



20 July 2020

Public Comments Processing  
Attn: FWS–HQ–MB–2019–0103  
U.S. Fish and Wildlife Service  
MS: PRB (JAO/3W)  
5275 Leesburg Pike  
Falls Church, VA 22041–3803

Subject: Comments on “Migratory Bird Permits; Management of Conflicts Associated with Double-Crested Cormorants (*Phalacrocorax auritus*) Throughout the United States”

To the U.S. Fish and Wildlife Service:

With this letter, the Pacific Seabird Group is submitting comments on the Draft Environmental Impact Statement (DEIS) “Migratory Bird Permits; Management of Conflicts Associated with Double-Crested Cormorants (*Phalacrocorax auritus*) Throughout the United States” and the associated proposed rule. We consider the DEIS to be inadequate as written and the analyses on which the Potential Take Level (PTL) is based to be badly flawed. If implemented as described in the DEIS, the proposed rule is likely to result in unsustainable overkill of Double-crested Cormorants in the Western Population and possible collapse of that population. As such, we oppose the proposed rule and support Alternative E (Current Process) as the preferred alternative, until more appropriate analyses can be undertaken.

The Pacific Seabird Group (PSG) is an international, non-profit, scientific organization that was founded in 1972 to promote the knowledge, study, and conservation of Pacific seabirds. It has a membership drawn from the entire Pacific basin. Among PSG's members are biologists and scientists who have research interests in Pacific seabirds, government officials who manage seabird refuges and populations, and individuals who are interested in marine conservation. PSG members serve as scientific experts and conservation leaders within their local communities, nationally and around the world.

After reviewing the DEIS, including Appendix E, we provide the following comments:

1. The analyses on which the Potential Take Levels (PTL) in Appendix E are based rely on arbitrary decisions that have no biological relevance to the Western Population of Double-crested Cormorants or to the estimation of population attributes. The use of a management factor ( $F_0$ ), with no explanation of the biological rationale for that factor, and the selection of a value for that factor are completely arbitrary decisions. No empirical support is provided for this factor. Adding an arbitrary management factor results in all of the outputs from “population” analyses that follow no longer being tied to population vital rates; consequently, those outputs cannot be used to evaluate population-level impacts of various removal rates. Furthermore, there are no

adjustments in the management factor to account for differences or changes in population parameters over time and/or between populations.

In addition, no justification or empirical evidence for the selection of the lower bound of the 60% confidence interval are provided, suggesting again that the decision is not based on the population dynamics of Double-crested Cormorants.

2. Given that the stated goal of the PTL analysis is to generate a minimum value (lower bound) for Potential Biological Removal, it is unclear why the analytical approach is focused on estimating the central tendency rather than the lower bound. With the goal of estimating the lower bound, the analysis should simulate the minimum value. For example, the three methods used in the analysis generated estimates of the pre-breeding multiplier (PBM) of 2.32, 2.44, and 2.92, with the authors subsequently making PBM range between the two extreme values of 2.32 and 2.92. With the goal of estimating the minimum value, the minimal PBM estimate would have been the most appropriate value to use. This same recommendation applies to the calculation of values for  $r_{\max}$  and  $N_{\min}$ . From an analytical perspective, if a value for the lower bound is needed, the lower bound needs to be modeled and not the central tendency.

It also appears that the second PBM value (2.44) was calculated incorrectly and is actually 2.56. There are other additional mistakes that we noted in the analyses, but we do not include them here. We can provide them if helpful.

3. The data used to estimate the parameters in the model are derived from the Great Lakes portion of the species' range, but they are applied to all cormorant populations, including the Western Population. The application of population parameters from other regions is biologically problematic given the considerably different environments that the distinct populations inhabit, and the distinctive ecological and internal demographic factors influencing population parameters for cormorants in the Great Lakes region relative to cormorants west of the Rocky Mountains.
4. The results of the model generate a PTL that is too variable to be useful in management and provides no confidence that the removal rate will not result in overharvest. For example, the derived  $r_{\max}$  values generate a removal rate ranging between 9.9 - 17.8% of the Western Population. Coupled with the use of arbitrarily determined parameters (i.e., the management factor), the estimates are simply derived estimates from a bootstrapping exercise and are not informed by the true state of cormorant populations.
5. The DEIS states that the PTL of 8,881 birds/year for the Western Population is sustainable. The U.S. Fish and Wildlife Service's best estimate of the size of the Western Population in 2019, however, is 45,778 breeding individuals (95% C.I. = 31,850 - 59,710 individuals), meaning that the proposed annual PTL would represent 19% of the current breeding population (range of 15% - 28%). The DEIS uses an estimated  $r_{\max}$  of 0.3577, which is far greater than previous estimates of  $r_{\max}$  for the Western Population of Double-crested Cormorants (0.14 and 0.18), based on the demography of the sub-population in the Columbia River estuary, where over 40% of the Western Population formerly nested. This suggests that the PTL model in the DEIS overestimates the maximum sustainable take rate for the Western Population by at least 100%.

Indeed, the analyses by the USFWS for the 2015 Final EIS for management of Double-crested Cormorants in the Columbia River estuary indicated that the maximum sustainable harvest level for cormorants in the Western Population was about 2,300 individuals/year, or 26% of the PTL proposed in the DEIS.

6. The DEIS does not consider recent population trend data for the Western Population that suggest that the population has been declining as a result of increased colony disturbances by Bald Eagles and humans and potential loss of inland freshwater habitat as a consequence of diminished water availability. These trends suggest that carrying capacity in this region has declined, an important consideration that is not included within the DEIS.
7. Aside from the analytical and modeling issues that we raise above, we are also concerned that the DEIS does not provide details on the monitoring scheme to be used to track the impacts of widespread take on cormorant populations. We would like to see a detailed presentation of the monitoring program so that it can be assessed for its ability (power) to detect population changes, should they occur. The DEIS also does not provide a guarantee that funding will be available to support the monitoring program.
8. We are concerned that the DEIS includes no discussion of transboundary control measures with Canada and that there is no evidence of consultation with the Canadian Wildlife Service. Given that Double-crested Cormorant populations cross the border throughout a large portion of their northern range, this is a fundamental oversight.
9. Given the substantive issues with the PTL model and the lack of transparency in the analytical approach, we encourage the USFWS to postpone a decision on the DEIS to allow time for the significant revisions that we consider necessary before the proposed rule can be evaluated for its real impacts on cormorant populations.

PSG is mindful of the challenges that natural resource managers face in dealing with conflicts—either real or perceived—associated with cormorants. Cormorants, however, have somehow managed to persist and then recover from decades of persecution, pesticides, and other problems that depressed their numbers. We greatly value these beautiful, amazing, and adaptable birds and believe that every effort should be made to ensure that cormorant populations are not only sustained but truly thrive in the years ahead.

We appreciate the opportunity to provide feedback on the proposed rule and DEIS. Please let us know if we can provide additional information.

Sincerely,



Peter Hodum

Vice-Chair for Conservation