26	87%
2017	30	24	80%
2016	42	34	81%
2015	42	30	72%
2014	34	24	71%

There are also many major threats now facing the panther that were not known at the time of the 2008 Recovery Plan or the 2009 status review. This includes many now-completed developments that were built in core panther habitat and/or dispersal habitat since 2009, *see supra* notes 7-35 and accompanying text, and many more proposals that have been approved or are currently being vetted by local governments, state agencies, and federal agencies for construction in the next few years. These developments have not only permanently eliminated a significant amount of core and dispersal habitat that is essential to the panther's survival and recovery, but they also induced a significant influx of human activity, road building, traffic, and other invasive disturbances (all of which constitute take under the ESA in the form of mortality, injury, harm, or harassment).

In addition, in 2018, Florida panthers were first observed with a debilitating and often fatal disease called feline leukomyelopathy ("FLM")—different from FeLV discussed above, *see* discussion *supra* at 7—which affects a panther's spinal cord and disrupts the animal's balance and disorients it. This inevitably leads to an inability to hunt, as well as higher mortality rates from traffic and other human-induced disturbances. *See* Fl. Fish & Wildlife, *Disorder Impacting Panthers and Bobcats*, https://myfwc.com/wildlifehabitats/wildlife/panther/disorder/ [hereinafter Fl. Fish & Wildlife, *Disorder Impacting Panthers and Bobcats*] (Attach. SS).

Moreover, recent deer surveys conducted by the National Park Service in Big Cypress National Preserve (traditionally considered the most important primary habitat for the panther)

[45] Data from Fl. Fish & Wildlife Conservation Comm'n, *Panther Pulse*, https://myfwc.com/wildlifehabitats/wildlife/panther/pulse/ (last accessed December 12, 2025) (Attach. RR).

[46] Last updated August 29, 2025

have indicated dramatic declines in the white-tail deer population, one of the panther's most important prey species. This is thought to be due in part to the rapid spread of the invasive Burmese python that is decimating the mammalian population in this region and has been expanding north into Collier, Lee, and Hendry Counties. *See, e.g.*, Katherine M. Buckman et al., *Bobcat occupancy, tree islands, and invasive Burmese pythons in an Everglades conservation area*, 88 J. Wildlife Mgmt. e22529 (2023), https://tinyurl.com/4bndauh9 (Attach. TT).

Climate change and sea level rise compound all of these threats. As explained in the SSA, "Florida is extremely susceptible to the effects of [sea level rise] caused by climate change due to a combination of low land elevations, a high-water table, peninsular geography, vulnerability to tropical storms, and a large and growing human population that is mainly concentrated near the coasts." SSA at 191 (citing Reed F. Noss et al., *Final Report to The Kresge Foundation: Adaptation to Sea-level rise in Florida, Biological Conservation Priorities* (Aug. 27, 2014), https://tinyurl.com/yharnb4s). According to FWS's estimate in the SSA, sea levels around south Florida could rise as much as 0.5 meters by 2040, and by as much as 1 meter by 2070. *Id.* at 192. A 0.5-meter rise in sea levels by 2040 "would result in the loss of 973 km^2 ([eleven] percent) of Functional Zone [panther] habitats along the southern fringe of the Big Cypress and Long Pine Key regions." *Id.* at vii. When considered in conjunction with the impacts of future developments that threaten to "reduce the area and functionality of critical landscape linkages," the panther's ability to "disperse out of South Florida in the future" is "compromise[d]." *Id.* With limited or no dispersal capability, the panther population would remain small and likely shrink due to the effects of inbreeding depression, genetic drift, habitat loss, and human disturbance. "A smaller panther population would become less viable in the long-term." *Id.* In fact, if the only viable population remains constrained to south Florida, the species' "[r]esiliency, redundancy and representation would all decrease over time." *Id.*

Therefore, it is perhaps not surprising that in view of these threats and no genetic rescue measures being undertaken since 1995, the population is experiencing a decade-long decline according to the most recent research. *See infra* Fig. 3 (reproducing Figure 5 from Dave P. Onorato et al., *Multi-generational benefits*, *supra* at 4). Indeed, recent research suggests that genetic introgression may again be necessary to prevent inbreeding depression. *See generally* Madelon van de Kerk et al., *supra* at 16 (Attach. KK).

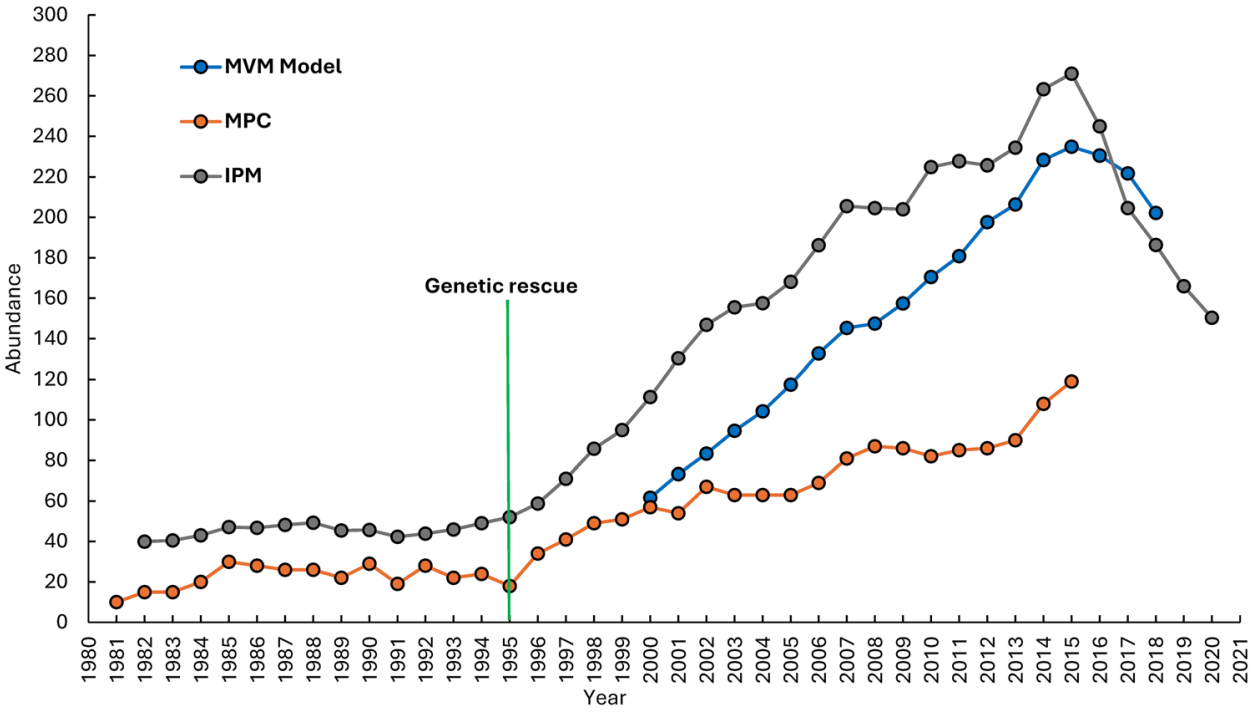

Figure 3. "Estimates of the range-wide population size of adult and subadult Florida panthers from 1981 to 2020 using: (1) the 95% lower confidence interval of the motor vehicle mortality (MVM) model-averaged abundance estimate via the method of McClintock et al. plotted in blue for the period 2000–2018; (2) the minimum population count (MPC) index of McBride et al. and McBride and McBride, plotted in orange, for the period 1981–2015; (3) and the integrated population model (IPM) of Merriell in plotted in grey, for the period 1982–2020. The year in which genetic rescue was initiated (1995) coincides with the subsequent increase in the population size that was documented by all three metrics."

B. The Rural Lands West Project

The Project is a mixed-use residential and commercial development consisting of approximately 10,264.63 acres. BiOp at 2. Construction of the Project will proceed over the next fifteen to twenty years. *Id.* at 4.

Panthers are known to occupy the Project area, which will encompass approximately 10,174.76 acres of habitat within the Primary and Secondary Zones. *Id.* at 18. Highly intensive land clearing and construction activities will result in the permanent loss of 4,909.1 acres of habitat. *Id.* at 25. Of these, 3,709.07 acres are in the Primary Zone and 1,200.03 acres are in the Secondary Zone. *Id.* The Project incorporates the conservation and restoration of 5,241.6 acres of on-site upland and wetland habitat. *Id.* at 29. According to FWS, the Proponent "used [FWS's] Panther Habitat Assessment Methodology to determine the amount of panther habitat units (PHUs) needed to compensate for the panther habitat lost on the Project site." *Id.* at 26; *see also* U.S. FWS, *Panther Habitat Assessment Methodology* (Sept. 24, 2012) [hereinafter PHU Methodology], https://tinyurl.com/34y5s6tb (Attach. UU). Based on this methodology, FWS

determined that "the PHUs provided by the conservation and restoration of the onsite and offsite preservation areas adequately compensate for the habitat lost to development and any resulting harm to panthers." *Id.*

The Proponent is also required to provide funding on a per-acre basis to the Paul J. Marinelli Fund or to the Fish and Wildlife Foundation of Florida Fund, and is further required to include transfer fee provisions in the deeds for each residential unit that require contributions to the Paul J. Marinelli Fund upon each sale and/or re-sale. *Id.* at 8. Finally, the Proponent must "construct or fund the construction of five wildlife crossings within the geographic region" of the Project, and provide contributions to Collier County earmarked for roadway funding. *Id.*

C. Consultation History

The construction (and subsequent implementation) of the Project will have severe, adverse impacts on the panther and its habitat. To assess those effects, on June 25, 2024, the Army Corps requested formal consultation with FWS under the ESA. On January 17, 2025, FWS issued the BiOp for the Project.

Despite FWS's ultimate conclusion that the Project would not jeopardize the panther's survival or recovery prospects, the agency explained the extremely precarious situation facing the panther across its range and within the Project's Action Area. For example, the BiOp explains that due to their habitat and life-cycle needs, panthers are particularly sensitive to habitat loss and fragmentation. BiOp Encl. D at 12. In fact, the BiOp identifies "[h]abitat loss from residential, commercial, and agricultural development and other human related activities associated with the continually increasing human population in Florida" as the "*primary threat* to the long-term viability of the panther." BiOp at 15 (emphasis added). Indeed, between 2000 and 2010, the human population in southwest Florida—i.e., where the breeding panther population is primarily located—increased over *forty-seven percent*, rising from approximately 833,000 to over 1.2 million people. *Id.* These same lands contain the entirety of the Primary and Secondary Zones of panther habitat that remain today, providing a necessary prey base as well as mating and denning opportunities for a wide-ranging predator that needs abundant space for its biological life-cycle functions. Not only does such rapid growth and development in south Florida threaten to fundamentally alter the quantity and quality of habitat that is essential to the panther's survival and recovery (assuming recovery is still possible), but such development inevitably exacerbates human disturbance and panther mortality through substantially increased traffic and other human-driven effects of development (e.g. habitat loss and fragmentation, spread of invasive species, decreased prey availability).

The BiOp acknowledges that preventing further habitat fragmentation—i.e., "[t]he breaking up of a habitat into unconnected patches interspersed with other habitat which may not be habitable by" the panther—"is a central underpinning" of the focus of panther conservation; for the species to persist, "contiguous habitat and protected habitat corridors . . . throughout the panther's historic range" must be maintained." BiOp Encl. D at 12. In fact, researchers suggest that to provide for the panther's "long-term persistence," as much as sixty to seventy percent of the species' historic range must be restored and conserved—a dramatic increase for a species limited to a mere five percent of range. *Id.* at 6. However, south Florida's population boom and consequent urban and suburban sprawl have placed the panther in an impossible situation; road

construction, urban development, and agricultural land conversions continue to destroy and isolate remaining panther habitat, not only impeding the recovery of the species but threatening its very survival.

In assessing the "consequences to listed species . . . that are caused by the [Project]," BiOp at 21, the BiOp explained that the primary effects to the panther will result from habitat loss, *id.* at 25-26.[47] In particular, the BiOp conceded that the "habitat lost due to the Project may adversely affect the panther by decreasing the spatial extent of lands available to the panther and its prey." *Id.* at 25. According to the BiOp, the loss of 4,909.1 acres due to the Project will decrease the carrying capacity of the Action Area for between 0.27 and 0.8 panther. *Id.* at 25-26. FWS therefore estimated that the "anticipated level of take-associated habitat loss" is approximately one panther. *Id.* at 26. Ultimately, FWS concluded that "no more than [one] female and [one] male panther" will be "adversely affected by this habitat loss." *Id.*

The BiOp insisted that the conservation and restoration of 5,241.6 acres of on-site upland and wetland habitat—as calculated using FWS's Panther Habitat Assessment Methodology—would adequately compensate for the amount of lost habitat. *Id.* at 26, 29. However, the BiOp fails to acknowledge that the Panther Habitat Assessment Methodology was not designed to ensure no net loss of habitat, or even to ensure large enough viable panther populations to support the species' survival and recovery. Rather, the methodology aims to preserve the amount of habitat needed to support a population of *ninety* panthers—far short of the three populations of *at least 240 individuals* that the Recovery Plan determined were needed to ensure species viability. Furthermore, ignoring the Recovery Plan's call for "no net habitat loss," the Panther Habitat Assessment Methodology assumes that a portion of the remaining privately-owned habitat may be destroyed without threatening the viability of the species as long as the rest of the privately-owned habitat is preserved. *See* PHU Methodology at 1-2. In other words, the Panther Habitat Assessment Methodology is predicated on two presumptions that fly in the face of FWS's own Recovery Plan: (1) that a population of ninety panthers is viable; and (2) that net habitat loss is permissible because there is a "cushion" of habitat that can be permanently lost without undercutting the goal of supporting a population of ninety panthers. Yet, FWS still relied on the methodology to determine the amount of PHUs that will purportedly "compensate" for the habitat lost to the Project such that the Project will avoid jeopardy. Thus, despite the fact that the Panther Habitat Assessment Methodology was central to its determination that the Project, including planned mitigation, would not jeopardize the panther, the BiOp did not grapple with the inherent contradictions between the methodology and the agency's conclusions in the Recovery Plan regarding the requirements for species viability.

[47] Other effects include, but are not limited to, disturbance, injury, and mortality from the operation of heavy equipment and other motor vehicles within the construction footprint; disturbance, injury, and mortality due to increased noise, increased human presence, and increased traffic during Project construction; and disturbance, injury, and mortality due to increased traffic from new residences, commercial establishments, and recreational facilities associated with the Project. BiOp at 26-27.

The BiOp proceeded to mention—but dismiss—two of the primary effects to panthers stemming from that habitat loss: increased intraspecies aggression and motor vehicle collisions.[48] With respect to intraspecies aggression, the BiOp explained that "[a] reduction in territory size due to habitat lost due to the Project may cause a panther to attempt to expand its territory in search of a requisite resource (e.g., prey, mates, etc.) and increase the potential for interactions with conspecifics (i.e., other panthers)." *Id.* According to the BiOp, "[s]uch interactions usually result in a fight that often ends in the death of one of the participants." *Id.* However, the BiOp brushed off such effects by insisting that the agency "currently do[es] not have a method to estimate the future number of panther mortalities in the [A]ction [A]rea resulting from intraspecific aggression due to habitat loss." *Id.* The BiOp nevertheless insisted that there will be no "change in the potential for intraspecific aggression due to habitat lost from the Project" because, according to FWS, "the development area is only expected to support a portion of [one] panther's territory." *Id.* As a result, FWS asserted that the Project will adversely affect "no more than 1 female and 1 male panther." *Id.* At the same time, the BiOp acknowledged that FWS does "not have a method to estimate the future number of panther mortalities in the Action Area resulting from intraspecific aggression due to habitat lost." *Id.*

With respect to vehicular traffic, FWS reversed its forty-five-year practice of considering vehicle collisions as indirect effects of the consulted-on project. Since at least 1980 (when FWS began keeping records of its consultations), FWS evaluated vehicle collisions as an indirect effect of development projects in recognition of the serious threat vehicles pose to panthers. *See, e.g.*, Letter from James Jay Slack, Field Supervisor, S. Fl. Ecological Servs., to Col. Joe R. Miller, Naples Reserve Golf Club 18-22 (June 9, 2000) (Attach. VV). To assess those effects, FWS employed a population viability analysis ("PVA"), which in turn incorporated outputs from the "Future Roadkill Estimation Method" ("FREM"), to account for panther vehicle mortality. *See, e.g.*, 2021 Draft HCP BiOp, app. M at 1-5 (Attach. OO).[49] However, during the

[48] As explained, *supra* at 5-6, habitat loss pushes individual panthers closer together, which increases intraspecies aggression, particularly among male panthers. *See also* Recovery Plan at 21, 89. Additionally, as explained, *supra* at 6-7, habitat loss from development and infrastructure projects "are known to result in loss and fragmentation of habitat, traffic related mortality, and avoidance of associated human development." *See also* Recovery Plan at 39. Moreover, "[i]n addition to a direct loss and fragmentation of habitat, constructing new and expanding existing highways may increase traffic volume and impede panther movement within and between frequently used habitat blocks throughout the landscape." *Id.* This increased traffic volume and fragmentation of habitat likewise "increase[s] the threat of panther mortality and injuries due to [vehicle] collisions." *Id.* at 51.

[49] Although the 2021 Draft Eastern Collier HCP correctly incorporated the FREM into its PVA, the PVA nevertheless relied on unsupported assumptions and conjecture that ultimately rendered the model arbitrary and capricious. For instance, the PVA relied upon the unsupported assumption that FWS would "maintain the genetic health of the population through translocation when necessary." 2021 Draft HCP BiOp, app. L at 1 (Attach. OO). The PVA explained that unless FWS acted on recommendations to introduce pumas from other populations, the probability of extinction would increase significantly. *Id.* at 12. However, as the Center and Sierra Club explained in their comments, the Draft HCP conceded that "[i]t is not known if efforts to translocate panthers or apply some other measure to increase genetic variability in the

development of the Eastern Collier HCP, the applicants for the incidental take permit submitted an unsolicited technical memo that criticized FWS's methodology for assessing the traffic-inducing effects of development projects. *See id.* 1 (citing Megan D. Higgs, *Statistical Review of Future Roadkill Estimation Method (FREM) used by US FWS South Florida Ecological Services Field Office* Staff (reproduced in 2021 Draft HCP BiOp, app. M at 71)). The technical memo merely provided a critique of FWS's use of the FREM to predict the traffic impacts of a particular development; it did *not* conclude that increased traffic plays no role in increased panther vehicle collisions. In fact, when FWS submitted its PVA and FREM to the U.S. Geological Survey ("USGS") for independent review of the concerns raised by the applicants, the USGS review "expressed concerns that recent spikes in panther/vehicle collisions were not being addressed sufficiently" in the Eastern Collier HCP. *Id.* at 3. Ultimately, the USGS review determined that "[u]ntil a more elaborate model that accounts for uncertainty becomes available, it appears reasonable to provide the results of the deterministic analysis, and provide the adequate caveats (e.g., that uncertainty was not accounted for)." *Id.* at 4.

Thus, in the 2021 Eastern Collier HCP, FWS acknowledged the uncertainty inherent in its PVA and FREM models, but nevertheless discussed and quantified the traffic-inducing effects of the HCP on the panther. *See, e.g.*, 2021 Draft HCP BiOp at 113-17, 120-122 (Attach. OO). As recently as 2023, FWS affirmed the importance of incorporating a rigorous review of traffic-related impacts on panthers in regulatory reviews, stating although it may be difficult at times to distinguish between project and non-project related vehicle collisions, "vehicle collisions are the most commonly documented cause of death for Florida panthers, *and the Project's potential effects on this mortality requires analysis.*" U.S. Fish & Wildlife Service, State 404 Permit

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panther population may occur in the future." 2021 Draft HCP BiOp at 141 (Attach. OO). In fact, there was "no indication that [FWS] even attempted to evaluate how changing that assumption would alter its analysis of total extinction risk with the HCP, or the total extinction risk with the HCP and cumulative effects." Ltr. from Julianne Thomas et al., to Martha Williams et al. 16 (Sept. 15, 2022) [hereinafter NGO HCP Comments] (comments on 2021 Draft HCP BiOp) (Attach. WW). The organizations explained that FWS's decision "to base its analyses of extinction risks, and jeopardy, on the assumption that these actions will take place" was arbitrary and capricious "when [FWS] concede[d] that it is in fact unknown whether those actions will occur or not." *Id.* The PVA also arbitrarily assumed that the then-current panther population reflected a mere sixty percent of the carrying capacity of the panther's remaining habitat. *Id.* at 17. FWS acknowledged that "[t]he present Florida panther population is at or near average annual carrying capacity (*K*) of habitat south of the Caloosahatchee River," but nevertheless insisted that "*it is possible* future habitat management may increase carrying capacity to range-wide effect." 2021 Draft HCP BiOp, app. L at 2 (emphasis added) (Attach. OO). FWS did not explain why it disregarded the well-established scientific consensus that the panther was "at or near" carrying capacity. *Id.* at 7. As a result, the Draft HCP "underestimate[d] the extinction risk resulting from the impacts of the HCP and cumulative effects exacerbating the disastrous habitat loss from [sea level rise]." NGO HCP Comments at 18-19 (Attach. WW). Finally, the PVA modeling relied upon in the 2021 Draft HCP only accounted for habitat loss due to sea level rise through 2070, despite the fact that the model purported to assess the viability of the panther population up to *2170*. *Id.* at 19. "By failing to account for continued sea level rise related habitat loss after 2070, the PVA modeling likely overestimates panther abundance in 2170 and underestimates the extinction risk." *Id.*

Application Review/Response Form, Kingston ST404_423130-001, at 18 (Oct. 26, 2023) (emphasis added) (Attach. XX).

However, in subsequent regulatory reviews of development and infrastructure projects—including that for the Rural Lands West Project—it has become apparent that FWS has thrown the proverbial baby out with the bathwater by eliminating *any* effort to quantify the vehicle collision or traffic-inducing impacts from such projects on the panther. Indeed, in the BiOp here at issue, FWS insisted that "[a]lthough vehicle traffic is a prominent risk to panthers and other wildlife, the Service is unable to describe, with any certainty, how the project would alter (increase or decrease) the likelihood of motor vehicle strikes regardless of any traffic changes expected from the Project." BiOp at 27. FWS explained that in providing technical assistance to FWS's BiOp for the transfer to Florida of permitting authority under Section 404 of the Clean Water Act, FWS suddenly "recognized that the variability of the estimates calculated with [the PVA and FREM] was substantial and, in fact not plausible based on existing information about the number and distribution of panthers on the landscape." *Id.* at 28.[50] FWS thus concluded that "the best scientific and commercial data available does not allow [the agency] to reasonably conclude how the [P]roject would impact panther vehicular injuries and mortality, nor attribute such cases to the proposed Project." *Id.* Accordingly, FWS announced that it would consider "general traffic impacts to panther[s]" in the "environmental baseline or cumulative effects." *Id.*

The BiOp largely ignores other known threats to the panther. For instance, aside from requiring the Proponent to "ensure" that future residents are "informed that vaccinating cats for [FeLV] can prevent disease transmission," *id.* at 8, the BiOp does not mention the potential for the introduction and spread of diseases into panther populations. For instance, the BiOp failed to grapple with the Project's effects on either FeLV or FLM infection rates within the panther population. The BiOp likewise gives short shrift to the cumulative impacts of climate change and development on privately-owned lands. With respect to climate change, the BiOp acknowledged that "Florida is vulnerable to pulse events and sea level rise as well as to changes in rainfall and temperatures expected due to changes in environmental trends." *Id.* at 20. However, despite the fact FWS elsewhere acknowledges that sea level rise will likely reduce the panther's habitat by eleven percent over the next fifteen years, the BiOp did not mention climate change or its effects *at all* in its jeopardy analysis. Instead, the BiOp wielded scientific uncertainty like a shield, asserting that "[i]t is difficult to estimate, with any degree of precision, which species will be affected by climate change or exactly how they will be affected." *Id.* at 21.

With respect to the cumulative impacts of development projects that are not subject to federal regulatory review (i.e., because those projects do not require any federal permits that would trigger Section 7 consultation under the ESA), the BiOp acknowledged that such projects pose significant risks to the panther's persistence. *See id.* at 31-32. According to FWS, approximately 895,574.174 acres of non-urban private lands within the Primary and Secondary Zones are at risk of development by 2045. *Id.* at 32. The BiOp asserted that within the Action Area, approximately 23,337.8 acres of such non-urban lands could be developed over the next

[50] The Center, Sierra Club, and other co-plaintiffs challenged the transfer of Section 404 permitting authority to Florida as unlawful in federal district court, and Florida's assumption of the 404 program has since been vacated by a federal district court (pending appeal). *See Ctr. for Biological Diversity v. Regan*, 734 F. Supp.3d 1 (D.D.C. 2024).

twenty years "without regulatory review." *Id.* When these impacts are combined with those of the Project, over the next twenty years approximately three percent of "non-urban private lands . . . in panther [P]rimary and [S]econdary zones" within the Action Area are "at risk of development." *Id.* At the same time, the panther is facing the looming threats of sea level rise and climate change. Yet, the BiOp said nothing about these impacts; in fact, the cumulative effects section did not mention the reasonably certain, permanent loss of a substantial amount of existing panther habitat due to sea level rise or climate change *at all*.

Nor did the cumulative impacts discussion consider the amount of non-urban private lands in panther habitat *outside* of the Project's Action Area that are at risk of development. For instance, in the January 2025 BiOp for the Kingston development project in neighboring Lee County (issued approximately one month before the Rural Lands West BiOp), FWS admitted that approximately 156,960.31 acres of "non-urban private lands . . . in panther [P]rimary and [S]econdary [Z]ones" within the action area for that project—which constitutes nearly *eighteen percent* of such lands—are "at risk of development" by 2045. Kingston BiOp at 31 (Attach. II). The Rural Lands West BiOp did not indicate whether the expected three percent of non-urban lands within this Project's Action Area was subsumed by or in addition to the projected eighteen percent loss of habitat within the Kingston Project's Action Area. Instead, without any analysis, the Rural Lands West BiOp suggested that the Project may actually alleviate some of the development pressures by "reduc[ing]" the "likelihood that smaller, non-Federally reviewed actions will be needed to meet the commercial and residential needs of the rapidly growing human population in this area." BiOp at 32. The Rural Lands West BiOp concluded that the effects of such dramatic habitat reductions "will be minor in the short term," but conceded that those effects "may increase as development continues to occur in the Action Area." *Id.* Accordingly, FWS committed to "continue[] . . . monitor[ing] the effects of habitat loss to the panther throughout its range," *id.*, without explaining what sort of "monitor[ing]" FWS would be conducting with regard to habitat loss or what metrics that monitoring would entail, let alone at what point (using objective monitoring metrics) FWS would deem the already-alarming trends legally problematic vis-à-vis the panther's survival or recovery prospects.

Ultimately, despite acknowledging the panther's highly degraded baseline condition, the BiOp dismissed the Project's impacts and concluded that the Project, in addition to the baseline condition of the species, will not jeopardize the continued existence of the panther. *Id.* at 34-45. While admitting that the Project will permanently destroy thousands of acres of occupied panther habitat, the BiOp nevertheless insisted that "many thousands of acres of panther habitat remain in Florida." *Id.* at 34. Consequently, according to FWS, the "minor loss of habitat resulting from the [P]roject" is not expected "to substantially affect the range-wide population size of th[e] species." *Id.* at 35. The BiOp thus focused solely on habitat quantity; FWS never meaningfully discussed the importance of habitat *quality* to the panther's survival or recovery. *Cf.* Randy Kautz et al., *supra* at 127-31 (emphasizing the importance of conserving habitat of sufficient quality to "ensure that no net loss of function or carrying capacity occurs") (Attach. F). Strikingly, the BiOp conceded that "collectively over time, habitat loss could threaten the survival and recovery of the species." *Id.* However, without any coherent analysis, let alone any attempt to quantify or explain when habitat loss *would* be expected to threaten the survival and recovery of the species, the BiOp insisted that *this* Project at *this* time (on top of the species' baseline condition) does not cross the threshold into jeopardy. Instead, the BiOp kicked the proverbial can down the road, explaining merely that FWS will "continue to monitor the effects

of habitat loss on the panther." *Id.* The BiOp did not elaborate on what those monitoring methods will entail, or how (assuming it has the analytical tools to do so) FWS will determine that the panther's recovery and survival are in jeopardy.

The BiOp attached an ITS authorizing the incidental take of panthers during the course of Project construction. *Id.* at 37-38. The ITS asserted that increased noise and human activity during construction "may increase disturbance to panthers in the Project vicinity," causing panthers to "adjust their territories to avoid the disturbance." *Id.* at 37. To quantify the effects of habitat loss, the ITS "considered the reduction of panther habitat carrying capacity" caused by the Project. *Id.* Noting that the loss of 4,909.1 acres of habitat in the Primary and Secondary Zones "approximates the loss of habitat carrying capacity for between 0.27 and 0.8 panthers," the ITS concluded that "no more than two" panthers will "be harmed by th[e] loss in habitat" and "potential increase in intraspecific aggression." *Id.* at 37-38. The ITS thus authorized the lethal take of up to two panthers by Project activities. However, the ITS did not provide any coherent method or mechanism to monitor whether or when the take of a panther has occurred, let alone any method for determining whether future intraspecific aggression mortalities in or near the Project area are attributable to the Project. As a result, in several distinct ways, the ITS lacked a specific trigger for reinitiating consultation.

LEGAL VIOLATIONS

I. THE BIOP AND THE ARMY CORPS' RELIANCE ON THE BIOP VIOLATE SECTION 7 OF THE ESA

A. The BiOp Violates the ESA's Mandate to Consider Whether the Project Will Impede the Panther's Recovery

1. *Jeopardy, Recovery, and Baseline Jeopardy*

Although there is strong evidence that the Florida panther's recovery prospects were appreciably diminished long before now (and thus that the species has existed for years in a state of perpetual jeopardy), the evidence is now clearer than ever that the panther is sliding into oblivion through a death by a thousand cuts and, as a result, its prospects for recovery are not only appreciably diminished and improbable but nearing impossible.

To frame this discussion, we start, as we must, with the statute. The ESA was enacted not merely to forestall the extinction of species, but also to allow a species to recover to the point where it may be delisted. *See* 16 U.S.C. § 1532(3) (defining "conservation" as all methods that can be employed to "bring any endangered species or threatened species to the point at which the measures provided pursuant to this [Act] are no longer necessary"); *Babbitt v. Sweet Home Chapter of Cmtys. for a Great Or.*, 515 U.S. 687, 699 (1995) (noting that Congress' intent in enacting the statute "was to halt and reverse the trend toward species extinction, whatever the cost."). Thus, Congress "by its own language, viewed conservation [i.e., recovery] and survival as distinct, though complementary goals." *Gifford Pinchot Task Force v. FWS*, 378 F.3d 1059, 1070 (9th Cir. 2004).

Hence, the ESA imposes a substantive duty on all agencies "insure" that their actions are not "likely to jeopardize the continued existence of" any listed species. 16 U.S.C. § 1536(a)(2).

"To 'jeopardize'—the action the ESA prohibits—means to 'expose to loss or injury' or to 'imperil.'" *Nat'l Wildlife Fed'n v. NMFS*, 524 F.3d 917, 930 (9th Cir. 2008). Thus, agencies may not take any action that "imperil[s]" or risks the "loss" of listed species. Of course, a species may be "imperil[ed]" long before its survival is compromised. *Id.*; *see also id.* at 931 ("[A] species may often cling to survival even when recovery is far out of reach[.]"). Accordingly, to give effect to both the statute's plain language and Congressional purpose, the duty to "insure" against jeopardy requires an examination of an action's impacts on a species' recovery, separate from its survival. *Cf. Gifford*, 378 F.3d at 1070-71 (finding that the ESA requires FWS to consider impacts to both survival and recovery in its adverse modification determination). Survival and recovery are therefore "intertwined needs that must both be considered in a jeopardy analysis." *Nat'l Wildlife Fed'n*, 524 F.3d at 932-33.[51]

The statute, its implementing regulations, and precedent thus make clear that to satisfy its duty to ensure against jeopardy, FWS must demonstrate that the effects of the proposed action will not impair the species' chances of recovery. Legally and logically, whether an action pushes a species across the jeopardy threshold depends on both the magnitude of the species' pre-existing status (i.e., its baseline condition) and the proposed action's additional impacts. *Nat'l Wildlife Fed'n*, 524 F.3d at 936 (holding that FWS must consider whether harm from the proposed action, when added to baseline conditions, threatens to "tip[]" listed species "too far into danger"). Thus, for the jeopardy analysis to be meaningful, FWS must first determine whether the species' recovery is already compromised before it may consider whether the species can withstand additional harm—i.e., FWS must analyze jeopardy by first determining the baseline condition of the species (i.e., its current status) before analyzing the additive impacts of any proposed action. *See id.* at 929-31 (holding that the jeopardy analysis must incorporate the "independent or baseline harms" to listed species); *see also Defs. of Wildlife v. U.S. Dep't of Interior*, 931 F.3d 339, 253-54 (4th Cir. 2019) (holding that FWS's "failure to account for the species' already precarious state further renders its no-jeopardy determination arbitrary and subject to vacatur"). Only if FWS concludes that the species' baseline condition does not already threaten its survival or recovery may the agency proceed to determine whether the additional effects of the proposed action will push the species across the jeopardy tipping point. *Nat'l Wildlife Fed'n*, 524 F.3d at 929-31.

Conceptually, the jeopardy analysis thus comprises a two-step process. First, FWS must determine whether a species is already in jeopardy even before any additional action is authorized, a condition referred to as "baseline jeopardy." Where, at this first step, FWS determines that a species is in baseline jeopardy, the ESA prohibits the authorization of any further actions (unless reasonable and prudent alternatives exist that would avoid deepening the jeopardy). *See id.* at 930 ("[W]here baseline conditions already jeopardize a species, an agency may not take action that deepens the jeopardy by causing additional harm."). Otherwise, "a listed species could be gradually destroyed, so long as each step on the path to destruction is

[51] FWS's regulations support the statutory interpretation that the jeopardy analysis must analyze effects on recovery separate from survival. The regulations define jeopardy as "an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species." 50 C.F.R. § 402.02. This confirms that FWS must "consider both recovery and survival impacts" in a jeopardy analysis. *See Nat'l Wildlife Fed'n*, 524 F.3d at 933.

sufficiently modest." *Id.* "This type of slow slide into oblivion is one of the very ills the ESA seeks to prevent." *Id.*

Second, if FWS determines at the first step of the jeopardy analysis that a species is not yet in a state of jeopardy because its recovery prospects have not been appreciably diminished by past and ongoing actions, FWS must evaluate whether the proposed action—in conjunction with the species' existing baseline condition—will cross the jeopardy threshold. Such an analysis is essential to prevent "a 'death by a thousand pinpricks' by determining if an agency action with a small overall effect will push a species across the line to eventual extinction, or past a point from which recovery is impossible." *Ctr. for Biological Diversity v. U.S. FWS*, 441 F. Supp. 3d 843, 857 (D. Ariz. 2020).[52] "Put differently, if a species is already speeding toward the extinction cliff, an agency may not press on the gas." *Appalachian Voices v. U.S. Dep't of Interior*, 25 F.4th 259, 279 (4th Cir. 2022).

At both steps, FWS must identify, based on the best available scientific evidence, an objective metric for determining the point at which recovery (or survival) is compromised. Otherwise, the duty to insure against jeopardy—the paramount mandate of Section 7—becomes a meaningless exercise. Accordingly, to satisfy its obligations under the ESA, FWS "must logically know the rough survival and recovery needs (i.e., 'tipping points')" to determine whether the action will cause the species to reach that tipping point and cross the threshold into jeopardy. *Nat'l Wildlife Fed'n*, 524 F.3d at 936. Unless FWS "knows roughly at what point survival and recovery will be placed at risk," it is impossible for FWS to "conclude that no harm will result from 'significant' impairments to habitat that is already severely degraded." *Id.* at 936. Even projects with seemingly minor impacts may jeopardize a species whose baseline status is severely degraded.

2. ***The BiOp Fails to Discuss, Much Less Analyze, Panther Recovery***

As explained, the statutory mandate to ensure against species jeopardy and repeated court decisions interpreting that provision make clear that this standard obligates FWS in every BiOp to determine the recovery needs of the species and then engage in a two-step jeopardy analysis—first assessing the species' baseline condition and, if warranted, then assessing the additive effects of the proposed action. Based on this framework, the inescapable legal and biological conclusion is that the highly imperiled panther is already in a state of baseline jeopardy, and thus FWS may not allow any additional harm that would further deepen that jeopardy. Alternatively, even if the available evidence somehow could support the conclusion that the panther is not already in baseline jeopardy, the massive amount of residential and commercial development

[52] *See also Wild Fish Conservancy v. Salazar*, 628 F.3d 527, 513 (9th Cir. 2010) (finding jeopardy analysis inadequate that did not identify the recovery "tipping point" and whether that threshold would be crossed by the proposed action); *Nat'l Wildlife Fed'n*, 524 F.3d at 936 (holding jeopardy analysis unlawful for failing to address the population levels necessary to support the species' recovery); *S. Yuba River Citizens League v. NMFS*, 723 F. Supp. 2d 1247, 1266-67, 1275 (E.D. Cal. 2010) (finding jeopardy analysis invalid because it did not "discuss (through some method) the magnitude of the stressors' impact, the populations' ability to tolerate this impact, and the reason why any decline will not reduce the overall likelihood of survival or recovery").

proposed in core panther habitat—in addition to other reasonably foreseeable stressors such as development on privately-owned lands and climate change—will indisputably tip the species to a point where its recovery prospects are appreciably diminished (if not completely impossible).

As an initial matter, the BiOp failed to fulfill even the most basic requirement of the recovery analysis—i.e., to actually discuss the Project's impacts on panther recovery. In fact, the *only mention* of "recovery" in the BiOp is in reference to the statutory standard. The BiOp summarily concluded that the destruction and fragmentation of panther habitat "is not likely to jeopardize the continued existence of" the panther, primarily because the lost acreage ostensibly "represents a small portion . . . of panther habitat available," conservation measures will "minimize" the "effect of the loss of this habitat," and certain impacts (e.g., vehicle collisions and intraspecies aggression) are allegedly unquantifiable or impossible to attribute to the Project. BiOp at 34-35. However, while conceding that as a general matter, habitat loss and fragmentation due to development "*could* threaten the survival and recovery of the panther" at an indeterminate time in the future, BiOp at 35, the BiOp entirely failed to evaluate whether, *at this time*, the effects of *this Project*, when added to the environmental baseline and cumulative impacts on the species, will reduce the panther's prospects of recovery, *see* 50 C.F.R. § 402.14. In fact, aside from generic references to "recovery" and "conservation," the BiOp does not mention panther recovery in the context of the Project and its impacts *at all*, let alone examine whether those impacts (in combination with the species' severely degraded baseline condition) will in fact appreciably diminish the likelihood of the panther's recovery.

The BiOp's studious avoidance of the critically important issue of panther recovery is a flagrant violation of the ESA. The statute and the overwhelming weight of authority hold that "FWS [is] required to address the impacts of [Project] construction on the species' recovery." *Defs. of Wildlife*, 931 F.3d at 355 (citing *Rock Creek All. v. U.S. FWS*, 663 F.3d 439, 443 (9th Cir. 2011)). However, the BiOp "makes no mention" of the project's impacts on the panther's recovery prospects. *Id.* at 354. Instead, the BiOp "explains the reasons" for the rapid decline in the panther population, and briefly discusses "the likely impact" of the Project on local panther populations; "[i]t says nothing [] about recovery, nor does it explain why the no-jeopardy conclusion is reasonable given the acknowledged mortality, injury, and [habitat loss] that [Project] construction will cause to the [panther]—effects that FWS's Recovery [Plan] for the panther seeks to avoid." *Id.* at 354-55; *see also* discussion *infra* Legal Violations, Section I.A.4. *See also generally* Recovery Plan at 89-97. By "omi[tting] [] any discussion of the [Project's] impact on the species' recovery," the BiOp "'entirely failed to consider an important aspect of the problem,'" rendering its "no-jeopardy determination arbitrary." *Defs. of Wildlife*, 931 F.3d at 355 (quoting *Sierra Club*, 899 F.3d at 293).

Far from engaging in the rigorous recovery analysis that the ESA requires, the BiOp waves away the Project's effects on the panther, insisting that the "minor loss of habitat resulting from the [P]roject" is not "expect[ed]" to "substantially affect the range-wide population size of this species." BiOp at 35. The BiOp thus suggests that the Project is consistent with the ESA because its effects will not *immediately* end the persistence of the panther. However, FWS is not permitted to "ignore[e] recovery needs and focus[] entirely on survival." *Nat'l Wildlife Fed'n*, 524 F.3d at 932 n.11.

Additionally, the bare assertion that the ostensibly "minor" loss of habitat will not jeopardize the panther ignores the best available science and, without more, cannot be sustained. *State Farm*, 463 U.S. at 43. Strikingly, the BiOp *conceded* that "the effects to the panther due to habitat loss associated with these lands [i.e., within the Action Area] . . . may increase as development continues to occur in the future," BiOp at 31, and in fact, "collectively over time, . . . *could threaten the survival and recovery* of the species," *id.* at 34. Yet, as has been FWS's consistent practice in the context of the panther, the BiOp downplayed the permanent loss of *thousands* of acres of suitable, occupied habitat—including habitat within the all-important Primary Zone. *See, e.g.*, BiOp at 33 (acknowledging that the Project will result in the "permanent[] loss" of 3,393 acres that "are currently used by the panther and [its] prey," but nevertheless asserting that "this acreage represents a small portion (less than a tenth of one percent) of panther habitat available in south Florida" and would therefore "affect [no] more than [two] panthers via intraspecific aggression").[53]

In so doing, the BiOp never rigorously examined the impacts to panther recovery that would result from the loss of *this* habitat, particularly as development across south Florida continues to encroach on the scant amount of suitable panther habitat that remains. Nor did the BiOp reconcile its ultimate determination—i.e., that the "minor" habitat loss caused by the

[53] *See, e.g.*, Kingston BiOp, *supra* note 35, at 33 (authorizing the destruction of 3,393 acres of panther habitat in the Primary and Secondary Zones because the "acreage represents a small portion . . . of panther habitat available in south Florida) (Attach. II); C-139 Flow Equalization Proj. BiOp, *supra* note 34, at 26 (authorizing the destruction of 2,650 acres of panther habitat because the amount of habitat converted "is small compared to the overall habitat available within the region") (Attach. HH); Willow Run BiOp, *supra* note 33, at 26-27 (insisting that the loss of 341 acres of panther habitat will be insignificant, while acknowledging habitat loss "may adversely impact the panther as development continues to occur in the future in the action area") (Attach. GG); Babcock Ranch BiOp, *supra* note 28, at 13-14 (authorizing the destruction of 9,532 acres of panther habitat because the loss "represents 3.3 percent of the available non-urban private lands in the [action area]") (Attach. BB); Ave Maria Proj. BiOp, *supra* note 23, at 31 (insisting that the loss of 2,817 acres of habitat due to the Ave Maria Development in Collier County was "insignificant in the short term, but may adversely impact the Florida panther as development continues to occur") (Attach. W); Oyster Harbor BiOp, *supra* note 18, at 18 (insisting that the loss of 718 acres of panther habitat "is insignificant in the short term, but may adversely impact the Florida panther as development continues to occur") (Attach. R). This is just a representative sampling of BiOps concerning the panther from the last eight years. As explained above, since the issuance of the Recovery Plan in 2008 up to and including the Project, FWS has allowed the destruction of over *34,000 acres* of panther habitat in southern Florida, to say nothing of the additional impacts of such habitat loss (e.g., fragmentation, isolation, intraspecies aggression, vehicle collisions, disease, and human disturbance). Indeed, as explained, between 2009 and 2025 (not including the Project), FWS has effectively authorized the destruction of over 29,000 acres of panther habitat without ever meaningfully evaluating whether such habitat loss will preclude the species survival or recovery. *See* sources cited *supra* notes 7-35 & Table 1. This is literal "death by a thousand pinpricks." *Ctr. for Biological Diversity*, 441 F. Supp. 3d at 857; *see also Nat'l Wildlife Fed'n*, 524 F.3d at 930 (rejecting a BiOp that authorizes the kind of "sufficiently modest" harm that results in the "slow slide into oblivion . . . the ESA seeks to prevent").

Project will not jeopardize the species—with FWS's previous determination in the Recovery Plan that "[a]reas currently used by panthers and habitat conditions . . . should be maintained." Recovery Plan at 104. Instead, the BiOp relied on the dubious Panther Habitat Assessment Methodology to calculate the number of PHUs that FWS insists will compensate for the habitat lost to the project. However, the "mere preservation of already existing habitat does not compensate for the lost biological function of the habitat that will be destroyed." Decl. Dr. Robert Frakes ¶ 51.[54] Indeed, the best available science clearly emphasizes "no net loss" of habitat within the Primary Zone as essential to achieving population viability in light of the dwindling amount of available habitat in the region. *Id.* ("'No net loss' of panther habitat function has been recommended repeatedly by panther scientists"). Yet, the agricultural lands that are being developed by (and lost to) the Project are *already* being used by panthers and may provide important edge habitat. Setting aside other land for conservation does not deliver a "net benefit," much less avoid "no net loss" of habitat.

Additionally, as explained, *supra* at 24, the methodology seeks only to preserve enough habitat to support *ninety* panthers. Not only is this far short of the Recovery Plan's goal of *three* populations of *at least 240* panthers, but it also is lower than the current population size, meaning that FWS is essentially managing the panther population to *conserve less habitat than what is necessary to support even the current population*. Hence, neither the Panther Habitat Assessment Methodology nor the PHUs it spits out are designed to ensure that areas used by panthers are "maintained" in their current condition, or that the panther population is large enough to support the species' survival and recovery. Accordingly, the bare assertion that the Applicant will provide enough PHUs to "compensate" for destroyed habitat neither ensures that there will be no net habitat loss, nor substitutes for a rigorous analysis of whether the net loss due to *this* Project will appreciably diminish the panther's survival and recovery prospects, particularly when the species *already* lacks sufficient habitat to support the populations the Recovery Plan determined are necessary for the species' long-term survival.

The BiOp likewise omitted any analysis of the Project's effects on the *quality* of panther habitat. The Recovery Plan emphasized the importance of maintaining and expanding not only the quantity of panther habitat, but also habitat of high quality. *See, e.g.*, Recovery Plan at xi (explaining that "[t]he amount of area needed to support each metapopulation will depend upon the quality of available habitat and the density of panthers it can support"); *id.* at 88 ("The panther depends upon habitat of sufficient quantity, quality, and spatial configuration for long-term persistence[.]"). Yet, the BiOp did not discuss how the Project will impact the quality of panther habitat within the Action Area. This omission is particularly egregious in light of the fact that the so-called "conservation areas" that purport to mitigate the impacts of habitat loss to the panther directly abut the development and are bisected by roadways. *See* BiOp at 6. As explained in the Recovery Plan, human encroachment on panther habitat (including new and expanded infrastructure and increased traffic) can lead to habitat fragmentation and habitat avoidance. *See, e.g.*, Recovery Plan at 39-40, 51. The BiOp's key assumption that the conservation areas will

[54] Dr. Robert Frakes is widely recognized as a leading panther scientist. His declaration in support of plaintiffs in *Center for Biological Diversity v. U.S. EPA*, No. 1:21-cv-00119 (D.D.C.), was attached to comments submitted by the Center and the Sierra Club on October 16, 2024 regarding the Project's Clean Water Act Section 404 Permit Application. Those comments, including the declaration, are attached to this notice as Attachment YY.

mitigate the Project's impacts on the panther is thus flatly contradicted by the best available science suggesting that the proximity of those conservation areas to the Project and its accompanying infrastructure will only *reduce* the quality of habitat and, in turn, further impede the panther's recovery.

In short, lacking any context grounded in the recovery needs of the panther and absent any qualitative or quantitative discussion regarding the amount of suitable habitat necessary to achieve recovery, the BiOp's mere recitation of the purportedly "small" acreage relative to overall available habitat or to the size of a panther territory is arbitrary and capricious and cannot support a no-jeopardy finding.

The BiOp's myopic focus on the acreage of habitat lost to the Project also turned a blind eye to the other serious impacts stemming from human encroachment. For instance, as explained, new and expanded infrastructure and concomitant increases in vehicular traffic not only increase panther mortality and injury from vehicle collisions, but also further fragment habitat and isolate individuals and populations. *See* discussion *supra* at 6-7, 17-20; *accord* Recovery Plan at 39-40 ("Increases in traffic volume, increasing size of highways (lanes), and habitat alterations adjacent to key road segments may limit the panther's ability to cross highways and *may ultimately isolate some areas of panther habitat*." (emphasis added) (citing Kathleen Swanson et al., *Use of least cost pathways to identify key highway segments for panther conservation*, *in* Procs. of the 8th Mountain Lion Workshop 191 (Richard A. Beausoleil & Donald A. Martorello eds. 2005))). As roadways and traffic increasingly confine panther populations, individuals are unable to move freely across the landscape. The fragmented habitat supports less prey and fewer den sites, and the individuals that inhabit such areas are at an increased risk of intraspecific aggression and exhibit decreased genetic variability. *See* SSA at 62, 131-40, 149-50; Recovery Plan at 38. These effects, while less-than-lethal, still amount to "harm" and "harassment," as those terms are defined by FWS's regulations (i.e., "non-lethal take"). *See* 50 C.F.R. § 17.3. Yet, the BiOp arbitrarily failed to examine them, leading to a drastic underestimation of the "take" likely to occur from the Project. This is a clear violation of the ESA and its implementing regulations.

The BiOp also ignores the Project's effects on disease transmission. FeLV transmission between domestic cats and panthers is known to occur, with deadly results. *See* Recovery Plan at 22-23. The mysterious FLM is likewise persistent in the population, Fl. Fish & Wildlife, *Updates*, https://myfwc.com/wildlifehabitats/wildlife/panther/disorder/updates/ (Attach. ZZ), causing rear leg weakness that leads to difficulty walking and eventually, death by starvation, intraspecies aggression, or vehicle collision, Fl. Fish & Wildlife, *Disorder Impacting Panthers and Bobcats*, *supra*. As human population growth and development pushes people (and their pets) further into panther habitat, the introduction and spread of FeLV and other diseases (e.g., feline immunodeficiency virus, opportunistic infections) presents a significant (and growing) threat to the panther. Indeed, as the Recovery Plan explained, because the panther is confined to a single breeding population, "[s]hould a virulent pathogen enter the population, there is no absolute barrier in south Florida that could prevent such a disease from impacting the entire population" Recovery Plan at 41. However, the BiOp did not meaningfully discuss this risk. In fact, the only disease referenced in the BiOp is FeLV, which was mentioned only once in passing: the BiOp required the Project proponent to "inform residents of the importance of community-wide vaccination of all pet cats for" the virus. BiOp at 8-9. Hence, the BiOp does not examine the consequences of opening a new vector for disease transmission into occupied

panther habitat. In fact, apart from increased intraspecies aggression and vehicle collisions, the BiOp appears to have assumed that the other effects of the Project were negligible and thus not worth meaningful consideration. Accordingly, the BiOp ignored highly relevant evidence and failed to consider important aspects of the problem. *State Farm*, 463 U.S. at 43.

Relatedly, the BiOp failed to explain how, in light of the best available science, the removal of panthers from the breeding population due to the Project's effects—whether from intraspecies aggression, vehicle collision, disease, or otherwise—does not endanger the survival (much less the recovery) of the species. According to FWS's own assessment of the panther's status and recovery needs, "[a]t current population levels," the loss of even a single panther "may pose an added risk to the existing population" due to the small population size and genetic drift. Recovery Plan at 91. That assessment likewise demands that conservation efforts focus on maintaining and restoring the total area of available habitat and expanding the sole remaining breeding population into multiple, self-sustaining populations. *Id.* at 89-94. Consequently, actions that contribute to the serious injury or mortality of individuals by exacerbating the effects of "habitat loss, fragmentation, and degradation, and associated human disturbance"—i.e., the "greatest threats to panther survival . . . [and] recovery," Recovery Plan at 36—place the species in greater peril. This is a result that the ESA does not countenance.

Yet, that is precisely what the BiOp inexplicably allowed here: the permanent destruction of thousands of acres of occupied panther habitat in the Primary and Secondary Zones that, even under the BiOp's woefully deficient analysis, will likely "harm" *at least* two panthers, which FWS expects to be lethal. BiOp at 37-38. Because the loss of even a single breeding panther threatens the viability of the greater population, the Project therefore increases the risk of extinction, and also places recovery even farther out of reach. Additionally, the effects of the Project, compounded by the cumulative effects of climate change and other non-Federal development projects, will be felt by the species far into the future. Pursuant to the Project, occupied habitat will be converted to residential and commercial use, and, as a result, will serve as a barrier to the species' dispersal, ensuring the worsening isolation of panther populations, and increasing the risk of serious injury or mortality from the effects of habitat loss and fragmentation. These facts are flatly inconsistent with a "no-jeopardy" finding.

Considering the fatal flaws in the BiOp's paltry analysis, there can be no justification for the conclusion that the Project will not impede the panther's recovery (and its ultimate survival). Undaunted, the BiOp ignored FWS's own prior assessments of the species' viability and recovery needs and substituted for a meaningful effects analysis vague commitments to: generically "monitor the effects of habitat loss," BiOp at 32; and "monitor[] the number of vehicle collisions with panthers." BiOp at 35. However, monitoring "provides no accountability" and therefore, cannot substitute for the rigorous recovery analysis the ESA demands. *WildEarth Guardians v. U.S. FWS*, 416 F. Supp. 3d 909, 931 (D. Ariz. 2019).[55] Indeed, the BiOp does not define a point at which habitat loss or vehicle mortality—the two primary drivers of the panther's decline—would compromise the species' survival or recovery, rendering its promise to

[55] The BiOp also committed to "encourag[ing]" (but not requiring) private parties to seek take authorizations under Section 10 of the ESA. BiOp at 32. However, this commitment is also meaningless. In fact, according to FWS's long-held position, the agency lacks the authority to require private parties to apply for an incidental take permit under Section 10 of the ESA.

generically monitor these impacts effectively meaningless. Indeed, in the *sixty-five years* since the panther was listed, "this method"—i.e., generic monitoring—"has failed to bring the [panther] closer to being delisted." *Id.* Yet, FWS continues to approve projects that cut ever deeper into panther habitat on the basis of hollow promises merely to keep "monitor[ing]" the situation. Meanwhile, as the status of the species continues to rapidly decline, "there is no one entity that is committing an ESA violation." *WildEarth Guardians*, 416 F. Supp. 3d at 931. As a result, "[t]he failure to monitor [the panther] population gets a pass, and neither [the Corps] nor FWS are responsible for specific measures to quantify the [panther] population or ensure that current [development plans] are making strides towards delisting the [panther]." *Id.* "[T]his shirking of responsibility is impermissible." *Id.* (citing *Ctr. for Biological Diversity v. Rumsfeld*, 198 F. Supp. 2d 1139, 1153-54 (D. Ariz. 2002) (concluding that, by basing its no-jeopardy finding on future development of a long-term plan, the agency "admi[tted] that what is currently on the table . . . is inadequate to support the FWS's 'no jeopardy' decision")).

3. *The BiOp Fails To Consider Whether the Panther is in an Existing State of Baseline Jeopardy*

The BiOp's no-jeopardy conclusion is further undercut by FWS's failure to meaningfully identify and incorporate the panther's seriously degraded baseline condition. Legally and logically, whether an action pushes a species across the jeopardy threshold depends on both the magnitude of the species' pre-existing status *and* the action's additional impacts. *Nat'l Wildlife Fed'n*, 524 F.3d at 936 (holding that FWS must consider whether harm from the proposed action, when added to baseline conditions, threatens to "tip[]" listed species "too far into danger"). While the BiOp paid lip service to the panther's deteriorating status by identifying two of the primary threats to the species resulting from habitat loss, it failed to consider the fact that the panther almost certainly faces jeopardy throughout its range, even *without* the added impacts of the Project.

The panther is critically endangered; there is only one remaining breeding population of between 120 and 230 individuals.[56] The Recovery Plan, which constitutes the best available science regarding the panther's recovery needs, provides that for the panther to recover—i.e.,

[56] Compounding the conservation concerns, FWS does not currently know the panther's abundance with any level of certainty. *See* SSA at 87-88. The annual count of panthers was suspended in 2015. BiOp at 11. Models to estimate panther abundance generally contain margins of error that are "too imprecise to inform conservation decisions." SSA at 88. Such models are also regarded as uncertain due to challenges in data collection and verification (e.g., reductions in the number of marked panthers in the last several years), and analytical challenges (e.g., the models do not "account for density dependence in the population estimate and lower confidence interval"). *Id.* Indeed, population estimates from a model run in 2019 yielded a population estimate of 128 to 414 individuals, with a 95% confidence interval ranging from 222 and 773 individuals, a difference of *500 panthers*. *Id.* Therefore, population estimates—and the conservation management decisions made in reliance upon them—do not constitute the best available science. Instead, by "focusing" on the overall "trends of the population estimates and lower confidence intervals, it is apparent that population growth has slowed in the last [four] years *and even declined in 2018* for the first time ever during the study period." *Id.*; *accord* Dave P. Onorato et al., *Multi-generational benefits*, *supra* at 4 (Attach. B).

make it "to the point at which the measures provided [by the ESA] are no longer necessary" such that the species may be delisted, 16 U.S.C. § 1532(3)—the species must boast at least "[t]hree viable, self-sustaining populations of at least 240 individuals," and have available "[s]ufficient habitat quality, quantity, and spatial configuration to support these populations." Recovery Plan at xi-xii. However, achieving those goals will be extremely challenging, as "[t]here is insufficient habitat in south Florida to sustain a viable panther population and population expansion" northward "into south-central Florida will be difficult," *id.* at 86. Accordingly, preserving and expanding the remaining populations through the protection and restoration of suitable habitat—i.e., the *opposite* of what the agencies are doing here—is vital to ensuring the future viability and recovery of the species, as set forth in FWS's own Recovery Plan. *Accord id.* at 96 ("[U]nless we are able to safeguard the current condition, amount, and configuration of the occupied panther habitat, the long-term viability of the panther is not secure.").

In the seventeen years since FWS published its Recovery Plan, the species has made essentially no progress towards recovery, and, in many ways, has severely regressed. In fact, even before the introduction of more recent threats compounding the species' recovery (e.g., FLM, crashes in the panther's mammalian prey base, and substantial development in the panther's core and dispersal habitat), the panther was no closer to achieving either (let alone both) of the recovery criteria than it was in 2008 when FWS issued the Recovery Plan. With regard to those still-hypothetical additional populations, to date, there is no evidence that viable populations of panthers have been established or even could be established in areas outside of south Florida through natural range expansion (i.e., without human assistance). To the contrary, the best available science indicates that the panther population is *decreasing* and may once again require genetic rescue, *see* Dave P. Onorato et al., *Multi-generational benefits*, *supra* at 4 (Attach. B), which only shows how far out of reach FWS's own recovery criteria are at this time for the panther.

Moreover, the already dire status of the species has only worsened in recent years, due to substantial development pressures in the panther's core habitat, disease introduction and spread, climate change and sea level rise, and prey base decimation. *See* discussion *supra* at 17-22. Indeed, since the monitoring of panthers began in 1982, "there have been *478 documented panther deaths within the Action Area*," 330 of which "were attributed to motor vehicles." BiOp at 18 (emphasis added). In other words, since 1982, the equivalent of more than twice the current estimated panther population has been killed within the Action Area alone.[57] Approximately nine to eighteen percent of the panther population is killed *annually* by vehicle collisions. *See* Fig. 2 *supra*. Given the development boom in south-central and south Florida, the threats to the species show no sign of abating (and in fact, will likely only worsen). In fact, as the threats to the panther grow, the best available science demonstrates that the panther population is decreasing.[58] Accordingly, by any measure, the panther is in severe danger of never achieving either (let alone

[57] Across Florida, vehicle collisions have killed 284 panthers since 2014, which is more than the current maximum number of panthers alive today. *See supra* Table 2.

[58] *See* Dave P. Onorato et al., *Multi-generational benefits*, *supra* at 4 (Attach. B). The "last annual [panther] count was completed in 2015 and has since been discontinued." BiOp at 12. However, the best available science demonstrates that the panther is experiencing a downward population trend. *See Dave P. Onorato et al., Multi-generational benefits*, *supra* at 4 (Attach. B).

both) of the criteria FWS deemed integral to the species' recovery. The fact that the panther already has a very remote chance of recovery under FWS's own evidence-based recovery objectives means that the species is, and likely has been for some time, in an existing state of baseline jeopardy.

Even if the species were not already in jeopardy, the future is even bleaker for the species' long-term recovery outlook. In particular, "[w]ith human population growth and increased human disturbance, the extent of potentially suitable habitat remaining in the Southeast is expected to decrease." Recovery Plan at 36. FWS's own SSA acknowledges that "through 2040," "[p]lanned developments south of the Caloosahatchee River [where the only remaining population resides] would result in the loss of 581 km^2," or six percent, of the panther's scant remaining habit. SSA at vii. It further notes that "planned developments are most likely to impact panther habitats in southeastern Lee County and northwestern Collier County." SSA at 194. Lee County Economic Development likewise predicts that in Lee County alone, the population will rise to one million residents by 2040, an increase of nineteen percent from 2024 population levels. *See* J. Kyle Foster, *Brand new towns, new mega communities planned for South Florida. Here's where,* Naples Daily News (June 4, 2025), https://tinyurl.com/mupk6nhd (Attach. AAA). At the same time, Lee County is facing a severe affordable housing shortage; by some estimates, the county is short by at least 18,000 affordable housing units. *See* Builders Patch, *Housing Count: Florida, Shortage statistics for ELI & VLI renters*, https://tinyurl.com/35mu4tew (last updated 2024) (Attach. BBB). In light of these factors, the Action Area for this Project is virtually certain to experience an exponential increase in residential and commercial development projects.

Sea level rise will compound these threats. FWS estimates that sea level rise will eliminate an estimated 973 km^2, or eleven percent, of existing panther habitat. SSA at vii. Thus, combined, FWS predicts that the panther will permanently lose at least *seventeen percent* of its meager remaining habitat by 2040, with the fraction of habitat remaining significantly more fragmented and disturbed than it is today. *See* SSA at vii. ("Future developments in South Florida also have the potential to reduce the area and functionality of critical landscape linkages."). Accordingly, even without the Project's additive impacts, the "current condition, amount, and configuration of the occupied panther habitat"—which is indispensable to "safeguard[ing] . . . the long-term viability of the panther," Recovery Plan at 96—will not be maintained.

The BiOp never grappled with the fact that these actions—some of which may not require ESA consultation (e.g., climate change, associated sea level rise, development projects lacking a federal nexus)—will individually and collectively diminish appreciably the panther's prospects for recovery.[59] Put simply, if these intrusive developments occur in the future—

[59] A significant amount of remaining panther habitat is privately owned and is thus exempt from federal regulatory review because projects on such land do not require any federal action that would trigger Section 7 consultation. *See* BiOp at 31-33. Development of those privately-owned habitat areas is projected to increase. *See, e.g.*, *id.* at 32 (reporting that projects within the Action Area threaten to develop over three percent of the non-urban private lands within the Primary and Secondary Zones that are at risk of development by 2045); Kingston BiOp at 31 (reporting that projects within the nearby (and partially overlapping) Action Area for the Kingston Project

converting tens of thousands of acres of currently occupied, higher-quality panther habitat into unusable habitat for the panther—it will tip the species so far into danger that the panther will not have sufficient access to habitat and prey to support a viable population, let alone the three separate, viable, self-sustaining populations FWS has determined necessary to achieve recovery. However, as explained, the BiOp entirely failed even to identify the panther's recovery needs, *see supra* Legal Violations, Section I.A.2. Similarly, regardless of whether individual vehicle mortalities can be attributed to a particular project, the fact nearly a quarter of the entire population may be lost in a single year to vehicle collisions is a highly relevant factor when evaluating the baseline status of the panther. *See* Fig. 2 *supra*. Yet, the BiOp never grappled with the fact that even without the additional traffic from the Project, vehicle collisions are *already* a significant source of mortality for panthers. The BiOp also arbitrarily ignored the fact that the management actions the Recovery Plan identified as essential to the survival and recovery of the panther—i.e., the restoration and/or protection of sufficient habitat to sustain three populations of at least 240 individuals—are unlikely to occur without significant human intervention that has yet to materialize. The BiOp thus contained no meaningful discussion of whether the Project's impacts will in fact appreciably diminish the likelihood of the species' recovery. Consequently, FWS ignored highly relevant evidence, *State Farm*, 463 U.S. at 43, and failed to consider the fact that the panther almost certainly faces jeopardy even *without* the proposed action, *Nat'l Wildlife Fed'n*, 524 F.3d at 930. In so doing, FWS "ignores the corollary that 'an agency may not take action that will tip a species from a state of precarious survival into a state of likely extinction.' That is, 'even where baseline conditions already jeopardize a species, [FWS] may not take action that deepens the jeopardy by causing additional harm.'" *Defs. of Wildlife*, 931 F.3d at 353 (quoting *Nat'l Wildlife Fed'n*, 524 F.3d at 930)).

Strikingly, the BiOp *conceded* that "collectively over time," the effects of habitat loss "*could* threaten the survival and recovery of th[e] [panther]." BiOp at 35 (emphasis added). However, rather than determine, as it must, *when* that jeopardy threshold would be crossed—or indeed, whether it already has been crossed in light of the panther's rapidly deteriorating condition—the BiOp kicked the proverbial can down the road, flippantly stating that FWS "will continue to monitor the effects of habitat loss" on the species. *Id.* By failing to incorporate baseline conditions into its recovery analysis, the BiOp unlawfully "conducted the bulk of its jeopardy analysis in a vacuum," masking the actual impacts faced by the species, and skewing the analysis towards a finding of "no jeopardy." *Nat'l Wildlife Fed'n*, 524 F.3d at 929; *see also Am. Rivers v. FERC,* 895 F.3d 32, 48 (D.C. Cir. 2018) (invalidating BiOp that failed to "to account for effects of degraded conditions" on listed species "and exclude[ed] those impacts from the jeopardy analysis"). This flaw is fatal; without a comprehensive and scientifically rigorous analysis that accurately defines the panther's baseline condition and assesses the impacts of the Project in its appropriate context, the BiOp cannot fulfill its statutory obligation to ensure that the Project complies with the ESA. *See Defs. of Wildlife*, 931 F.3d at 353 (quoting *Nat'l Wildlife Fed'n*, 524 F.3d at 930)).

Given the dire status of the panther and the ever-increasing threats from, *inter alia*, habitat loss and fragmentation, human disturbance, and climate change, it is readily apparent that the panther is in baseline jeopardy. Accordingly, FWS is prohibited from authorizing any action,

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threaten to develop nearly *eighteen percent* of the non-urban private lands within the Primary and Secondary Zones that are at risk of development by 2045).

such as the Project, that will undoubtedly "deepen[] the jeopardy by causing additional harm." *Id.* at 930. The BiOp's contrary conclusion is inconsistent with the facts and cannot be sustained.

4. *The BiOp Fails to Consider Whether the Project May Tip the Species Past the Point Where Recovery is Precluded*

Relatedly, the BiOp's no-jeopardy conclusion is also flawed because it fails to identify whether the Project will push the panther past the tipping point precluding survival, or the earlier-in-time tipping point where recovery would be precluded (even though the species might be able to persist for some period of time while clinging to a small, vulnerable population). Even if FWS had identified the panther's recovery needs and, in light of those needs, determined that the species was not in baseline jeopardy—which, as explained, it did not, *see supra* Legal Violations, Section I.A.3—FWS was obligated to determine whether the Project's impacts, when added to the baseline condition, would nevertheless appreciably diminish the panther's survival and recovery prospects. Without such an analysis, the BiOp could not reasonably "insure" that the Project will not impede the panther's recovery. When the proper analytical framework is applied, there can be no doubt that, in light of the highly degraded baseline condition of the species, the Project risks "tip[ping] [the] species from a state of precarious survival into a state of likely extinction," *Nat'l Wildlife Fed'n*, 524 F.3d at 930—a result the ESA strictly forbids.

While concluding that the Project will not "jeopardize the continued existence of" the panther, BiOp at 33, the BiOp avoided answering the necessary threshold question: at what point *will* the panther's survival—let alone its recovery—be "appreciably" diminished in light of the highly degraded condition of the species and its habitat, both in the Project area and range-wide? The BiOp acknowledged that panthers "are particularly sensitive to habitat fragmentation." BiOp app. D at 12. It further explained that, while panthers have already been "restricted to . . . an area that is less than [five] percent of its historic range," *id.* at 15, development is expected to continue both in the Project area and range-wide, meaning that the remaining panther population will increasingly be squeezed out of what few suitable habitat areas are left, *see, e.g.*, BiOp at 15, 31-32. As a result, the effects to the panther due to habitat loss (e.g., increased intraspecies aggression, road mortality, exposure to toxins and diseases, and human disturbance) will likewise increase. *See id.* However, the BiOp failed to offer any explanation of how or when FWS, the Corps, the Proponent (and the public) may ascertain that the panther's recovery prospects are being impaired (i.e., when jeopardy occurs), let alone for why allowing the destruction of thousands of acres of core panther habitat does not further impair the recovery odds for a species that very likely is already in jeopardy. *See Ctr. for Biological Diversity v. Salazar* (*Salazar*), 804 F. Supp. 2d 987, 999 (D. Ariz. 2011) (finding a BiOp that merely "*concludes* that the proposed action 'will not affect [a species'] recovery' [or] 'will not affect the ability to recover [the species]" without providing "a full *analysis* of the effect of the proposed action on recovery" is arbitrary and capricious).

To the contrary, the BiOp *conceded* that habitat loss due to developments like the Project may, at some indeterminate time in the future, imperil the panther's survival and recovery, which if nonetheless authorized, would constitute a clearcut violation of the ESA. *See* BiOp at 35 (acknowledging that "collectively over time, habitat loss could threaten the survival and recovery of the species"). Yet, the BiOp did not determine a "tipping point" or similar objective metric at which the panther's prospects of recovery would be (or have already been) appreciably

diminished, based on the habitat and life-cycle needs of the species, as well as the threats to the species that are worsening with each approved development project. Consequently, the BiOp never evaluated whether the effects of the Project, when added to the panther's baseline condition, will jeopardize the species by impeding its recovery (or survival). Instead, the BiOp merely "*conclude[d]* that the proposed action 'will not affect [a species'] recovery' [or] 'will not affect the ability to recover [the species]" without providing "a full analysis of the effect of the proposed action on recovery." *See Salazar*, 804 F. Supp. 2d at 999. Accordingly, the BiOp fails to "make a rational connection between the facts found and the choice made, *State Farm*, 463 U.S. at 43, and violates the ESA and its implementing regulations, *see id.*

FWS's failure to meaningfully consider whether the Project would tip the panther past the point where its recovery is precluded is particularly egregious in light of the panther's precarious status, the combined effects of other ongoing and planned development projects, and the severe impacts that the Project will cause. As explained, the species' distribution and abundance have significantly declined range-wide; the panther occupies just five percent of its historic range and its numbers have been reduced to a mere two hundred or so individuals. Residential and commercial developments, such as the Project, only worsen habitat fragmentation and the isolation of panther populations, which in turn, reduces genetic diversity and resiliency, "mak[ing] [the species] vulnerable to catastrophic events such as disease or parasite outbreaks." Recovery Plan at 91; *see also id.* at 96 (explaining that declining genetic representation renders the species "vulnerable to habitat loss or catastrophes"). Indeed, as FWS previously recognized, the panther's current population size is insufficient to offset inbreeding depression and genetic drift in the long-term. Recovery Plan at 96. Thus, the loss of even a single panther "may pose an added risk to the existing population." *Id.* at 91.

Hence, as FWS acknowledged in the panther's Recovery Plan, the species is teetering on the brink of viability. Already, as of 2008, "[t]here [wa]s insufficient habitat" available to sustain viable panther populations, *id.* at 86, and far less available habitat exists today due to numerous projects implemented since 2008 resulting in the permanent loss and/or fragmentation of tens of thousands of acres of panther habitat. *See supra* notes 7-35 and accompanying text. Yet, "[h]abitat loss, fragmentation, and degradation, and associated human disturbance"—the "greatest threats to panther survival and among the greatest threats to its recovery"—are projected to *increase* as Florida's population growth and concomitant development boom continue. Recovery Plan at 36-41; *accord id.* at 89 ("The continued loss of habitat functionality through fragmentation and loss of spatial extent pose serious threats to the conservation and recovery of the panther."). As FWS acknowledged in the SSA, climate change and sea level rise will only exacerbate these threats, contributing to habitat loss and declining prey abundance. SSA at 191-92.

FWS was obligated to meaningfully address how all of these baseline conditions interrelate with the direct, indirect, and cumulative impacts of the proposed destruction of 4,909.1 acres of currently suitable, occupied panther habitat to facilitate further human encroachment on one of the nation's most critically endangered species. 50 C.F.R. § 402.14. Rather than conduct such an analysis, the BiOp flippantly disregarded what it viewed as relatively "minor" habitat losses occurring on a project-by-project basis, merely by comparing the acreage involved to the relatively large territory size of individual panthers. Indeed, the BiOp insisted that the effects of the loss are discountable "because of the small proportion of any

individual panther's home range that will be impacted in the Action Area." BiOp at 34. But, conclusory assertions regarding the effects of habitat loss do not substitute for a rigorous analysis of whether the Project will or will not tip the species past the point where recovery is possible, or even into ultimate extinction. *See Salazar*, 804 F. Supp. 2d at 1000 (rejecting no-jeopardy determination that focused on localized impacts and failed to consider whether the proposed action, "when added to the underlying baseline conditions, might tip the species into jeopardy").

In the absence of any defined tipping point or similar metric delineating when the panther's survival and recovery prospects are appreciably reduced, merely stating that an amount of acreage for a species that has large territories is comparatively "small" when weighed against the overall amount of available habitat says nothing of the legal or practical consequences of the loss of that habitat under the ESA, especially where FWS has made that same assertion in every other BiOp to date without even reconciling the *cumulative* effect of the many ostensibly "small" acreages of available panther habitat that have been permanently lost or highly fragmented due to development projects—many with FWS's no-jeopardy stamp of approval under the ESA. Here, the BiOp's assertion that the loss of even relatively "minor" acreage is acceptable merely because it is comparatively small (in FWS's view), is completely devoid of any connection to the panther, its recovery needs, or its actual prospects of recovery. For instance, it does not establish the amount (or quality) of habitat that is actually necessary to secure the species' survival or recovery, nor does it incorporate the species' highly degraded (and worsening) baseline condition. Consequently, the BiOp constitutes the quintessential "death by a thousand pinpricks" where "an agency action with a small overall effect [can] push a species across the line to eventual extinction, or past a point from which recovery is impossible." *Ctr. for Biological Diversity*, 441 F. Supp. 3d at 857; *see also Nat'l Wildlife Fed'n*, 524 F.3d at 930 (rejecting a BiOp that allows the kind of "sufficiently modest" harm that results in the "slow slide into oblivion . . . the ESA seeks to prevent").

This is particularly true here, where neither the agencies nor the Proponent can escape the fact that the Project flies in the face of FWS's evidence-based recovery criteria and associated management actions FWS itself determined, using the best available science, were necessary components of the panther's recovery. For example, to mitigate the "primary" threats to the panther—i.e., habitat loss and fragmentation—the Recovery Plan emphasizes the importance of *maintaining and expanding* panther habitat, particularly in the Primary Zone. *See* Recovery Plan at 96 ("[U]nless we are able to safeguard the current condition, amount, and configuration of the occupied panther habitat, the long-term viability of the panther is not secure."). The BiOp acknowledged that the Project will destroy habitat, including within the Primary Zone, but insisted that the Project's contribution to threats to the panther will be insignificant. In particular, the BiOp asserted that the Project's impacts are discountable because "many thousands of acres of panther habitat remain in Florida." BiOp at 34. However, the BiOp's overly sanguine hypothesis—i.e., that the Project will, individually and cumulatively, have "minor" effects on the panther—is unsupported by any evidence, and in fact, is contravened by numerous data indicating that south Florida, including Lee County, is undergoing a development boom. *See, e.g.*, J. Kyle Foster, *supra*; Builders Patch, *supra*. In fact, under FWS's patently arbitrary insistence in the BiOp that jeopardy evidently does not exist so long as "many thousands of acres of panther habitat remain in Florida," BiOp at 34, FWS theoretically could continue issuing no-jeopardy BiOps until there are only a few panthers left, given that the average territory (or home range) size is quite large—consisting of at least several thousand acres per panther, depending on

habitat quality—even though the species would, at that juncture, be well past the possibility of recovery and its extinction a foregone conclusion.

Thus, the BiOp's failure to accurately define the panther's baseline condition and assess the impacts of the Project in its appropriate context—through the lens of a tipping point or similar metric—cannot be squared with the robust evidence suggesting that the proposed construction of a major new development in the heart of what little panther habitat remains, when added to the species' baseline conditions and the cumulative effects of climate change and non-Federal development projects in the Action Area and range-wide, foreseeably might (and likely will) tip the species into jeopardy, or further deepen existing jeopardy. Pursuant to FWS's own recovery criteria, the panther's long-term viability (much less recovery) is severely compromised. In light of population and development trends in south and south-central Florida, its outlook is unlikely to improve. Against this backdrop, the Project will destroy thousands of acres of currently occupied habitat in the Primary and Secondary Zones. The resulting impacts of that habitat loss will harm—and likely kill—an unknown number of panthers due to, *inter alia*, increased intraspecies aggression, vehicle collisions, and disease. Yet, the BiOp inexplicably failed to examine whether the Project will leave the species in a *worse* position than the dire posture in which it currently persists. Without undertaking this analysis, the BiOp cannot reasonably conclude that the Project will not impede the panther's recovery, rendering its no-jeopardy finding arbitrary and capricious.

In similar contexts where species were whittled down to comparably low population numbers as the panther (which was last estimated at 130 to 230 individuals, but almost certainly is lower than that now), FWS has routinely determined that those species were in jeopardy. For instance, in its July 14, 1988 jeopardy BiOp for the Mount Graham red squirrel, FWS reached a jeopardy conclusion due to the existence of a mere 215 remaining individuals. Likewise, in 1994, FWS drafted (but did not finalize) a jeopardy BiOp for the panther when considering the construction of Florida Gulf Coast University; although there were only 30-50 panthers at that time, the overall habitat available to the panther was significantly healthier and more robust in both quantity and quality than it stands today. Additionally, although never finalized because the applicants withdrew their incidental take permit application, the logical result of the analysis in the 2021 Draft Eastern Collier HCP was that the development of approximately 39,000 acres—which included the Project and its nearly 5,000 acres of permanently lost panther habitat—would jeopardize the panther, largely due to increased mortality from vehicle collisions. *See* 2021 Draft HCP BiOp at 148-49 (Attach. OO).[60] For this reason, whether viewed as a matter of baseline jeopardy, or jeopardy in light of the baseline combined with the additive effects of the Project, the unassailable fact is that this species' recovery prospects are appreciably diminished such that the panther is in jeopardy—and thus any formulation of a tipping point or similar metric would have been crossed, had FWS endeavored (as it must under the law) to set forth such a metric in the BiOp and apply it to the panther's baseline and this Project.

[60] Notably, it is likely that a jeopardy conclusion would have been reached based on the high level of vehicle collisions (eight panthers per year) that were predicted to occur as a result of the new and expanded infrastructure and increased traffic associated with the projects comprising the underlying subject matter of that HCP. 2021 Draft HCP BiOp at 148 (Attach. OO).

In sum, the BiOp's mere declaration that the Project will not make an already intolerable situation even worse is not tantamount to avoiding species jeopardy. As the Supreme Court has explained, to "'insure' something . . . means '[t]o make certain, to secure, to guarantee (some thing, event. etc.).'" *Nat'l Ass'n of Home Builders v. Defs. of Wildlife*, 551 U.S. 644, 667 (2007) (quoting 7 Oxford English Dictionary 1059 (2d ed. 1989)). Plainly, neither FWS nor the Corps can fulfill their obligation to make "certain" or "guarantee" that their actions are not likely to jeopardize the panther by merely insisting that the species faces serious threats in the long-term, without grappling with when those threats impeded (or, if in the future, will impede) the ability of the panther to achieve recovery. *Cf. Defs. of Wildlife*, 931 F.3d at 353. This is especially true where the BiOp fails to make even a cursory attempt to evaluate either the panther's baseline condition or the Project's effects on the species' survival or recovery.

The ESA demands that agencies do more than rubber-stamp actions as listed species dwindle to the point of extinction. Instead, FWS and the Corps can only satisfy the unequivocal statutory mandate of Section 7(a)(2) by conducting a comprehensive and scientifically rigorous analysis that meaningfully addresses the interrelation of the panther's recovery needs, baseline condition, and expected direct and indirect effects of the Project. Here, FWS has not done so. In short, FWS has flouted its most fundamental duties under the ESA by failing to seriously grapple with and analyze jeopardy, especially in the context of recovery, for the panther.

B. The BiOp Ignored the Best Available Science

As part of the Section 7 process, FWS has an express statutory obligation to rely on the "best scientific . . . data available" in reaching its decisions. 16 U.S.C. § 1536(a)(2). Moreover, the Supreme Court has instructed that Congress itself wrote into the ESA, and particularly the Section 7 process, an "institutionalization of caution" that affords the benefit of the doubt to the species if the science is too uncertain to draw firm conclusions. *Tenn. Valley Auth.*, 437 U.S. at 178, 194. The BiOp is in flagrant violation of this mandate for several reasons.

First, as explained, *supra* Legal Violations, Section I.A, the BiOp failed to consider whether the effects of the Project, in light of the panther's degraded baseline condition, would impede the species' survival and recovery. In so doing, the BiOp ignored highly relevant data concerning the current status of the species and its habitat, continuing and emerging threats (e.g., vehicle collisions, diseases, climate change), genetic drift, and human population and development trends. As a result, for the same reasons as described above, the BiOp failed to apply the best available science, overlooked important aspects of the problem, and failed properly to analyze the effects of the Project. *See, e.g.*, *Nat'l Wildlife Fed'n v. NMFS*, 184 F. Supp 3d. 861, 904 (D. Or. 2016) (rejecting agency's conclusory assertion that it used the "best available science" where agency made only "general assertions . . . without providing a reasonable explanation and addressing the fact that independent scientists have repeatedly expressed skepticism regarding the specific, numeric survival benefits assigned to habitat mitigation" (citing *N. Spotted Owl v. Hodel*, 716 F. Supp. 479, 483 (W.D. Wash. 1988))).

Second, the numerous methodological and factual errors and omissions in the BiOp's recovery analysis are compounded by its complete disregard of the actions and criteria that FWS itself has identified, consistent with the best available science, as the specific recovery needs of the panther. While not themselves enforceable, recovery plans nonetheless constitute FWS's

determination, based on the best available science, of the actions—i.e., the recovery criteria—needed to prevent extinction and achieve recovery—i.e., the explicit purpose of the ESA. As explained, in the Recovery Plan, FWS identified the two criteria that must be met for the species to be delisted. Recovery Plan at xi-xii; *see also id.* at 99 (requiring that "[f]or delisting, exchange of individuals and gene flow among subpopulations must be natural (i.e., not manipulated or managed)"). However, the BiOp did not consider whether the effects of the Project will impede efforts to meet the recovery criteria set forth in the panther's Recovery Plan. In fact, the BiOp did not even *mention* the recovery criteria, much less explain how the destruction of thousands of acres of occupied habitat in the Primary and Secondary Zone could possibly comport with the Recovery Plan's identification of "[h]abitat protection" as "one of the most important elements to achieving panther recovery." Recovery Plan at 58. The BiOp thus omitted any discussion of the very benchmarks that FWS identified as determinative of the species recovery. As a result, the BiOp failed to consider an important aspect of the problem, and is arbitrary and capricious. *See, e.g.*, *Alaska v. Lubchenco*, 723 F.3d 1043, 1054 (9th Cir. 2013) (noting that "[t]he goal of the ESA is not just to ensure survival, but to ensure that the species recovers to the point that it can be delisted," and thus holding that, in order to "ensure against government action likely to jeopardize the continued existence of an endangered species," the consulting agency must "consider whether the proposed action [in addition to the baseline condition] . . . could prevent the species from achieving the Recovery Plan's goals for delisting"). The BiOp's no-jeopardy determination is therefore contrary to the best available science, contravenes the ESA's policy of institutionalized caution, violates the ESA and its implementing regulations, and is arbitrary and capricious.

Rather than grapple with the Recovery Criteria, the BiOp insisted that the Applicant would provide sufficient PHUs, as calculated with the Panther Habitat Assessment Methodology, to "compensate" for the habitat lost to the Project. BiOp at 26, 29. However, as explained by one of the leading authorities on the panther, Dr. Robert Frakes, to FWS as early as October 2024 in comments on the Project, the Panther Habitat Assessment Methodology is severely outdated and fails to represent the best available science. *See* Decl. of Dr. Robert Frakes ¶ 64 (Attach. YY); *see also id.* ¶ 79 (The Panther Habitat Assessment Methodology "is scientifically flawed and out of date. Assumptions used in this methodology, such as habitat remaining, panther density, the relative values of Primary and Secondary Zones, and the panther population goal, are no longer correct."). In particular, "compensation rates are based on a goal to protect habitat for [ninety] panthers," which "is far below what is needed for survival and recovery *and is also below the current population size*." Decl. Dr. Robert Frakes ¶ 64 (emphasis added) (Attach. YY). Additionally, FWS has not updated the acres of "at risk" and "conserved lands" that are "critical to the calculation of compensation ratios" relied upon by the methodology to calculate PHUs since 2003. *Id.* Nor has the agency updated the panther density used in the calculation, which currently is "estimated to be [three] to [five] times higher" than that used in the calculation." *Id.* Moreover, although recent habitat modeling reveals that lands outside of the Primary Zone—and even lands within the Primary Zone itself—"are of little value to support a breeding population" of panthers, the methodology assigns lands outside of the Primary Zone high equivalency rates (i.e., multipliers). *Id.* In so doing, the methodology "greatly overestimates the amounts of land available for use by panthers" in those areas. *Id.*

The BiOp did not respond to these critiques; instead, the BiOp insisted that "[b]ased on the use of [the Panther Habitat Assessment Methodology], it is [FWS's] judgement that the

PHUs provided by the conservation and restoration of the onsite and offsite preservation areas adequately compensate for the habitat lost to development and any resulting harm to panthers." BiOp at 26. However, FWS's bare assertion that it applied the "'best available science' . . . without providing a reasonable explanation and addressing the fact that independent scientists have repeatedly expressed skepticism regarding the specific" benefits of a particular habitat mitigation calculation or methodology. *Nat'l Wildlife Fed'n v NMFS*, 184 F. Supp. 3d 861, 905 (D. Or. 2016) (citations omitted); *see also N. Spotted Owl v. Hodel*, 716 F. Supp. 479, 483 (W.D. Wash. 1988) ("The Court will reject conclusory assertions of agency 'expertise' where the agency spurns unrebutted expert opinions without itself offering a credible alternative explanation." (citing *Am. Tunaboat Ass'n v. Baldrige*, 738 F.2d 1013, 1016 (9th Cir. 1984))). Here, Dr. Frakes offered numerous suggestions on how the Panther Habitat Assessment Methodology could become more scientifically sound, yet FWS did not offer any explanation for why the methodology could not be updated to reflect the current best available science on key variables (e.g., the amount of habitat remaining, panther density, the relative values of Primary and Secondary Zones, and the Recovery Plan's panther population goal). FWS's reliance on the Panther Habitat Assessment Methodology and PHUs to mitigate the effects of the Project and avoid jeopardy thus fails to incorporate the best available science, ignores important aspects of the problem, and runs counter to the evidence in front of the agency, in violation of the ESA and APA. *See San Luis & Delta–Mendota Water Auth. v. Locke*, 776 F.3d 971, 995 (9th Cir. 2014) ("An agency's failure to [use the best scientific and commercial data available] violates the APA."); *State Farm*, 463 U.S. at 43 ("Nevertheless, the agency must examine the relevant data and articulate a satisfactory explanation for its action including a 'rational connection between the facts found and the choice made.'").

Similarly, the BiOp ignored highly relevant data bearing directly on the panther's current status and whether the species is in a state of baseline jeopardy. *See supra* Legal Violations, Section I.A.3. The BiOp mentioned the fact that over the last forty years, vehicles in the Action Area have killed 330 panthers, amounting to nearly one-and-a-half times the maximum estimated panther population. BiOp at 18. But, the BiOp failed to meaningfully consider these deaths as part of the environmental baseline. Nor did it meaningfully examine whether the panther population in the area could sustain the additional deaths that will result from increased habitat fragmentation and habitat loss due to the new and expanded infrastructure and increased traffic from the Project. Instead, ignoring its prior practice of quantitatively and quantitatively assessing the impacts of increased traffic on the panther, FWS effectively washed its hands of the issue, insisting that due to uncertainties inherent in the PVA and FREM, the agency was "unable to describe, with any certainty, how the project would alter (increase or decrease) the likelihood of motor vehicle strikes regardless of any traffic changes expected from the Project." BiOp at 27. However, requiring FWS to use the best *available* science, as opposed to waiting for scientific certainty, "is in keeping with congressional intent" that FWS "take preventative measures *before* a species is 'conclusively' headed for extinction." *Defs. of Wildlife v. Babbitt*, 958 F. Supp. 670, 679–80 (D.D.C. 1997); *Am. Wildlands v. Norton*, 193 F. Supp. 2d 244, 251 (D.D.C. 2002). That is particularly true here, where the BiOp did not explain why those uncertainties—which have long been known to FWS, yet judged by FWS and independent reviews to be reasonable and reflective of the best *available* science, *see, e.g.*, 2021 Draft HCP BiOp, app. M at 14-15 (Attach. OO)—suddenly render it impossible to estimate traffic impacts from the Project.

Instead of utilizing the well-established, peer-reviewed PVA and FREM to qualitatively and quantitatively examine panther mortalities from vehicle collisions, the BiOp improperly shifted its cursory examination of traffic impacts to "the environmental baseline or cumulative effects" analysis—i.e., thereby removing these effects from consideration as direct or indirect effects *of the Project*.[61] This approach is nonsensical, and fails to comport with either the best available science or the language and intent of the ESA. The environmental baseline is defined as "the condition of the listed species or its designated critical habitat in the action area, without consequence to the listed species or designated critical habitat caused by the proposed action." 50 C.F.R. § 402.02. Accordingly, the "environmental baseline does not include ongoing discretionary operations which should otherwise be the subject of the consultation." *Alaska v. Lubchenco*, No. 3:11-cv-00004-TMB, 2012 WL 12918286, at *12 (D. Alaska Jan. 19, 2012) (citing *Nat'l Wildlife Fed'n*, 524 F.3d at 926-29), *aff'd by* 723 F.3d 1043 (9th Cir. 2013). Hence, while the *background* rate of vehicle mortality and other traffic impacts are relevant to the environmental baseline (i.e., those impacts to panther that are occurring *without* the Project), the plain language of this regulation prohibits FWS from considering the traffic-related effects *of the Project* as part of the environmental baseline. Similarly, "cumulative effects" under the ESA do not include federal and federally authorized actions. 50 C.F.R. § 402.02. As a federally-permitted Project, the effects of the Project—including traffic-related effects—are definitionally excluded from the cumulative effects analysis. Rather, the cumulative effects analysis is designed to capture those impacts from projects that are excluded from federal regulatory review. Critically, the BiOp's error is not harmless; by shifting the analysis of traffic impacts *from the Project* to the environmental baseline or cumulative effects analysis, the BiOp not only violates the plain meaning of the regulation, but has the effect of masking the additive effects of the Project as part of the "current condition." Moreover, "categorizing [vehicle mortalities] as private actions that produce only 'cumulative effects' removes them from the purview of the ESA, thereby eliminating the procedural protections of section 7 and circumscribing the enforcement authority of the FWS." *Ctr. for Biological Diversity v. U.S. BLM*, 698 F.3d 1101, 1116 (9th Cir. 2012). Indeed, the BiOp does not require *any* reinitiation of consultation in response to panther vehicle mortalities. *See* BiOp at 35. As a result, the BiOp underestimates the harm that will result from the Project, contravening the ESA's clear commands.

The BiOp's analytical omissions were particularly egregious in light of the fact that in the *seventeen years* since the issuance of the Recovery Plan, the panther has made no meaningful gains toward recovery, and in fact, appears to be sliding backwards. For instance, since the Recovery Plan determined nearly twenty years ago that "[t]here is insufficient habitat . . . sustain a viable panther population," Recovery Plan at 86, the amount of habitat available to the dwindling panther population has been further reduced (both in quantity and quality), with each

[61] As explained above, *supra* note 49, although the PVA from the 2021 Draft Eastern Collier HCP correctly incorporated FREM, FWS's application of the model to the HCP was nevertheless fatally flawed in other respects. For instance, as explained in comments by the Center and the Sierra Club, the PVA in the 2021 Draft HCP arbitrarily relied on the uncertain and unenforceable assumption that FWS would maintain the genetic diversity of the panther population through genetic introgression and/or translocation; concealed the true baseline risk of extinction by arbitrarily assuming that the current population reflects a mere sixty percent of the carrying capacity of the panther's remaining habitat; and failed to account for continued loss of habitat due to sea level rise past 2070. NGO HCP Comments at 16-19 (Attach. WW).

lost acre pushing *survival* (much less recovery) increasingly out of reach. The BiOp reported that non-federal projects within the Action Area threaten to develop over three percent of the non-urban private lands within the Primary and Secondary Zones that are at risk of development by 2045. BiOp at 32. The BiOp for the closely related Kingston Project likewise reported that non-federal projects within its own (partially overlapping) Action Area threaten to develop nearly *eighteen percent* of the non-urban private lands within the Primary and Secondary Zones that are at risk of development by 2045. Kingston BiOp at 31 (Attach. II). Accordingly, without immediate, aggressive action to conserve remaining panther habitat, both within the Action area and across its range, there is no reasonable prospect of the species ever satisfying the recovery criteria FWS deemed essential to delist this species consistent with the ESA's paramount goal. The BiOp's failure to reconcile its no-jeopardy conclusion with the overwhelming evidence of the severely degraded *and still-declining* status of the panther cannot be squared with the ESA's best available science mandate.

Third, relatedly, the BiOp failed to account in any coherent manner for the reasonably foreseeable cumulative effects of the ongoing and foreseeable future development of privately-owned lands on the suitability and extent of the panther's remaining habitat and the habitat's ability to sustain and expand a panther population that comports with the recovery criteria. For instance, while acknowledging human population growth and development pressure in south Florida, the BiOp summarily dismissed the troubling downward trends in panther population and habitat availability. *See* BiOp at 31-33. In particular, the BiOp suggested without explanation or evidence that the Project will somehow operate to reduce development pressure on panther habitat elsewhere in the Action Area, thereby limiting future habitat loss and fragmentation. *See id.* at 33 (positing that the Project will "reduce[] [the] likelihood that smaller, non-federally reviewed actions will be needed to meet the commercial and residential needs of the rapidly growing human population in th[e] [Action] area"). However, the BiOp did not offer any evidence for this speculative assumption, which runs counter to available data indicating the exact opposite to be true. Indeed, evidence demonstrates that Lee and Collier counties are in the midst of a surge in residential and commercial development, purportedly to address the affordable housing shortage and sustain projected population and economic growth. *See, e.g.*, J. Kyle Foster, *supra* (Attach. AAA); Builders Patch, *supra* (Attach. BBB). Developers in Lee and Collier counties are seeking to build "thousands of new homes," in addition to commercial projects and associated infrastructure. J. Kyle Foster, *supra* (Attach. AAA). And, as the well-established axiom in residential and infrastructure development goes, "If you build it, they will come." *See, e.g.*, Craig N. Oren, *Getting Commuters Out of their Cars: What Went Wrong?*, 17 Stan. Envtl. L.J. 172-73 (1998) (explaining the "Field of Dreams" rule of development, i.e., that new developments, particularly highways, "themselves generate new development"). Thus, far from discouraging commercial and residential development elsewhere in the Action Area, the Project is nearly certain to spur additional projects, further fragmenting and isolating panther populations. FWS's failure to incorporate the best available science concerning the impacts of non-Federal development into its consideration of cumulative effects violates the ESA and its implementing regulations, and fails to supply the necessary rational connection between the facts found and the no-jeopardy conclusion. *See, e.g.*, *Alaska*, 723 F.3d at 1054.

Fourth, similarly, the BiOp failed to explain in any coherent manner how, in light of the best available science, the reasonably foreseeable cumulative effects of climate change on the panther's remaining habitat would not impede the habitat's ability to sustain panther populations

at the levels called for by the recovery criteria. According to FWS, current evidence demonstrates that the foreseeable "rise in sea level of 0.5 m[eters] by 2040 would result in the loss of 973 km^2 ([eleven] percent) of" existing panther habitat, which will only exacerbate the effects of the ongoing and reasonably foreseeable future habitat loss resulting from commercial and residential development. SSA at vii. Indeed, in the SSA, FWS acknowledged that this significant loss of suitable panther habitat alone "could affect the viability of current and future panther populations." *Id.* FWS likewise acknowledged in the Recovery Plan that habitat loss due to sea level rise could "compromise the ability of panthers to disperse out of South Florida in the future," impeding the species' ability to meet the recovery criteria, which notably require that the "exchange of individuals and gene flow among subpopulations [] be natural (i.e., not manipulated or managed)." Recovery Plan at xii. The potential habitat loss and resulting isolation of populations due to sea level rise threatens the persistence of the species at large; FWS found that "[a] smaller panther population would become less viable in the long-term" and "[r]esiliency, redundancy and representation would all decrease over time if the only viable population is constrained to South Florida." SSA at vii.

Yet, here, the BiOp barely mentions the reasonably foreseeable cumulative effects of climate change on the survival and recovery of the panther. In fact, the BiOp's discussion of the Project's effects combined with cumulative effects omits any mention of the threats posed by sea level rise. Instead, in a reversal from its detailed discussion of the effects of climate change on the panther and its habitat in the SSA—which included the "develop[ment] [of] models to calculate the potential for panther habitat loss due to the combined effects of future development and [sea level rise]," SSA at 192—the BiOp generically insisted that "[i]t is difficult to estimate, with any degree of precision, which species will be affected by climate change or exactly how they will be affected." BiOp at 21. But, "[i]t is not enough for [FWS] to simply invoke 'scientific uncertainty' to justify its action." *Greater Yellowstone Coal. v. Servheen*, 665 F.3d 1015, 1028 (9th Cir. 2011); *see also Ctr. for Biological Diversity v. Zinke*, 900 F.3d 1053, 1072-73 (9th Cir. 2018) (finding decision not to list species arbitrary where FWS failed to explain why the uncertainty of climate change favors that outcome). FWS must rationally explain *why* the purported uncertainty regarding the impacts of climate change and sea level rise on panther recovery counsels in favor of allowing the Project to move forward in lieu of a more precautionary approach, *State Farm*, 463 U.S. at 52, particularly where the agency's conclusion "rests upon factual findings that contradict those which underlay its prior [determination]," *FCC v. Fox Television Stations, Inc.*, 556 U.S. 502, 515 (2009); *see also W. Watersheds Proj. v. Vilsack*, at *11, No. 23-8081, 2024 WL 4589758 (10th Cir. Oct. 28, 2024) ("[U]nexplained conflicting findings about the environmental impacts of a proposed agency action violate the APA." (citation omitted)). Accordingly, FWS's failure to consider (let alone analyze) the reasonably foreseeable permanent loss of substantial panther habitat in south Florida due to climate change—despite the agency's own previous conclusion that such effects were not only predictable, but serious enough to threaten the species' long-term viability—ignored the best available science, was arbitrary and capricious, and undermined the BiOp's no-jeopardy conclusion. *See, e.g.*, *Wild Fish Conservancy v. Salazar*, 628 F.3d at 525 ("Moreover, regardless of any uncertainty regarding the proposed infrastructure improvement, it was incumbent on FWS 'to use the best information available to prepare [a] comprehensive biological opinion[] considering all stages of the agency action.'" (quoting *Conner v. Burford*, 848 F.2d 1441, 1454 (9th Cir. 1988))).

Hence, the BiOp's conclusion (and underlying analysis) that the Project will not jeopardize the panther does not comport with the best available scientific evidence. As a result, the BiOp not only lacked the rigorous analysis of the Project's effects on recovery that the ESA requires, but also had the effect of authorizing potentially significant impacts to a highly imperiled species without a full understanding of the extent of those effects over the short or long term. This deeply flawed approach places *all* of the burden on the species, rather than correctly placing the burden on the agencies to "insure" against its extinction or impairment of its recovery prospects, as Congress required in the statute. The BiOp thus flouts one of the central tenets of the ESA and its policy of institutionalized caution. It is therefore imperative that FWS meaningfully address the interrelation of the panther's already degraded baseline, the cumulative effects of non-Federal development and climate change, and the expected effects of the Project here. Without doing so, the BiOp plainly violates the strictures of the ESA, and its attempt to conduct the statutorily mandated jeopardy analysis in a vacuum is arbitrary and capricious.

C. The BiOp Relies On Uncertain Mitigation Measures

The 2023 BiOp's reliance on conservation and restoration measures to mitigate the impacts of the Project does not rescue its arbitrary conclusion that the Project will not jeopardize the panther. *See* BiOp at 8-9. "Mitigation measures" relied upon in a BiOp "must constitute a clear, definite commitment of resources, and be under agency control or otherwise reasonably certain to occur." *Ctr. for Biological Diversity v. Bernhardt* (*CBD I*), 982 F.3d 723, 743 (9th Cir. 2020) (quotation omitted). A "sincere general commitment to future improvements—without more specificity—is insufficient." *Id.* (quotation omitted). "[M]ost important," the measures "must address the threats to the species in a way that satisfies the jeopardy and adverse modification standards." *Id.* (quotation omitted). The BiOp fails to satisfy these requirements.

First, the BiOp failed to "address the threats to the species in a way that satisfies the jeopardy . . . standard[]." *Id.* (quotation omitted). For instance, the BiOp reported that the Project "incorporates the conservation and restoration of approximately 5,241.86 acres of on-site panther habitat in the Primary and Secondary Zone. BiOp at 29. However, as explained, the land purportedly conserved for the benefit of the panther is immediately adjacent to residential development and is crisscrossed by new and expanded infrastructure. Therefore, the lands that purport to mitigate the Project's impacts to the panther are themselves fragmented and present significant risks to the species from traffic-related mortality, non-lethal effects from traffic and human disturbance (e.g., habitat abandonment, population isolation), and disease introduction and spread. Accordingly, the BiOp's conclusion that the conservation and restoration of additional lands will in fact "minimize" incidental take conflicts with the evidence before FWS. Indeed, the primary factors driving the panther's deteriorated status are habitat degradation and fragmentation, largely due to development pressure. Additionally, vehicle collisions are the leading cause of panther mortality, *see supra* Figs. 1 & 2, and have killed the equivalent of one-and-a-half times the entire panther population in the Action Area since 1982, *see* BiOp at 18. Considering those known primary threats to the species, it takes little more than common sense to deem arbitrary FWS's conclusion that allowing development in the heart of occupied panther habitat will have discountable impacts.

Second, the BiOp improperly relied on "generalized contingencies" that failed to "describe, in detail, the action agency's plan to offset the environmental damage caused" by the

Project. *CBD I*, 982 F.3d at 743. For example, with respect to vehicle collisions—the leading cause of panther mortality—the BiOp acknowledged that the Project will result in increased traffic that may result in lethal and non-lethal take of the panther. *See* BiOp at 27 (recognizing that increased traffic from the Project could affect the panther, both by way of motor vehicle mortality and "changing behavioral patterns"); *cf. id.* at 35 (acknowledging "that motor vehicle-related injuries and mortalities of panthers, in concert with other threats . . . , could collectively threaten the survival and recovery of this species"). The BiOp thus committed to "monitor[ing] the panther population and investigat[ing] panther vehicle strikes." *Id.* at 32. However, far from "describ[ing]" a "plan to offset the environmental damage," *CBD I*, 982 F.3d at 743, the BiOp conditioned the implementation of "steps to reduce" panther vehicle mortality on the agency's "subsequent[] determin[ation] that future" vehicle mortality "can be attributed to the Project," *id.* at 35. Given the agency's current position that "future [panther vehicle mortality] cannot be attributed to the [Project]," *id.*, it is essential that FWS describe precisely how it would determine the existence of a causal relationship. Otherwise, the generic promise to "monitor" vehicle mortality is an empty gesture, as the agency monitors for an effect it admits it cannot measure. Indeed, in a BiOp for at least one other development project, FWS at least provided a numerical trigger—expressed as an increase in the baseline rate of panther vehicle mortality within the project vicinity—that, once exceeded, obligates FWS to take additional steps to examine and reduce panther vehicle collisions within the area.[62] FWS did not do so here. Accordingly, even if vehicle mortalities within the Action Area for the Project increase exponentially after Project construction, as long as the agency maintains that such mortalities are not "attribute[able]" to the Project, FWS need not take *any* further action—whether through, or even outside of, reinitiation of the Section 7 formal consultation process. The BiOp thus fails to "address" the primary threat to the species—i.e., vehicle collisions—"in a way that satisfies the jeopardy . . . standard[]." *Rumsfeld*, 198 F. Supp. 2d at 1152.

[62] In the BiOp for the Kingston Project—a development project closely related in proximity and kind to Rural Lands West—FWS stated that it would "monitor[] the number of vehicle collisions with panthers" and "take steps necessary to reduce" collisions *if* mortalities "exceed[] the annual current average of [three] panthers per year within [ten] miles of the project." Kingston BiOp at 34 (Attach. II). FWS further explained that "[i]f these [mortalities] are determined to be a result of the Project, these steps can include construction of additional fencing, recommending installation of additional crossings, reducing speed limits, adding signage or other methods to increase driver awareness." *Id.* In other words, once more than three panthers are killed by vehicles within ten miles of the Kingston Project, FWS must undertake steps to reduce such mortalities. While certain steps appear to be contingent on establishing a causal relationship between the mortalities and the Kingston Project, FWS's obligation to "take steps necessary" to reduce vehicle mortalities is dependent on an objective, numerical trigger. Thus, although the Kingston BiOp has other fatal deficiencies—including (but not limited to) the failure to provide adequate analysis ensuring against jeopardy *before* setting any kind of trigger and the failure to require any binding conservation measures that require monitoring of vehicle collisions or dictate the steps to take once the three-panther-per-year threshold is exceeded—it does provide an example of how a reinitiation trigger could be implemented. The Rural Lands West BiOp did not explain why it adopted a very different, totally subjective and unenforceable approach to monitoring panther vehicle mortalities from the Kingston BiOp.

Moreover, while the BiOp provided a list of "steps" FWS "can take" in response to increased panther mortality, it does not discuss whether or how any particular "step," either by itself or in combination with other measures, would adequately minimize take. *See* BiOp at 35.[63] The BiOp's noncommittal assurances that panther mortality from vehicle collisions will be "monitored" and "reduced" by consideration of unspecified, untested mitigation measures cannot shoulder the government's burden to identify a "clear, definite commitment of resources." *Nat'l Wildlife Fed'n*, 524 F.3d at 936.

Relatedly, the BiOp's promise to monitor vehicle collisions and take vague "steps" to address the problem once panther mortality can be "attributed" to the Project is not "subject to deadlines or otherwise-enforceable obligations." *Rumsfeld*, 198 F. Supp. 2d at 1152. Neither the requirement to monitor injuries or mortalities from vehicle collisions, nor any of the steps that "can" be taken ostensibly to reduce such injuries and mortalities are included as minimization and conservation measures incorporated into the Project as a mandatory term and condition. BiOp at 6-9, 37. Without a binding agreement to implement the measures, or any specificity as to what the measures may entail, the traffic-related "mitigation measures in the [BiOp] are merely suggestions" and therefore cannot be relied upon to support a no-jeopardy finding. *Rumsfeld*, 198 F. Supp. 2d at 1153. Compounding these concerns, as explained, *infra* Legal Violations, Section II, the ITS likewise fails to provide a meaningful reinitiation trigger, and thus does not require the Corps to reinitiate consultation with FWS even if panther mortality from vehicle collisions exceeds the current annual average, including in scenarios in which several panther mortalities occur in the heart of the Project area. In other words, vehicle collisions could kill four, five, or even ten panthers per year for the next ten years—including within the Project's footprint (or the larger Action Area for the Project)—without triggering *any* obligation to reinitiate consultation. Thus, neither the BiOp nor the ITS "reflect a definite commitment to" implementing traffic-related mitigation measures. *CBD I*, 982 F.3d at 747. Moreover, "[t]he generality of the mitigation measures makes it difficult to determine the point at which the action agency may renege on its promise to implement these measures." *Id.* Such "'general commitment[s] to future improvement' are insufficient under Section 7." *Id.* (quoting *Nat'l Wildlife Fed'n*, 524 F.3d. at 935-36).

Compounding these errors, the ITS does not explain how FWS would determine that a causal relationship between a particular panther vehicle collision and the Project exists. Neither the BiOp nor the ITS provide any defined adaptive management process that would require FWS to implement required mitigation measures or achieve quantified objectives even if panther vehicle mortalities increased two-, three-, or even tenfold after Project construction. In fact, nothing in FWS's decision "requires that any actions ever be taken." *Nat. Res. Def. Council v. Kempthorne*, 506 F. Supp. 2d 322, 356 (E.D. Cal. 2007). Instead, the BiOp proffers a list of potential "steps" (e.g., "recommending installation of additional crossings" and "construct[ing] [] additional fencing") that FWS might consider if, *and only if*, future panther vehicle mortality can be attributed to the Project—which FWS insists in the BiOp may be difficult to do, *see* BiOp at 28. However, such "reference[s] [to] future unspecified mitigation measures" are insufficient to "comply with [the ESA's] statutory directive" to specifically identify mitigation measures.

[63] Such steps include "construction of additional fencing, recommending installation of additional crossings, reducing speed limits, adding signage or other methods to increase driver awareness." BiOp at 33.

Sovereign Iñupiat for a Living Arctic, *v. BLM*, 555 F. Supp. 3d 730, 800 (D. Alaska 2021). Without defined mitigation measures, the BiOp and ITS essentially ask the public to trust the agency to protect the species and its habitat—a species whose status has severely declined on FWS's watch since it was initially listed under the ESA. Once again, the ESA requires more.

II. THE ITS VIOLATES THE ESA AND ITS IMPLEMENTING REGULATIONS

Under the ESA, a BiOp that authorizes the take of listed species must include an ITS that specifies, *inter alia*, the impact of that take on the species, reasonable and prudent measures to minimize the take, and an effective metric for determining if/when the permissible level of take has been exceeded. 16 U.S.C. § 1536(b)(4); 50 C.F.R. § 402.14(i). The action agency "must immediately reinitiate consultation with FWS if the amount or extent of incidental taking is exceeded." *Or. Nat. Res. Council v. Allen*, 476 F.3d 1031, 1034-35 (9th Cir. 2007). Accordingly, an ITS must "set a clear standard for determining when the authorized level of take ha[s] been exceeded," *id.* at 1039, either by "specify[ing] monitoring and reporting requirements . . . or, if appropriate, select[ing] a surrogate trigger that can be monitored," *Wild Fish*, 628 F.3d at 532. ITSs that "fail[] to establish a meaningful trigger for renewed consultation after the take exceed[s] authorized levels" violate the ESA. *Id.*

The ITS for the Project authorized take in the form of lost carrying capacity. BiOp at 37-38. Specifically, in light of the BiOp's estimate that the Project will reduce panther habitat's carrying capacity for between 0.27 and 0.8 panthers, the ITS authorized the take of "no more than two" panthers "by this loss in habitat carrying capacity and a potential increase in intraspecific aggression," *Id.* The ITS insisted that the level of incidental take authorized—i.e., up to the loss of two panthers—is not likely to jeopardize the species. *Id.* at 33.

First, this ITS is arbitrary and violates the ESA because it impermissibly authorized a level of take (effectively all panthers in the Project area) that is "coextensive with the scope of the project." *Or. Nat. Res. Council*, 476 F.3d at 1038-41. Although the ITS set a clear numerical cap (i.e., "no more than two panthers"), such a "cap is useful only insofar as the action agency is capable of quantifying take to determine when the trigger has been met." *Wild Fish*, 628 F.3d at 532 (citing *Or. Nat. Res. Council*, 476 F.3d at 1039; *Nat. Res. Def. Council, Inc. v. Evans*, 279 F. Supp. 2d 1129, 1187 (N.D. Cal. 2003)). Here, the numerical cap is utterly useless because the ITS failed to provide any coherent method or mechanism for detecting—much less quantifying—when a panther has been harmed, harassed, killed, or otherwise taken as a result of the Project. Consequently, the ITS's numerical limit of two panthers is completely meaningless. Indeed, even if incidental take "was considerably higher than anticipated," i.e., more than two panthers, neither the agencies nor the Proponent would have any way of knowing that take had occurred (let alone been exceeded), and the ITS therefore "would not permit the FWS to halt the project and reinitiate consultation." *Or. Nat. Res. Council*, 476 F.3d at 1039; *see also id.* at 1037 ("Because there is no rational connection between the authorization of take and the scope of the underlying proposed action, we conclude that the Incidental Take Statement is arbitrary and capricious."). The ITS and BiOp are thus "rendered tautological, they both define and limit the level of take using the parameters of the project." *Or. Nat. Res. Council*, 476 F.3d at 1039. Because the ITS failed to provide any means of monitoring the level of take resulting from the Project, the ITS failed to meaningfully limit the amount of take, and therefore violates the ESA and its implementing regulations, and is arbitrary and capricious *Id.*

Second, relatedly, the ITS fails to provide a meaningful opportunity for renewed consultation. *Ctr. for Biological Diversity v. NMFS*, 977 F. Supp. 2d 55, 88 (D.P.R. 2013). An ITS must "set forth a 'trigger' that, when reached, results in an unacceptable level of incidental take, invalidating the safe harbor provision, and requiring the parties to re-initiate consultation." *Wild Fish*, 628 F.3d at 531 (quoting *Ariz. Cattle Growers' Ass'n v. U.S. FWS*, 273 F.3d 1229, 1249 (9th Cir. 2001)). However, as explained, the ITS does not provide any method or mechanism to monitor take from the Project. In fact, the BiOp *concedes* that FWS "currently do[es] not have a method to estimate the further number of panther mortalities in the action area resulting from intraspecific aggression due to habitat lost." BiOp at 26. In other words, FWS admitted that there is *no way* to determine whether a particular panther mortality from intraspecies aggression is attributable to the effects of the Project. Because FWS is unable to determine whether a panther mortality is attributable to the Project, reinitiation will *never* be triggered. The ITS therefore lacks "a clear standard for determining when the authorized level of take had been exceeded." *Or. Nat. Res. Council*, 476 F.3d at 1039. Instead, it effectively allows for the unchecked take of panthers without any ability to trigger reinitiated consultation. Accordingly, the trigger for reinitiation of consultation is "so indeterminate as to prevent the [ITS] from contributing to the monitoring of incidental take by eliminating its trigger function." *Id.* at 1041. Because FWS has foreclosed any meaningful check on its own no-jeopardy determination, the ITS violates the ESA. *See, e.g.*, *id.* at 1034-35, 1041; *Wild Fish*, 628 F.3d at 532.

Third, the ITS fails to require any mitigation measures or "reasonable and prudent measures" that would minimize the impact of take. 50 C.F.R. § 402.14(i)(1); *see also Ctr. for Biological Diversity v. Salazar*, 695 F.3d 893, 909 (9th Cir. 2012); 16 U.S.C. § 1536(b)(4). The ESA and its implementing regulations require that an ITS "specif[y] those reasonable and prudent measures that the [FWS] considers necessary or appropriate to minimize [the] impact" on endangered species, 16 U.S.C. § 1536(b)(4)(C)(ii); 50 C.F.R. § 402.14(i)(1)(ii), and "set[] forth the terms and conditions" that must be complied with to implement the measures specified, 16 U.S.C. § 1536(b)(4)(C)(iv); 50 C.F.R. § 402.14(i)(1)(iv). Indeed, as at least one court has observed, "the ITS itself must specify the mitigation measures, which is precisely what the ESA and the applicable regulation regarding incidental take statements provides." *Sovereign Iñupiat for a Living Arctic*, 555 F. Supp. 3d at 800 ((citing *CBD I*, 982 F.3d 723)). Here, the BiOp acknowledges that vehicle collisions are a leading source of panther mortality, particularly within the Action Area. *See* BiOp at 18-19. Yet, as explained, *see supra* Legal Violations, Section I.C, although the BiOp insisted that FWS will generally "monitor the effects of motor vehicle-related injuries and mortalities on the panther *throughout its range*," BiOp at 35 (emphasis added), neither the ITS nor the BiOp set forth any binding reasonable and prudent measures or other mandatory terms that require monitoring of panther vehicle mortalities *in the Action Area*.

For similar reasons as those described above, *see supra* Legal Violations, Section I.C, because the ITS fails to include any measure to monitor the primary source of panther mortality in the Action Area—i.e., vehicle collisions—the ITS fails to examine a relevant factor and is therefore arbitrary and capricious. *State Farm*, 463 U.S. at 43. Indeed, in the absence of monitoring requirements, it will be impossible for FWS to evaluate whether the construction of the Project and concomitant increase in residential and commercial traffic have in fact led to an

increase in panther vehicle mortalities above the pre-existing baseline.[64] Nor does the ITS explain how FWS would determine that a causal relationship between a particular panther vehicle collision and the Project exists. Instead, in effect, the ITS allows FWS to ignore the most significant source of panther mortality both in the Action Area and range-wide—i.e., vehicle collisions—by avoiding data that would confirm whether the Project has some impact on the risk of vehicle collisions. Such is a head-in-the-sand attitude that the ESA does not condone. *See, e.g.*, *Nat. Res. Def. Council v. Kempthorne*, 506 F. Supp. 2d 322, 356 (E.D. Cal. 2007) (rejecting adaptive management approach where the BiOp required that a "*process* must be implemented by holding meetings and making recommendations," but did not require "that any *actions* ever be taken"); *Sovereign Iñupiat for a Living Arctic*, 555 F. Supp. 3d at 800 (holding that "reference[s] [to] future unspecified mitigation measures" are insufficient to "comply with [the ESA's] statutory directive" to specifically identify mitigation measures).

III. THE CORPS' RELIANCE ON FWS'S UNLAWFUL BIOP VIOLATES THE ESA

Section 7 of the ESA embodies "both substantive and procedural provisions designed to protect endangered species and their habitat." *Am. Rivers v. Nat'l Marine Fisheries Serv.*, 126 F.3d 1118, 1121 (9th Cir. 1997). While Section 7's "procedural requirements call for a systematic determination of the effects of a federal project on endangered species," *Thomas v. Peterson*, 753 F.2d 754, 764 (9th Cir. 1985) (emphasis added), its substantive requirement obliges federal agencies to "insure that any action authorized, funded, or carried out by [the] 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," 16 U.S.C. § 1536(a)(2). Courts have repeatedly held that an action agency's reliance on a faulty BiOp violates this duty. *See, e.g.*, *Ctr. for Biological Diversity v. Bureau of Land Mgmt.*, 698 F.3d 1101, 1127-28 (9th Cir. 2012) ("In particular, [the agency] cannot meet its section 7 obligations by relying on a [BiOp] that is legally flawed.").

For the reasons explained above, FWS's BiOp and ITS are severely flawed and are thus arbitrary and capricious in several different respects, which should be obvious to anyone reviewing it given the total lack of analysis of the panther's recovery prospects. Despite this, the Corps has relied on the BiOp and ITS to satisfy its independent obligations under Section 7(a)(2) of the ESA. "Accordingly, [the Corps has] violated its substantive duty to ensure that its

[64] As explained, those data are essential to establishing the "causal relationship between the [P]roject and one or more [panther vehicle mortality]" FWS asserts is necessary to trigger the agency's obligation to "take steps . . . to reduce" panther vehicle mortality," albeit outside the confines of a renewed consultation process that would be legally required under those circumstances. *Id.* at 35. Specifically, the BiOp insists that FWS will "take steps necessary to reduce" panther vehicle mortality only "*if* [FWS] subsequently determines that future [panther vehicle mortality] can be attributed to the Project." BiOp at 35. But the BiOp does *not* commit to immediately triggering reinitiated consultation in that scenario, even though a panther killed by Project-related vehicle mortality (and attributed as such by FWS) would exceed the ITS that did not authorize the Corps or the Proponent to incidentally take *any* panthers via Project-related vehicle mortality.

authorization[s]" for this project "would not jeopardize" the survival or recovery of the panther. *Id.* at 1128.

IV. BECAUSE THE PROJECT WILL RESULT IN THE TAKE OF LISTED SPECIES, THE PROJECT CANNOT LAWFULLY PROCEED UNTIL FWS ISSUES A LAWFUL BIOP AND ITS

Pursuant to Section 9 of the ESA, it is unlawful to undertake or authorize activities that are reasonably certain to result in the incidental take of listed species without an adequate BiOp—and, most importantly, a lawful ITS—in place. 16 U.S.C. §§ 1536, 1538(g). Those who chose to do so despite this prohibition may be subject to criminal and civil federal enforcement actions, as well as civil actions by citizens for declaratory and injunctive relief. *See* 16 U.S.C. § 1540.

It is undisputed that the Project will result in the take of listed species. As extensively discussed above, the BiOp and ITS suffer from myriad fatal legal deficiencies, and thus cannot be relied upon to protect the Corps or Collier Enterprises from liability for such take. Judicial enforcement of Section 9 need not await the actual taking of members of a listed species. Rather, the "injunctive relief authorized by the citizen suit provision, 16 U.S.C. § 1540(g), is by its very nature directed at future actions." *Forest Conservation Council v. Rosboro Lumber Co.*, 50 F.3d 781, 785 (9th Cir. 1995); *see also Colo. Envt'l Coal. v. Off. of Legacy Mgmt.*, 819 F. Supp. 2d 1193, 1220 (D. Colo. 2011) ("[A] legal action brought under the ESA may challenge future actions."); *Animal Welfare Inst. v. Beech Ridge Energy, LLC*, 675 F. Supp. 2d 540, 560 (D. Md. 2009) ("[T]he ESA's citizen suit provision provides for injunctive relief which by design prevents future actions that will take listed species.").

Consequently, should the Corps, FWS, and the Proponent continue down the path of Project construction in the absence of a valid BiOp and ITS, the agencies and the Proponent will be exposing themselves to the prospect of injunctive relief in accordance with the ESA's citizen suit provision.

CONCLUSION

The Corps' issuance of a Section 404 permit to Collier Enterprises for the Rural Lands West Project violates the ESA and threatens to irreparably harm the panther, its habitat, and the organizational signatories to this letter and their members. The approval of a major construction project that will destroy nearly 5,000 acres of occupied habitat—including habitat within the all-important Primary Zone—and harass, harm, injure, and/or kill an untold number of individuals will only hasten the extinction of this critically endangered species. Given the serious adverse impacts that the Project will have on the highly imperiled panther, the best course of action would be for Collier Enterprises to abandon a Project that is rife with grave legal and conservation problems, or at least consider a smaller Project footprint that significantly reduces short-term and long-term harm to the panther and its prospects for survival and recovery. At minimum, we urge Collier Enterprises to cease any Project implementation until formal consultation can be reinitiated and a legally adequate BiOp is issued.

In any case, we request a response to this letter within the 60-day notice period provided by the ESA's citizen suit provision. I can be reached by email at lizzie@eubankslegal.com, or by phone at (202) 618-1007. Given the circumstances, we hope that the parties involved will be willing to seriously discuss a comprehensive, non-adversarial approach to resolving this situation. However, if we do not hear from you, we will assume that no changes will be made and will consider all available avenues, including litigation, to rectify the legal violations set forth above.

Sincerely,

/s/Elizabeth Lewis
Elizabeth L. Lewis
Senior Associate

Attachments A through BBB
(*available via Box.com at* https://app.box.com/s/lzpv2wdfn38el5zil04inrbqgaphk8cs)