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December 2, 2013

Public Comments Processing
Attn: Docket No. FWS-R8-ES-2013-0104
Division of Policy and Directives Management
U.S. Fish and Wildlife Service
4401 N. Fairfax Drive
MS-2042-PDM
Arlington, VA 22203

Re: Comments on Proposed Designation of the Western Distinct Population Segment of the Yellow-billed Cuckoo (*Coccyzus americanus*) as a “Threatened” Species Under the Endangered Species Act

To the Division of Policy and Directives Management:

This letter provides the comments of the Independent Petroleum Association of America (“IPAA”) and the American Petroleum Institute (“API”) (collectively, “Associations”) in response to the U.S. Fish and Wildlife Service’s (the “Service”) request for public comment on the proposed designation of the Western Distinct Population Segment (“DPS”) of the yellow-billed cuckoo (*Coccyzus americanus*) as a threatened species under the Endangered Species Act (“ESA” or “Act”).¹ We appreciate and respectfully request the Service’s full consideration of the comments set forth below.

I. Introduction

A. The Associations

API is a national trade association representing over 540 member companies involved in all aspects of the oil and natural gas industry. API’s members include producers, refiners, suppliers, pipeline operators, and marine transporters, as well as service and supply companies that support all segments of the

¹ Proposed Threatened Status for the Western Distinct Population Segment of the Yellow-billed Cuckoo (*Coccyzus americanus*), 78 Fed. Reg. 61,622 (Oct. 3, 2013) (“Proposed Listing Determination”).

industry. API and its members are dedicated to meeting environmental requirements, while economically developing and supplying energy resources for consumers.

IPAA represents our nation's independent producers of oil and natural gas. While operating in over 32 states across the country, these independent business owners are the primary producers of America's oil and natural gas resources. IPAA's members develop 95 percent of American oil and natural gas wells and account for 85 percent of U.S. natural gas production and 54 percent of American oil production.

B. Summary of Comments

The Service's proposed designation of the western DPS of the yellow-billed cuckoo would encompass all, or a portion of, 10 western states. Particularly, the Service's listing proposal focuses on the breeding range of the proposed western DPS of the yellow-billed cuckoo within low- to moderate-elevation areas west of the crest of the Rocky Mountains and extending down to an area within Texas west of the Rio Grande-Pecos River watershed. Typically, oil and natural gas development does not significantly occur within the low- to moderate-elevation wooded riparian areas that are the primary focus of the Service's listing determination. However, the Associations are equally concerned with ensuring that the Service's review of candidate species and listing determinations, in general, complies with all elements of the listing process under ESA Section 4. The Associations' comments address universal matters such as ensuring appropriate review of the listing factors; application of the best available scientific and commercial data requirement; and compliance with the requirement to establish and demonstrate a relationship between the data available and the proposed determination pursuant to ESA Section 4(b)(8).

The Service's proposed listing determination for the proposed western DPS of the yellow-billed cuckoo is flawed and fails to meet the standard required under ESA Section 4. As this proposal does not meet the minimum analytical requirements required for designation of a species as threatened or endangered under the ESA and its implementing regulations, the Associations request that the Service withdraw its listing determination.

II. The Service's Identification of the Western Yellow-billed Cuckoo as a Distinct Population Segment is Flawed.

The Service proposes to list the yellow-billed cuckoo as a western DPS based on a finding that there is: (1) a marked separation from other populations establishing the population as "discrete"² and (2) a biological or ecological significance to this population by virtue of the fact that the loss of the population would create a gap in the taxon's range and there is evidence that the population segment differs markedly from the remainder of the species in its genetic characteristics.³ However, both these findings represent a flawed application of the Service's DPS policy.

A. Geographic Separation of Breeding Ranges and Migratory Routes is Insufficient to Support a Finding of Discreteness.

In allowing for a DPS to be designated as threatened or endangered, Congress sought to create a limited exception to the general requirement that a species as a whole be listed, in order to protect those populations that were truly isolated from the rest of the species and threatened or endangered.⁴ Consistent with that purpose and Congressional intent, the Service has acknowledged that identification of a DPS for

² Proposed Listing Determination at 61,627-29.

³ *Id.* at 61,629-30.

⁴ S. Rep. No. 96-151, at 6-7 (1979).

listing should be used “sparingly and only when the biological evidence indicates that such action is warranted.”⁵

In asserting that a marked separation exists for the proposed western DPS of the yellow-billed cuckoo, the Service primarily relies upon the geographic differences in breeding range and behavioral differences in migration.⁶ However, neither of the differences described fully support a designation of the western population as a DPS.

As a matter of geographic separation, by the Service’s own acknowledgement in its proposed listing determination, the proposed western DPS of the yellow-billed cuckoo is not “isolated” from the rest of the species. Specifically, the western and eastern populations share the same wintering habitat and have a documented overlap in breeding ranges.⁷ Moreover, while it is estimated to be at a low level, the Service acknowledges that there is interchange between the two populations during breeding season.⁸

Moreover, a determination that there are two or more breeding ranges is an unremarkable finding especially where the species habitat itself is specialized. For yellow-billed cuckoos, presence of low- to mid-elevation, wooded riparian habitat is not uniform through the United States or Mexico. Thus, the fact that the species has two general breeding ranges is simply a function of habitat availability. Importantly, the Service does not suggest or make any findings that nesting habitat for the yellow-billed cuckoo is physically different between the western and eastern populations. For both populations, nesting occurs in wooded, riparian habitat. As such, from a biological standpoint, there is no discreteness between the nesting areas used by each population to warrant treatment of the western population as a DPS.

The Service’s identification of behavioral differences also is not a persuasive basis for finding marked separation warranting application of the DPS classification. In its proposed listing determination, the Service states that the birds in the west “arrive on the breeding grounds 4 to 8 weeks later than eastern yellow-billed cuckoos at similar latitude....”⁹ Yet the Service also recognizes that the primary causes of such timing are east-west climatic, habitat, and food availability differences.¹⁰ It is a well-documented fact that in ornithology that migration varies from year to year and is influenced by factors such as weather and fluctuation in food resources.¹¹ Further, recent data suggests that the yellow-billed cuckoo is able to employ a “flexible migration strategy.”¹² Thus, from a factual perspective, there is no behavioral difference since the “behavior” of the yellow-billed cuckoo is to migrate to nesting areas based on a preferred set of climatic, habitat, and food availability conditions. Notably, the Service does not suggest that the eastern population migrates to nesting areas at lower temperatures or based on the emergence or availability of different food sources. Thus, there is consistency in migratory behavior, and merely a difference in the timing of the conditions precipitating that behavior.

⁵ Policy Regarding the Recognition of Distinct Vertebrate Population Segments Under the Endangered Species Act, 61 Fed. Reg. 4722 (Feb. 7, 1996).

⁶ Proposed Listing Determination at 61,628.

⁷ *Id.*

⁸ *Id.*

⁹ *Id.* at 61,628.

¹⁰ *Id.*

¹¹ Amy Pocewicz et al., *Modeling the Distribution of Migratory Bird Stopovers to Inform Landscape-Scale Siting of Wind Development*, 8 PLoS ONE, no. 10, 2013 at e75363, <http://www.plosone.org/article/fetchObject.action?uri=info%3Adoi%2F10.1371%2Fjournal.pone.0075363&representation=PDF>.

¹² Juddson D. Sechrist et al., *One Year of Migration Data for a Western Yellow-billed Cuckoo*, 43 Western Birds No. 1, 2012, 2-11.

In attempting to still claim this difference as a “behavioral” difference, the Service also asserts that the difference in migratory timing is an “evolved response under genetic control.” In support of this assertion, the Service then cites a 2011 study (“Cresswell”) published by the Oxford University regarding the development of migration patterns.¹³ However, the Cresswell study is an inadequate basis upon which to conclude that the yellow-billed cuckoo’s migration represents an evolved genetic trait. In particular, the Cresswell study is a general analysis and discussion of migratory traits. While it hypothesizes that migratory behavior can be evolutionarily-based, this analysis makes no specific findings as to the yellow-billed cuckoo. Accordingly, and in consideration of the best available scientific and commercial data standard, the Service cannot rely upon the Cresswell study to establish that the yellow-billed cuckoo’s migratory patterns “can only” be an evolved trait. To the contrary, as noted above, recent data suggests that the yellow-billed cuckoo has the ability to employ “flexible migration strategy.”¹⁴

As further discussed above, neither the existence of two breeding ranges nor timing of migration—if differences at all—are independently or collectively a basis to support a finding that the populations are discrete for qualifying the western population as a DPS. Accordingly, the Service’s proposed treatment of the western population as a DPS is improper and should be withdrawn.

III. The Service Must Fully Disclose and Explain its Consideration and Determination of What Constitutes the Best Scientific and Commercial Data Available.

Under ESA Section 4(b)(1)(A) the Service must use the best scientific and commercial data available in reviewing the status of the species, considering the factors affecting the species and determining whether a species meets the standard for being an endangered or threatened species.¹⁵ In this listing determination, the Service undoubtedly cites to a myriad of data sets and studies as references. Further, the Service has posted a list of references in the administrative docket for its listing determination. However, citing to and publishing a list of references without explanation does not meet the burden imposed upon the Service. Moreover, the Service cannot unilaterally represent that it has considered the best scientific and commercial data available without demonstrating that compliance through further documentation. Rather, the Service must make a clear demonstration as to: (1) the full scope of the data considered; (2) those studies or data which the Service reviewed but determined should not be relied upon, and why; and (3) which of the data discussed in the listing determination constitute the best scientific and commercial data available. Only then can the Service meet its burden to demonstrate that it used the best scientific and commercial data available.

By failing to first adequately address the question of what constitutes the best scientific and commercial data available, the Service then exposes its own decision-making process to potential errors and mischaracterization of data. In fact, a routine spot-check of the references cited to in the listing determination underscores this inadequacy. In particular, the Associations’ spot-checking review of the literature relied upon by Service identified clear misstatements as to findings of the studies, which then appear to form the basis of the Service’s listing determination.

As an example, the Service regularly cites to a 2008 study published in *Studies in Avian Biology* (Hinojosa-Huerta (2008))¹⁶ to assert several findings including:

¹³ Katie Cresswell, W. Satterthwaite & G. Sword, *Understanding the Evolution of Migration Through Empirical Examples, in Animal Migration: A Synthesis* 7-16 (E.J. Milner-Gulland, J.M. Fryxell, & A.R.E. Sinclair eds., 2011).

¹⁴ See Sechrist, *supra* note 12.

¹⁵ 16 U.S.C. §1533(b)(1)(A).

¹⁶ O. Hinojosa-Huerta et al., *Densities, Species Richness and Habitat Relationships of the Avian Community in the Colorado River, Mexico*, 37 *Studies in Avian Biology*, 2008 at 74–82.

- “Yellow-billed cuckoo persistence will depend on dedicated instream flows and pulse floods, maintenance of vegetative cover and structural diversity, and an increase in older riparian stands (Hinojosa-Huerta *et al.* 2008, pp. 75–92).”¹⁷
- “Bird surveys conducted along the Colorado River, Mexico, from May 2002 to July 2003 concluded that the presence and density of breeding yellow-billed cuckoos is largely dependent on the state of riparian habitat and presence of water (Hinojosa-Huerta *et al.* 2008, pp. 75–92).”¹⁸
- “[l]ocal decline of the yellow-billed cuckoo western DPS and other riparian birds has been attributed to that habitat loss and degradation (Hinojosa-Huerta *et al.* 2008, p. 81).”¹⁹

However, a review of the actual Hinojosa-Huerta article cited by the Service shows that the authors made no such findings as to the proposed western DPS of the yellow-billed cuckoo. In fact, the single discussion of proposed western DPS of the yellow-billed cuckoo states:

Species that were considered extirpated in this region, such as yellow-billed cuckoo, . . . were found to be regularly present and presumably breeding in the floodplain during our study. Although no controlled bird surveys were performed before and after the regeneration events, this historic information on vegetation dynamics in the area during the last 25 years (Glenn *et al.* 1996, Glenn *et al.* 2001, Zamora-Arroyo *et al.* 2001) shows that habitat for these species disappeared from the floodplain. It is reasonable to assume that these birds returned as breeders after regeneration of the riparian ecosystem vegetative communities.

Thus, Hinojosa-Huerta makes no definitive finding as to what the proposed western DPS of the yellow-billed cuckoo persistence may depend upon. It presents no specific data on the proposed western DPS of the yellow-billed cuckoo. And its sole conclusion relating to the proposed western DPS of the yellow-billed cuckoo is merely an assumption that the species returned to an area after regeneration of riparian vegetation. Thus, no findings are actually made with respect to what habitat types and characteristics the species depends upon or any specific relationship between habitat loss or modification and presence/absence of the proposed western DPS of the yellow-billed cuckoo. Further, the study and results discussed by Hinojosa-Huerta are based on a single year of observation (2002–03), do not represent a specific study of proposed western DPS of the yellow-billed cuckoo populations and ultimately are focused on development of a regression analysis for general avian richness and density against habitat characteristics. In other words, Hinojosa-Huerta was not analyzing population trends for the proposed western DPS of the yellow-billed cuckoo and cannot be relied upon by Service in making its specific findings regarding the status of the proposed western DPS of the yellow-billed cuckoo. Further, there is no basis to conclude that such a generalized study constitutes the best available scientific and commercial data regarding the status of the proposed western DPS of the yellow-billed cuckoo or any other element of the listing determination.

Another example calling into question whether the Service has used the best scientific and commercial information available is illuminated by differences in use and reliance upon pre-2001 data and studies in the Service’s initial 2001 determination that listing of the proposed western DPS of the yellow-billed

¹⁷ Proposed Listing Determination at 61,641.

¹⁸ *Id.*

¹⁹ *Id.*

cuckoo was warranted, but precluded by higher priorities²⁰ and its present proposal to list the proposed western DPS of the yellow-billed cuckoo as a threatened species. Particularly, in its 2013 listing proposal, the Service routinely cites to a 1997 study authored by N. Leroy Poff and others regarding natural flow regimes and the effects of current river management and development policies.²¹ This data was unequivocally available to the Service in 2001, yet it was not cited to, or discussed by, the Service in its initial designation of the species as a candidate for listing. Moreover, a review of the Service's decision in 2001 shows that there are numerous studies and data sets referred to by the Service in its initial determination that are wholly absent from any analysis or discussion in the present determination. These differences cannot go unexplained.

Additionally, in its overview of the species taxonomy, the Service reviews and comments on studies using mitochondrial DNA testing.²² As part of its discussion of genetic testing on the yellow-billed cuckoo, the Service generally determines that some genetic data supports the separation of the species into a western subspecies, but that because of conflicting results of those studies and inconsistencies in the genetic data, there is not sufficient support to distinguish a separate subspecies.²³ Specifically, the Service concludes that "...there is enough equivocality in the literature to conclude for the purposes of this proposed rule that recognition of the subspecies is not justified at this time."²⁴

The Associations agree with the Service's conclusion that there is not sufficient information to support a subspecies finding based on mitochondrial DNA studies. Generally, although mitochondrial DNA has a long history of use at the species level, recent analyses suggest that the use of a single gene, particularly mitochondrial, is unlikely to yield data that are balanced, universally acceptable, or sufficient in taxonomic scope to recognize many species lineages.²⁵ Due to differences in patterns of evolution and modes of inheritance, mitochondrial DNA analysis can result in very different assessments of biodiversity. In short, best available science indicates that mitochondrial DNA analysis cannot be readily used to support establishment of a subspecies.

IV. The Service Fails to Show the Relationship Between the Data it has Considered and its Determination that the Species is "Threatened" Under the ESA.

The determination of whether a species warrants the protections of the ESA requires not only the identification of the best available scientific and commercial data, but evaluation of such data within the context of the factors affecting the species and, ultimately, applying the standards for designating a species as threatened or endangered to such data and threat factors. Under Section 4(b)(8) of the ESA, the Service must include in both its proposed and any final rule "a summary by the Secretary of the data on which the regulation is based and shall show the relationship of such data to [the listing determination.]"²⁶

The purpose of Section 4(b)(8) is to ensure that validation and explanation as to the use of the data and its application to the species under consideration. It is not merely enough to state a unilateral conclusion. Rather, the Service must be able to explain and demonstrate, i.e., "show the relationship" of the data it has

²⁰ See 12-Month Finding for a Petition To List the Yellow-billed Cuckoo (*Coccyzus americanus*) in the Western Continental United States, 66 Fed. Reg. 38,611 (July 25, 2001).

²¹ See Proposed Listing Determination at 61643-46 (citing Poff, N.L., J.D. Allan, M.B. Bain, J.R. Karr, K.L. Prestegard, B.D. Richter, R.E. Sparks & J.C. Stromberg. 1997. The natural flow regime: a paradigm for river conservation and restoration. *BioScience* 47:769-784).

²² Proposed Listing Determination at 61,625.

²³ *Id.*

²⁴ *Id.*

²⁵ Daniel Rubinoff, *Utility of Mitochondrial DNA Barcodes in Species Conservation*, 20 *Conservation Biology* 1026 (2006).

²⁶ 16 U.S.C. §1533(b)(8) (emphasis added).

identified to the need for listing a species. In *San Luis v. Badgley*, a federal district court found that the Service had failed to meet its burden under Section 4(b)(8) because it had failed to explain core data and relationships that show that the species' current range was jeopardized to the point of extinction in the foreseeable future.²⁷ In the case of the splittail, the Service's failings related to inadequacy in the analysis of population size, rate of population decline, and the integration of such information into a determination as to the species being in danger of extinction.²⁸

For the proposed western DPS of the yellow-billed cuckoo, the Service fails to make an analogous demonstration. The Service's listing determination is based on "threats affecting western yellow-billed cuckoo habitat [that] are ongoing and significant and have resulted in curtailment of the range of the species."²⁹ Even assuming that the Service has accurately identified such threats (which the Associations also question), this statement is insufficient. Rather, the Service still must explain/show that the data and threats it identifies have a relationship to the species status and, in fact, support a determination that the species requires protection under the Act.

As an initial matter, while the Service reports an estimate of 680 to 1,025 breeding pairs for the proposed western DPS of the yellow-billed cuckoo and generalizes the asserted decline of the population as an order of magnitude decline, the Service does not explain such order of magnitude.³⁰ Further, the Service obliquely refers to further declines in the species population in the last 15 years, but again fails to establish a relationship between this asserted decline in population and a commensurate threat to the continued existence of the proposed western DPS of the yellow-billed cuckoo as a species. Simply put, the fact that a species may be rare or have a low population count does not automatically equate to the conclusion that the species is at risk of extinction, either immediately or in the foreseeable future. As a general rule, the foremost predictor of extinction risk is the size of a taxon's geographical range. Widespread taxa tend to be at a decreased risk relative to taxa with small ranges.³¹

The inadequacy of the Service's decision does not end at its discussion of the species population estimates. Rather, the Service further compounds the inadequacy by then failing to establish and explain that existing threats or conditions—whether it is increased fire risk or introduction of non-native species such as tamarisk or even changes in riparian habitat conditions—are related to, and are causing the decline of the species population, and ultimately its health, such that the protections of the ESA must be invoked. Specifically, the focus of the Service's listing determination is on the nature and extent of the species breeding range and whether such range has been curtailed. However, the curtailment of a species range addresses one half of the inquiry. What the Service fails to establish is that the species is adversely affected by such changes in its breeding habitat or range. For example, the Service does not present or discuss data suggesting that the species' breeding success rate has declined—all that is reported is observation of the presence of the species. There is no data confirming disruption or shortening of breeding cycles. Further, the Service does not make any findings about increased illnesses, earlier deaths, or other significant changes that may adversely affect the species breeding, migration, or other elements of its life cycle. This failure to identify and establish a relationship between the data on habitat conditions, the species status, and whether conditions or threats necessitate the invocation of the ESA is a fundamental flaw in this proposed listing determination.

²⁷ 136 F. Supp. 2d 1136, 1149-50 (E.D. Cal. 2000).

²⁸ *Id.*

²⁹ Proposed Listing Determination at 61,662.

³⁰ *Id.* at 61,642.

³¹ Kate E. Jones, Andy Purvis & John L. Gittleman, *Biological Correlates of Extinction Risk in Bats*, 161 *Am. Nat.*, Apr. 2003, 601–614; Andy Purvis et al., *Predicting Extinction Risk in Declining Species*, *Proc. Roy. Soc. Lond. B*, Oct. 7, 2000, at 1947–1952.

An additional concern with the Service's analysis of the species status is the apparent unquestioning assumption that there must be a direct relationship between habitat changes and observed changes in breeding counts. Nowhere within its determination does the Service consider and address skeptical considerations that would present an alternative analysis. Several questions bear further consideration by the Service:

- If the Service is correct that river system management is a primary cause in the reduction of species populations, how does the Service correlate the species reported decline over the last 15 years with the introduction of most of the dams, levees and river management practices that were instituted decades earlier?
- Are the changes in observed presence actually reflecting a decline in species population, or, does the data reflect adaptive behavior by which the proposed western DPS of the yellow-billed cuckoo is selecting new nesting areas—some of which are not being monitored? For example, are the recent observations of the species in the Northern California coastal areas showing opportunistic nesting behavior that reflect a more adaptable and resilient species than assumed by the Service?
- Are changes in observance data within the breeding range a result of natural variability in populations based on naturally-occurring factors such as food availability and if so, what adjustments have to be made in relation to the species assessment to reflect such known variability?

These and other questions must be addressed for the Service to meet its obligations under Section 4(b)(8) to show the relationship between the data that has been developed on the proposed western DPS of the yellow-billed cuckoo and its habitat and the need for protection of the species under the ESA.

V. The Service's Consideration of Listing Factor A: Present or Threatened Destruction, Modification or Curtailment of Habitat or Range Improperly Relies Upon Generalized Assertions of Riparian Habitat Impacts.

The Service's analysis of Listing Factor A (present or threatened destruction, modification, or curtailment of its habitat or range) relies upon a generalized premise that the loss of riparian habitat—regardless of the actual characteristics of that habitat—adversely affects the proposed western DPS of the yellow-billed cuckoo. Particularly, the Service begins its assessment of Listing Factor A with a blanket statement that: “[t]he decline of the western yellow-billed cuckoo is primarily the result of riparian habitat loss and degradation.”³² This statement, however, is a gross oversimplification that cannot be the basis of a listing determination.

The purpose of Listing Factor A is to examine existing and future conditions in the species habitat or range. In the case of the proposed western DPS of the yellow-billed cuckoo, that habitat or range is not all riparian habitats, but rather low- to mid-elevation wooded riparian habitat. Further, the species prefers (but is not exclusive to) parcels that contain a variety of more mature wooded vegetation. The Service's analysis of Listing Factor A must be equally focused on the actual habitat or range of the species. Thus, generalized concerns with respect to changes in hydrologic conditions, modification of riparian vegetation due to agricultural activities and levee construction, and other general assessments as to fragmentation of riparian habitat does not equate to conditions that exist in the actual habitat used by the proposed western DPS of the yellow-billed cuckoo for nesting and migration. Moreover, they cannot be the basis of a

³² *Id.* at 61,643.

determination that significant habitat curtailment, modification, or destruction is occurring with respect to the riparian wooded vegetation that is cited as the primary habitat source for the proposed western DPS of the yellow-billed cuckoo.

VI. The Service Fails to Explain and Establish what it Considers to be the “Foreseeable Future” for the Purposes of the Listing Determination.

In order for a species to be listed as “threatened” under the Act, it must be “likely to become an endangered species within the *foreseeable future* throughout all or a significant portion of its range.”³³ Though neither the Act nor its regulations define the term foreseeable future, a Department of the Interior Solicitor’s Opinion describes “foreseeable future” as the extent to which, in making determinations about the future conservation status of the species, the Secretary can reasonably rely on predictions about the future.³⁴ The Service is required to identify and explain what it estimates is the foreseeable future when proposing to list a species as threatened.³⁵ If the best available data is not sufficient, the Service must explain its basis for the determination that “foreseeable future” cannot be defined.

In its Proposed Rule, the Service merely states that the proposed western DPS of the yellow-billed cuckoo “is likely to become endangered throughout all or a significant portion of its range within the foreseeable future, based on the timing, severity, and scope of the threats described above.”³⁶ However the descriptions of threats that the Service refers to do not contain timing parameters to inform the “foreseeable future” determination, except for vague mentions of “the future”³⁷ or that threats that will continue “for decades to come.”³⁸ No studies or data are cited in support of these vague assertions. Further, there is no explanation regarding whether the Service can reasonably rely on the “decades to come” prediction as a basis for a “foreseeable future” definition.

The Service has failed to define “foreseeable future” either quantitatively or qualitatively or explain why it was unable to do so on the basis of the best available scientific and commercial data.³⁹ Without any such definition or explanation, there is no way to determine how the Service has interpreted what the foreseeable future is, or whether that interpretation rationally supports the finding that the species should be listed as threatened.

VII. The Service Fails to Properly Take into Account Existing and Planned Conservation Measures.

A. Treatment of New Conservation Measures is Inconsistent with Evidence and the Service’s Previous Approach.

In its Proposed Rule, the Service states that conservation measures:

. . . such as habitat protection and restoration, have strong potential to be beneficial to the species. However, because many of these projects are either in the planning stages or have not been fully implemented, there is no data to show that these efforts have reduced

³³ 16 U.S.C. § 1532(20) (emphasis added).

³⁴ Solicitor’s Opinion, Department of the Interior, *The Meaning of “Foreseeable Future” in Section 3(20) of the Endangered Species Act*, M-37021 (Jan. 16, 2009), <http://www.doi.gov/solicitor/opinions/M-37021.pdf>.

³⁵ 16 U.S.C. § 1532(20).

³⁶ Proposed Listing Determination at 61,663.

³⁷ *Id.* at 61,649-50.

³⁸ *Id.* at 61,643-45, 61,647.

³⁹ *See, e.g., Otter v. Salazar*, 2012 WL 3257843 (D. Ida. Aug. 8, 2012) (finding that the Service’s failure to adequately define “foreseeable future” undermined the entire listing).

or eliminated impacts from ongoing long-term effects to riparian habitat from the multiple threats of altered hydrology, livestock grazing, and nonnative vegetation. Conservation actions that have been implemented have either had insufficient time in which to demonstrate a population increase or other factors continue to affect the western yellow-billed cuckoos and keep abundance low.⁴⁰

This statement is inconsistent with the evidence in the rule itself. Moreover, the approach contradicts the Service's own practice regarding recognition of recently-established conservation measures as a basis for determining whether listing is necessary.

In the proposed listing determination, the Service describes a number of ongoing habitat protection efforts such as the acquisition of 25,000 acres of riparian habitat along the Sacramento River and its tributaries for preservation over the past 20 years, the purchase of conservation properties in Arizona since 1996, protection of habitat in 1941, as well as a 2003 acquisition to protect 10,000 acres of habitat in northeastern Sonora, Mexico.⁴¹ When describing further conservation measures being implemented to protect and restore the proposed western DPS of the yellow-billed cuckoo habitat, the Service also notes that the implementation of the Lower Colorado River Multi-Species Conservation Program “has successfully increased occupied western yellow-billed cuckoo habitat through restoration, and researchers have found greater occupancy of yellow-billed cuckoos in restored compared to natural habitat along the lower Colorado River and tributaries (McNeil et al. 2011, pp. 40–41).”⁴² The Service also reports that regenerated riparian habitat due to increased flows from the Colorado River into northern Mexico produces regular sightings and presumed breeding of the proposed western DPS of the yellow-billed cuckoo.⁴³ These habitat protections and restoration actions not only represent existing conservation measures, but also have been fully implemented. Moreover, these measures cover a significant portion of the species' range, given the importance of the Colorado River watershed to both U.S. and Mexico populations of the proposed western DPS of the yellow-billed cuckoo. The largest remaining population of the proposed western DPS of the yellow-billed cuckoo is located in Arizona, its range extending to the lower Colorado and its five major tributaries.⁴⁴ The Lower Colorado River also provides important breeding habitat.⁴⁵ To assert that these measures are too new to be proven adequate is plainly contrary to the evidence provided by the Service itself. These measures are clearly having an effect on the population of the proposed western DPS of the yellow-billed cuckoo and contradict the Service's conclusion that successful conservation measures “are not of a sufficient magnitude to counter the long-term decline of the proposed western DPS of the yellow-billed cuckoo.”⁴⁶

The Associations urge the Service to apply the same analysis for conservation measures that it employed in its decision on the dunes sagebrush lizard. In that case, the Service first proposed to list the dunes sagebrush lizard in 2010.⁴⁷ However, in 2012, the Service determined that such listing was not warranted in large part due to current conservation efforts and new voluntary conservation agreements that provide for long-term conservation of the lizard.⁴⁸ When explaining withdrawal of the proposal to list the dunes sagebrush lizard as endangered, the Service applied its Policy for Evaluation of Conservation Efforts

⁴⁰ Proposed Listing Determination at 61,654.

⁴¹ *Id.* at 61,653-54.

⁴² *Id.* at 61,654.

⁴³ *Id.*

⁴⁴ *Id.* at 61,639.

⁴⁵ *Id.* at 61,640.

⁴⁶ *Id.* at 61,654.

⁴⁷ Endangered Status for Dunes Sagebrush Lizard, 75 Fed. Reg. 77,801 (Dec. 14, 2010).

⁴⁸ Withdrawal of the Proposed Rule to List Dunes Sagebrush Lizard, 77 Fed. Reg. 36,872 (June 19, 2012).

When Making Listing Decisions (“PECE”) to assess the certainty and effectiveness of New Mexico and Texas’s conservation agreements.⁴⁹

New Mexico’s conservation efforts included enrolling lizard habitat on State Trust lands under a Candidate Conservation Agreement in March 2012.⁵⁰ This agreement, along with several other habitat conservation measures, applied to 95 percent of habitat in New Mexico. The Service found that the conservation efforts had a high certainty of being implemented and that they are effective at eliminating and reducing threats based on the criteria in the PECE.⁵¹ In February 2012, Texas signed a Candidate Conservation Agreement committing participants to conservation measures over thirty years to avoid and minimize adverse effects to the species and its habitat. Again, the Service determined that the conservation effort would be effective and had a high level of certainty of implementation.⁵² Because of these determinations, the Service concluded that the agreements could be considered as part of the final basis for the Service’s decision on the dunes sagebrush lizard. Though these measures were signed only months before the rule withdrawing the proposal to list, the Service found them sufficient to ensure preservation of the dunes sagebrush lizard through the PECE analysis.

The Service does not attempt to evaluate the conservation measures described in the Proposed Rule for the proposed western DPS of the yellow-billed cuckoo under the PECE, but rather summarily dismisses them as “not of a sufficient magnitude” to help the species. As noted above, most of the conservation measures discussed by the Service have been initiated, and in some cases have been in place for multiple years. Thus, to characterize such measures as not being of sufficient certainty is simply incorrect. Moreover, outright dismissal or disregard for new conservation efforts because they are in planning stages or have not been fully implemented contradicts the whole purpose of the Service’s PECE policy—which is to provide “guidance on how to evaluate conservation efforts that have not yet been implemented or have not yet demonstrated effectiveness.”⁵³

B. The Service Fails to Adequately Address Federal, State and Local Conservation Measures in Place with Respect to Stream Flow Conditions and Riparian Habitats.

The Service’s listing determination fails to adequately survey and consider the myriad of protections in place regarding stream flow and preservation of riparian habitats at all levels of government.⁵⁴ In its listing determination, the Service undertakes a minimal review that does not equate to a full examination of the federal, state, and local measures that are in place for the river systems which are the focus of this listing determination. For example, several of the river systems which are cited by the Service as having lost riparian habitat (Colorado, Sacramento, and the San Joaquin River systems) also are river systems that have a significant presence and have operations by the U.S. Bureau of Reclamation. Yet the Service makes no attempt to consider and assess operating regimes and environmental protection measures that have been adopted by the U.S. Bureau of Reclamation with respect to instream and pulse flows as well as eradication of non-native species such as tamarisk. In other instances, the Federal Energy Regulatory Commission, which licenses hydroelectric facilities, often includes conditions in its licenses from

⁴⁹ *Id.* at 36,883.

⁵⁰ *Id.* at 36,884-85.

⁵¹ *Id.* at 36,886.

⁵² *Id.*

⁵³ 77 Fed. Reg. at 36,885.

⁵⁴ The Service must make determinations based upon the best available data “after taking into account those efforts, if any, being made by any State ... to protect such species, whether by predator control, protection of habitat and food supply, or *other conservation practices...*” 16 USC § 1533(b)(1)(A) (emphasis added); *Or. Natural Res. Council v. Daley*, 6 F. Supp. 2d 1139, 1153 (D. Or. 1998) (existing measures must be taken into consideration); *Ctr. for Native Ecosystems v. U.S. Fish & Wildlife Serv.*, 795 F. Supp. 2d 1199, 1209-10 (D. Colo. 2011) (finding listing decision arbitrary and capricious because of its failure to adequately consider existing conservation efforts).

resource agencies regarding operations on waterways and the surrounding area that preserve habitat or protect the watershed from overuse or deterioration. Such measures are enforceable license conditions that protect against habitat destruction and modification and actually promote new riparian growth. Finally, State wildlife and resource agencies as well as local irrigation and water districts have extensive programs for the eradication of non-native species such as tamarisk. It is incumbent upon the Service to fully consider these programs and factor such measures into its review of whether the invocation of the ESA is required in this instance.

C. The Service Disregards Existing Federal and State Laws Already Affording Protections to the Proposed Western DPS of the Yellow-billed Cuckoo and Incorrectly Assumes that Habitat Modification Can Only be Prohibited by Application of the ESA.

The Service's analysis of state and local regulatory mechanisms is wholly inadequate. In its listing determination, the Service summarily concludes that federal, state, and international regulatory mechanisms provide "varying degrees of conservation oversight" to address habitat loss and degradation but their effectiveness in conserving proposed western DPS of the yellow-billed cuckoos or their habitat is unknown.⁵⁵

A key failing of the Service's analysis on this point is its singular focus on whether the proposed western DPS of the yellow-billed cuckoo is designated as a protected species under other state or foreign laws. Such a narrow inquiry contradicts the purpose and scope of Listing Factor D—in that the factor is intended to consider the adequacy of existing regulatory mechanisms. For example, the Service considers only the California Endangered Species Act and fails to consider or discuss other California statutes such as the Porter-Cologne Water Quality Control Act or the authorities exercised by the California State Water Resources Control Board over the Sacramento, San Joaquin, and Kern River systems. Likewise, the State of Arizona has established an Arizona Water Protection Fund which is a state grant program to protect and promote riparian areas. At an even more local level, many counties within Arizona have adopted local flood control ordinances that are specifically focused on protection of riparian areas.

The examples of existing regulatory mechanisms noted above, again, represent a mere spot check by the Associations as to whether the Service's inquiry into Listing Factor D was adequate. What is immediately evident is that the Service has not properly undertaken the required analysis of Listing Factor D. It is incumbent upon the Service to adequately investigate and survey the existence, scope and adequacy of existing federal, state, and local regulatory mechanisms. In this case, the importance of this inquiry is underscored by the fact that the existence and adequacy of these regulatory mechanisms for protection of the proposed western DPS of the yellow-billed cuckoo may be determinative as to whether invocation of the ESA is required in this instance. As the Service has underscored in other recent listing determinations, where there are adequate regulatory mechanisms in place, the application of the ESA is not warranted.

⁵⁵ Proposed Listing Determination at 61,659.

VIII. The Service's Analysis of Climate Change Impacts is Inadequate.

A. *By the Service's Own Statements, There is No Evidence of Adverse Effects on the Proposed Western DPS of the Yellow-Billed Cuckoos from Climate Change.*

The Service unequivocally acknowledges that it “does not have evidence showing that yellow-billed cuckoo habitat is substantially affected by climate change.”⁵⁶ However, the Service then continues to state that, notwithstanding this lack of evidence, it “expects” that long-term climate change will have negative effects on riparian habitat throughout the breeding range of the species.⁵⁷ This conclusion is overly vague in that the Service cannot establish a relationship between a prediction of future changes in climatic conditions and effects on wooded riparian habitat that adversely impact species breeding to the point of warranting protection under the ESA. More fundamentally, an “expectation” of an impact is not a sufficient basis for supporting the listing of a species under the ESA. If the best available scientific and commercial data does not demonstrate a substantial adverse effect on proposed western DPS of the yellow-billed cuckoo habitat, then the Service cannot contradict its own findings by basing its listing determination, in part, on potential climate change threats to the species.

B. *The Service's Analysis of Climate Change Effects Must Recognize Inherent Uncertainties in the Assessment of Future Climate Change Effects.*

The Service's proposed listing concludes that climate change, and in particular, increased variability in snow-pack accumulations, timing of snowmelt, and the intensity of precipitation events are threat factors for the proposed western DPS of the yellow-billed cuckoo.⁵⁸ While we do not dispute that changes in snowpack, snowmelt, and precipitation events are factors that can negatively impact riparian habitat, the arid Western states (which are the focus of this listing determination) have historically had significant variability in these conditions both on an annual basis, but also within seasonal cycles. In this case, the Service's conclusion that variability in hydrologic conditions may intensify is largely driven by pushing climate models on which it relied, both spatially and temporally, well beyond the limits of their reliability, and impermissibly ignoring the significant uncertainty acknowledged by the model builders and disclosed in the Intergovernmental Panel on Climate Change (“IPCC”) reports on which the Service relies in its listing determination.

When an agency takes actions based in large part on a risk assessment or, as Service did here, on projections of future climate change impacts, it is critical that the agency acknowledge and address the uncertainties in, and inherent limitations of, the models on which it relies.⁵⁹ Doing so ensures that regulatory determinations made by the agency are appropriately tethered to the output from these scientific modeling exercises. Failure to acknowledge and address these modeling limitations causes the agency to overstate the likelihood and severity of the threat for which the agency is proposing regulations. This is precisely the case at hand. While the IPCC acknowledges the profound uncertainty in climate modeling, the Service merely mentions it, never attempts to quantify it, and proposes a listing determination that assumes localized future climate change impacts as certain events. In doing so, the Service is disregarding the cautions noted by the IPCC itself. In the IPCC's own words:

[U]ncertainty in climate change projections has always been a subject of previous IPCC assessments. Uncertainty arises in various steps towards a climate projection [figure reference omitted]. For a given emissions scenario, various biogeochemical models are

⁵⁶ Proposed Listing Determination at 61,653.

⁵⁷ *Id.*

⁵⁸ *Id.* at 61,651.

⁵⁹ Detlof von Winterfeldt & Ward Edwards, *Decisions Analysis and Behavioral Research* (1986).

used to calculate concentrations of constituents in the atmosphere. Various radiation schemes and parameterizations [sic] are required to convert these concentrations to radiative forcing. Finally, the response of the different climate system components (atmosphere, ocean, sea ice, land surface, chemical status of atmosphere and ocean, *etc.*) is calculated in a comprehensive climate model. In addition, the formulation of, and interaction with, the carbon cycle in climate models introduces important feedbacks which produce additional uncertainties.⁶⁰

Similarly, other authorities also note the presence and impact of such uncertainties:

It is important to be aware that projections from climate models are always subject to uncertainty because of limitations on our knowledge of how the climate system works and on the computing resources available. Different climate models can give different projections. The projections are also based on emissions scenarios, such as the level of CO₂ emissions increasing or decreasing. Many different scenarios are used, based on estimates of economic and social growth, and this is one of the major sources of uncertainty in climate prediction.⁶¹

Climate models are composed of a series of linked equations that, in theory, represent the state of nature for which the model is intended.⁶² For example, a model designed to estimate change in global average surface temperature is composed of equations intended to mimic air transport worldwide and estimate CO₂ emissions. Model builders routinely disagree about how to reflect these inputs in equations and further disagree on how to utilize current and historical climate data.⁶³ They also routinely disagree on the values to place on the inputs to those equations. Such inputs include historical weather patterns, current and historical amounts of solar radiation, total land cover, and the chemical interactions that affect energy and water vapor transport in the atmosphere and between the oceans and atmosphere.⁶⁴

Since the very first IPCC assessment and continuing into the most recent Assessment Report 4 (“AR4”), the IPCC has attempted to provide users and policy makers with an understanding of the uncertainties associated with its various conclusions. The IPCC provides this cautionary information precisely so that its findings cannot be misapplied in policy decision-making. In fact, the AR4 Synthesis Report⁶⁵ notes the following “Key Uncertainties” (internal citations omitted):

- (1) Climate data coverage remains limited in some regions and there is a notable lack of geographic balance in data and literature on observed changes in natural and managed systems, with marked scarcity in developing countries.

⁶⁰ Working Group I, Intergovernmental Panel on Climate Change, *Climate Change 2007: The Physical Science Basis* 753-4 (Susan Solomon et al. eds., 2007), http://www.ipcc.ch/pdf/assessment-report/ar4/wg1/ar4_wg1_full_report.pdf.

⁶¹ Met Office, *Climate Projections*, <http://www.metoffice.gov.uk/climate-change/guide/future/projections> (last visited Nov. 26, 2013).

⁶² Judith Curry, Georgia Institute of Technology, *Some Thoughts on Uncertainty: Applying Lessons to the CCSP Synthesis and Assessment Products* (2003).

⁶³ Working Group I, *supra* note 60, at 797-800.

⁶⁴ David A. Randall et al. *Climate Models and their Evaluation*, in *Climate Change 2007: The Physical Science Basis: Contribution to Working Group I to the Fourth Assessment Report of the IPCC* (Susan Solomon et al. eds., 2007).

⁶⁵ Lenny Bernstein et al., Intergovernmental Panel on Climate Change, *Climate Change 2007: Synthesis Report* (Abdelkader Allali et al. eds, 2007), http://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr.pdf (“IPCC AR4”).

(2) Analyzing and monitoring changes in extreme events, including drought, tropical cyclones, extreme temperatures and the frequency and intensity of precipitation, is more difficult than for climatic averages as longer data time-series of higher spatial and temporal resolutions are required.

(3) Effects of climate changes on human and some natural systems are difficult to detect due to adaptation and non-climatic drivers.

(4) Difficulties remain in reliably simulating and attributing observed temperature changes to natural or human causes at smaller than continental scales. At these smaller scales, factors such as land-use change and pollution also complicate the detection of anthropogenic warming influence on physical and biological systems.

(5) The magnitude of CO₂ emissions from land-use change and CH₄ emissions from individual sources remain as key uncertainties.”⁶⁶

These important caveats condition the IPCC findings upon which the Service’s current proposed listing is based. By failing to reference the existing uncertainty which underlies this research, the Service misleadingly assesses the state of the science that underpins the climate change threat analysis. Making conclusions based on such uncertain modeling compounds the errors in such a thought process.

C. Global and Regional Models Cannot Support Assessment of Localized Climate Change Impacts.

The uncertainty inherent in climate modeling (as acknowledged by IPCC) is compounded at the local and regional scales relevant to the Service’s listing analysis. The few regional models that have been built are driven by global scale model predictions, and compound uncertainty regarding parameterizations and resolutions, initial and boundary conditions inherited from the driving global model, and inter-model variability.⁶⁷ Thus, for example, at the regional scale, even a change in mean precipitation (a key variable and probably the variable most widely studied other than global average temperature rise) is uncertain.⁶⁸ Regional models also generally cannot be verified because regional scale “calibration” data from the past are typically not available in sufficient quantity to enable any sort of rigorous, quantitative, statistical analyses.⁶⁹

Without any information specifically concluding that allegedly deleterious climate change impacts will occur in, or near, the actual riparian, wooded habitat of the species, the Service has no basis to allege climate change is a threat to the species. Changes in snowpack, snowmelt, and precipitation intensity are natural elements of the hydrologic cycle and do not, by the occurrence of such changes, necessarily indicate or establish that such conditions will adversely affect the proposed western DPS of the yellow-billed cuckoo. Accordingly, the Service has not provided any credible evidence that climate change is creating or exacerbating population decline or other threats to the species existence, now or in the foreseeable future.

⁶⁶ *Id.* The IPCC AR4 further notes that these uncertainties do not represent an exhaustive list and that its findings can be altered if these uncertainties are reduced.

⁶⁷ Aideen M. Foley, *Uncertainty in Regional Climate Modeling: A Review*, 34 *Progress in Physical Geography*, no. 5, 2010 at 647-670.

⁶⁸ Ed Hawkins & Rowan Sutton, *The Potential to Narrow Uncertainty in Projections of Regional Precipitation Change*, *Climate Dynamics*, July 2011, at 407-418.

⁶⁹ Foley, *supra* note 67, at 34(5) 647-670.

IX. In the Event That a Listing Determination is Made, Adoption of a Special Rule Under Section 4(d) for Delineation of Prohibited “Take” is Warranted.

In its proposed listing determination, the Service remains silent on whether it would develop and issue a species-specific rule defining take for the proposed western DPS of the yellow-billed cuckoo.⁷⁰ The specific circumstances of the proposed western DPS of the yellow-billed cuckoo warrant the development of a specific Section 4(d) rule. As evident throughout the Service’s proposed listing determination, the proposed western DPS of the yellow-billed cuckoo’s primary habitat is wooded riparian areas, in low- to mid-elevation areas. However, the overall range of the species covers all or a portion of 10 western states. This differential between the broad geography of the species range and the discrete portions of habitat—specifically wooded riparian habitat—necessitates a more targeted approach for the application of “take” rules for this species, should it be listed.

In developing a species-specific Section 4(d) rule, the Service must not only focus its protections on the habitat of interest, but also take into account other existing conservation measures and programs that are in place and which should not then be burdened by an additional overlay of “take” prohibitions. In particular, any Section 4(d) rules, even for application to wooded riparian habitat, should exclude those areas and activities that are covered by existing habitat conservation plans, candidate conservation agreements, conservation easements or other conservation measures that already protect and enhance such wooded riparian areas—regardless of whether such actions or activities are voluntary or undertaken pursuant to other federal, state or local permitting or legal requirements.

X. Designation of Critical Habitat is Not Warranted.

In the event that the proposed western DPS of the yellow-billed cuckoo is designated and listed under the ESA as a threatened species, the Service’s proposed rule does not support the need for any designation of critical habitat. In fact, the listing determination does not include any potential identification of habitat characteristics that may inform a determination of potential critical habitat, much less the identification or proposal of a critical habitat determination at this time.

The Service has failed to identify what key habitat characteristics are necessary to inform a determination of critical habitat. Critical habitat determinations are based on the best scientific data available regarding which areas are essential to the conservation of the species.⁷¹ Considering the location of food, space, and shelter are important factors in this determination.⁷² Here, the Service has failed to identify how these factors could inform any designation of critical habitat for the proposed western DPS of the yellow-billed cuckoo. The Service states that “[l]ittle information is available on [its] foraging habitat,”⁷³ “little is known about migratory habitat,”⁷⁴ and that “[w]intering habitat...is poorly known.”⁷⁵ Further, the Service

⁷⁰ The ESA’s statutory take prohibition applies only to endangered species, not threatened species. 16 U.S.C. § 1533(d). However, many years ago the Service issued a “blanket” rule that applies the ESA’s take prohibition to all threatened species unless otherwise indicated by the Service. *See* 50 C.F.R §§ 17.31(a), 17.21(c)(1). Accordingly, when the Service lists a species as threatened, it often issues a species-specific Section 4(d) rule to make clear that the Section 9 take prohibition does *not* apply to certain activities that otherwise might be subject to the Service’s “blanket” Section 4(d) rule.

⁷¹ 16 U.S.C. §1532(5)(A).

⁷² 50 C.F.R. §424.12(b)(1)-(5).

⁷³ Proposed Listing Determination at 61,634.

⁷⁴ *Id.*

⁷⁵ *Id.*

notes that population analysis cannot take place because the populations “are too small and isolated in inaccessible habitat patches to be effectively sampled or analyzed for trends...”⁷⁶

There is no basis, on the present record, from which to identify or propose the designation of critical habitat. Given the fact that so little is known about the population and habitat of the proposed western DPS of the yellow-billed cuckoo, the Service cannot identify characteristics common to those habitats that would allow it to designate critical habitat. Though the Service identifies breeding habitat as “riparian woodland habitat in lowland areas,” much of the data and impacts it discusses are for general riparian areas. Thus, the failure of the Service to identify such features and the need to generalize the types of habitat occupied by the species indicates that critical habitat designation would be premature without further information.

In fact, given the migratory nature of the proposed western DPS of the yellow-billed cuckoo, limited seasonal use of habitat in the United States and variability in its pattern of use in the United States, the utility of any designation of critical habitat also will be limited. It is unclear that critical habitat could be accurately designated, and even it could be, there is little indication that designation would add protection for the species, given its limited presence in the United States.

XI. Prior to the Listing Determination, the Service Must Publicly Post and Allow Public Comment on the Results of the Peer Review of its Proposed Listing Determination.

In its listing determination, the Service briefly mentions that it plans to conduct a peer review regarding the proposed rule to make sure that a critical habitat designation is based on sound scientific data.⁷⁷ At least three independent experts will be consulted for this purpose and will examine specific assumptions and conclusions made in the listing determination. The Associations support the need for peer review of the Service’s decision on the potential listing of the proposed western DPS of the yellow-billed cuckoo. However, further transparency to this peer review process must be established. Importantly, the results of the peer review must be available for the public to comment *prior to* any final action by the Service on the designation of the proposed western DPS of the yellow-billed cuckoo.

Peer review is an important step to ensuring that the Services inquiry and analysis of relevant information has been consistent with scientific principles of rigor and validation. However, it is equally important that such analysis be shared with the public for comment. Failure to disclose and make available the results of the peer review to public comment would contradict the principle of open and transparent decision-making that is required under the ESA as well as the Administrative Procedure Act.

Very truly yours,



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⁷⁶ *Id.*

⁷⁷ *Id.* at 61,664.