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The is a Comment on the **Fish and Wildlife Service** (FWS) Proposed Rule: **Migratory Bird Permits: Management of Conflicts Associated with Double-Crested Cormorants (Phalacrocorax auritus) Throughout the United States**

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Comment

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Attachments (1)

Sarah Samples Comments for Cormorant DEIS

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Comments of the Draft Environmental Impact Statement for the Management of Conflicts Associated with Double-Crested Cormorants

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Impacts to Free-Swimming Fish Populations

Recommendations:

- Because Alternatives A, C, and D each include permit issuance for cormorant management on free-swimming populations (i.e., *Wild and Publicly Stocked Fisheries*) (p. 17), include empirical evidence (in addition to the site-specific examples provided on pages 34-35) to support the efficacy of cormorant take on free-swimming fish populations. Ensure that states applying for the special permit have conclusive data on a site-by-site basis indicating the effectiveness of cormorant management before culling begins.
- Consider discussing how Alternatives A, C, and D could better address the uncertainties of cormorant management on free-swimming fish populations under the special permit while still providing flexibility to states. This could include adding conditions/restrictions to the proposed rule, such as requirements to report to USFWS and/or National Marine Fisheries Service fishery scientists for the affected free-swimming fish population, especially for salmonids and other species of concern.
- Include a clear definition of "free-swimming fish" in the proposed rule. We note that multiple assumptions about the definition were apparent at the regional information-gathering meetings (Meeting Summary p. 41).

Rationale:

In the U.S. Fish and Wildlife Service's 2017 *Environmental Assessment for Issuing Depredation Permits for Double-crested Cormorant Management*, permit issuance for cormorant management of free-swimming fish populations was eliminated as an alternative because the "science to-date has limited examples demonstrating causality between the presence of cormorants as a sole or primary limiting factor for declines in free-swimming fish on a landscape level" (EA p. 15). In 2018, the need for additional information and data regarding the effectiveness of cormorant management on free-swimming fish populations was also expressed in congressional testimony and regional information-gathering meetings[1, 2]; however, this additional information was not included in the Draft Environmental Impact Statement.

Authorized Take

Recommendations:

Provide more information about the difference in Potential Take Limits (PTL) between the 2017 EA and DEIS and describe in plain language to the public why the DEIS authorized take estimates were higher (beyond the addition of new states and updated data). Include 2017 EA numbers in the FEIS as a

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[1] U.S. Fish and Wildlife Service. June 2018. Examining Effects of Mismanagement of the Cormorant in the Great Lakes Region (Congressional Testimony). Available at https://www.doi.gov/ocl/cormorant-mismanagement.

[2] U.S. Fish and Wildlife Service. December 2018. Double-crested Cormorants and Free-Swimming Fish: Regional Information-Gathering Meetings (Meeting Summary). Available at https://www.fws.gov/migratorybirds/pdf/management/double-crested-cormorants/DCCOFishAugust2018.pdf.

comparison. Provide a commitment in the Record of Decision to update the F0 during the five-year PTL reevaluations, as necessary.

Rationale:
The DEIS states that each cormorant subpopulation would remain stable at an authorized annual take of 123,157 birds nationwide (p. 9); however, EPA seeks clarification on the PTL calculations due to notable differences between the 2017 EA and DEIS PTLs for the Atlantic and Interior subpopulations. Although the DEIS uses nearly the same data from the 2017 EA (Table A-1, EA p. 69-71), the DEIS's lower 60% confidence interval (L60% CI) (i.e., lower take limit) is 37 percent higher for the Atlantic subpopulation and 64 percent higher for the Interior subpopulation. Although additional states were included in the DEIS and certain data was updated, it is unclear why the L60% CI increased sizably when the breeding pair estimates did not represent the same magnitude of change.[3,4] This discrepancy is clearly demonstrated for the Florida subpopulation because both documents used a baseline of 8,000 breeding pairs, but the L60% CI was higher in the DEIS.

It is observable between the 2017 EA and the DEIS that the yield-based reference was changed from *F0* = 0.75 to *F0* = 1, respectively (and excluding the Florida population). However, the USFWS should further explain the choice to increase from 2017 to 2020. This should be discussed in plain language for the public to understand. As the DEIS states that this is a management-based decision, please discuss how this value can change in the future. It is notable that a thorough monitoring program would be required at this level (p. 92) and it could be likely that future reporting indicates lowering the level is necessary. As such, it is important to address this factor in the ROD.

Sex Ratio Imbalance
Recommendation:
Describe how cormorant sex ratio is factored into the PTL model.

Rationale:
Research cited within the DEIS indicates that culling resulting in an imbalanced sex ratio favoring females could "prevent a sizable fraction of the female population from finding a mate" and that further declines could persist in a colony in the years following the imbalance (Bedard et.al, 1995). It is unclear if this variable is factored into the PTL equations.

Alternative A Clarification
Recommendations:
Provide more information about the special use permit, including the allotted take for each state and state transfers. As effectiveness monitoring is essential to adaptive management (p. 12, 61), include a commitment in the FEIS and Record of Decision that requires effectiveness monitoring under the selected Alternative.

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[3] The DEIS increased the Atlantic breeding pair total by adding 1,298 to Massachusetts range, 5,136 to Virginia's range, 2,497-4,497 to the Canadian Maritime provinces' range, and subtracted 200 from North Carolina and 3,928-5,362 from Quebec's range. This resulted in a -1,631 to +433 breeding pair range alteration from the 2017 EA. EPA also calculated a different upper range resulting in 49,092 compared to the DEIS's 47,690.

[4] The DEIS increased the Interior breeding pair total by 3,322 from the 2017 EA by including Colorado, Montana, New Mexico, and Wyoming. The DEIS was 394 fewer breeding pairs for Ontario. The difference for the Prairie Region is unclear because the 2017 EA did not provide an estimate for Alberta.

Rationale:
The DEIS briefly mentions that states would be issued allotted take under Alternative A (p. 12); however, no additional information is provided. Several important permitting variables are unclear, such as how allotted take per subpopulation would be subdivided among each state or if a state does not use its allocation if it can be transferred to another state (p. 11). Further, Alternative A states that the USFWS encourages, rather than requires, monitoring to assess the efficacy of control activities (p. 12).

Socioeconomic Impacts
Recommendations:
Include a more robust discussion of economic impacts for each of the four cormorant subpopulations analyzed. Ensure accurate representation of data and that only peer-reviewed, non-biased studies are cited.

Rationale:
Although the DEIS recognizes the uncertainty of a broad assessment of overall economic impacts to the aquaculture industry, the DEIS relies almost entirely on catfish farming in Mississippi to illustrate impacts to the aquaculture industry (p. 26-29). The DEIS also cites Burr (2019) to demonstrate correlation between the proportion of cormorants at surveyed aquaculture facilities and the various stages of the Aquaculture Depredation Order implementation between 2015-2017; however, the Burr study states that it is not representative of a larger scale and describes other influential factors affecting cormorant distribution that are not mentioned in the DEIS (p. 67). Further, some studies cited were not peer-reviewed or were funded through the Southern Regional Aquaculture Center, whose mission is to directly impact commercial aquaculture development in the Southern Region (p. 67).

NEPA Documentation
Ensure referenced documents are readily available to the public (40 CFR 1502.21), such as including them on the project website or providing links in the citations. For example, there are currently no links available to the 2003 FEIS, 2015 EIS, and 2017 EA. Other improvements to ease in public review could also be made, such as: numbering sections; parsing out the alternatives in the effects sections; and ensuring all subpopulations are consistently named throughout the analysis.