

**Depredation Permit Associated with Double-
crested Cormorant Management Plan to
Reduce Predation of Juvenile Salmonids in
the Columbia River Estuary**

Record of Decision

Prepared by:

Migratory Bird and Habitat Program
U.S. Fish and Wildlife Service
Portland, Oregon

April 13, 2015

Decision

The U.S. Fish and Wildlife Service (Service) has decided to issue a depredation permit valid through January 31, 2016, for the take of individual Double-crested Cormorants and nests, individual Brandt's Cormorants and individual Pelagic Cormorants under the Migratory Bird Treaty Act (MBTA) (16 USC § 703–712) (50 CFR § 21.41) as part of implementation of the U.S. Army Corps of Engineers' (Corps) *Double-crested Cormorant Management Plan to Reduce Predation of Juvenile Salmonids in the Columbia River Estuary—Final Environmental Impact Statement* (FEIS), February 2015. The effects of this proposed take were described and evaluated in the FEIS, which is incorporated herein by reference. The Corps examined the environmental effects of the Double-crested Cormorant Management Plan on many aspects of the human environment in the FEIS. The Service was a cooperating agency on the FEIS, providing technical expertise on Double-crested Cormorant monitoring and population model, and adopts the analyses from the FEIS for this decision (43 CFR § 46.320). Our purpose and need is to address a Migratory Bird Depredation Permit application received from the Corps, Portland District (March 23, 2015), which requests the take of 3,489 individual Double-crested Cormorant and 5,879 nests, 105 individual Brandt's Cormorants and 10 individual Pelagic Cormorants in 2015 as part of implementation of the Double-crested Cormorant Management Plan, Alternative C-1 (FEIS, Chapter 5). Alternative C-1 describes a four year, lethal management strategy with culling and egg oiling as a targeted means of nest destruction, including non-lethal measures, to the extent practicable. The total planned take is 10,912 individual Double-crested Cormorants (3,489, 3,114, 2,408, and 1,902 Double-crested Cormorants in years 1 to 4, respectively). In addition to culling individuals, approximately 46 percent of nests in years 1-3 would be oiled (15,184 nests oiled in total; 5,879, 5,247, and 4,058 in years 1-3). Implementation will occur within a well-monitored and adaptive management framework and requested take levels may be adjusted within that framework to ensure objectives, including not threatening the western population of Double-crested Cormorants, are met. Depredation permits have a tenure of up to one year, thus the Corps plans to submit a depredation permit application annually for the duration of their management plan. The Service will evaluate each application upon submittal for fulfillment of all regulatory requirements.

Background

The Corps developed the Double-crested Cormorant Management Plan and FEIS to comply with reasonable and prudent alternative action (RPA) 46 in the 2008 FCRPS Biological Opinion (BiOp), and its 2010 and 2014 Supplements, issued by NOAA Fisheries, which identified a management objective no more than 5,380-5,939 breeding pairs of Double-crested Cormorants on East Sand Island (2014 Supplemental FCRPS BiOp).

The Corps selected Alternative C-1 from the FEIS to meet RPA 46 based on feasibility, minimizing impacts to the western population of Double-crested Cormorants and other species,

and minimizing the potential for Double-crested Cormorant dispersal which could affect States, local agencies, and the public. The Corps issued their Record of Decision (Corps' ROD) on March 19, 2015 and has applied for a depredation permit to implement the lethal take components of the first year of their management plan (Alternative C-1). This Record of Decision documents the Service's permit decision, a summary of the options considered, public involvement and reasons for selecting the Selected Option.

Service's Permitting Options

Upon receipt of the Corps' application for a depredation permit, the four options available to the Service include:

1. **No action (Denial)** – The Service would deny the permit application and not issue a permit.
2. **Partial Denial** – The Service would approve and issue a depredation permit valid through January 31, 2016, authorizing take more restrictive than the species, number, method, or life stage requested by the Corps in their permit application.
3. **Issue a Depredation Permit for Action Described in the Permit Application (Selected Option)** – The Service would approve and issue a depredation permit through January 31, 2016. The permit authorizes take of the requested number of Double-crested Cormorant, Brandt's Cormorant and Pelagic Cormorant, as allowed by the MBTA and by regulation. This option would include provisions to enable the Service and the applicant to work to minimize long-term impacts to Double-crested Cormorant, Brandt's Cormorant and Pelagic Cormorant populations before the permit was issued, during the permitting process, and prior to renewal.
4. **Issue a Depredation Permit with Additional Conditions** - The Service would approve and issue a depredation permit through January 31, 2016, authorizing take of the requested number of Double-crested Cormorant, Brandt's Cormorant and Pelagic Cormorants with additional conditions that address avoidance and minimization measures, monitoring and adaptive management strategies that might further reduce effects. Conditions may be added to all permits the Service issues under 50 CFR § 13.21(e).

Options Considered but Rejected

The Service rejected consideration of a separate option of not even responding to the permit application (literally taking no action) because it is the expectation of the public, and our policy and legal obligation, to respond to all permit applications in a timely manner (*See* 5 USC § 706(1) and 50 CFR § 13.11(c)). The Service also rejected consideration of issuance of a "life of project" permit. While we have the authority to do so under the MBTA, this action is not

currently within the scope of the depredation regulation that also applies in this situation, which restricts permit tenure to a maximum of one year (50 CFR § 21.41(d)).

Authorities

The following is a synopsis of the laws, regulations, policies and procedures used in consideration of this depredation permit application.

Migratory Bird Treaty Act of 1918, 16 USC § 703-712. (Pub. L. 65-186, 40 Stat. 755 (1918), as amended by: Pub. L. 74-728, 49 Stat. 1556 (1936); Pub. L. 86-732, § 10, 74 Stat. 866 (1960); Pub. L. 91-135, 83 Stat. 275, 282 (1969); Pub. L. 93-300, 88 Stat. 190 (1974); Pub. L. 95-616, 92 Stat. 3110, 3111; Pub. L. 99-645, § 501, 100 Stat. 3582, 3590 (1986); and Pub. L. 105-312, 112 Stat. 2956 (1998)).

The original 1918 statute implemented the 1916 Convention between the U.S. and Great Britain (for Canada) for the protection of migratory birds. Later amendments implemented treaties between the U.S. and Mexico, the U.S. and Japan, and the U.S. and the Soviet Union (now Russia) (Conventions).

The MBTA includes a general prohibition of taking, killing, or possessing protected migratory birds (*See* 16 USC § 703(a)). However, the Secretary of the Interior is authorized to issue regulations permitting taking, killing, or possessing protected migratory birds under certain circumstances (*See* 16 USC § 704(a)). The applicable regulations are discussed below.

Depredation Permit Regulation (50 CFR § 21.41)

The depredation permit regulation (a) specifies a permit is required to take, possess, or transport migratory birds for depredation control purposes; (b) states the application procedures and required information (including a description of the area where depredations are occurring; the nature of the interests being injured; the extent of such injury; and the species of migratory birds committing the injury); (c) defines additional permit conditions for depredation permits; and (d) limits permit tenure to no longer than one year.

Issuance of Permits Regulation (50 CFR § 13.21)

This regulation specifies administrative requirements for the review of all permit applications, including the issuance criteria, disqualifying factors, supplemental information used during application review, and other factors related to permit issuance or denial.

Issuance criteria include requirements that the:

- 1) The applicant has not been assessed a civil penalty or conviction related to application activity
- 2) Applicant disclosed required information
- 3) Applicant demonstrates a valid justification and a showing of responsibility

- 4) Authorization must not potentially threaten¹ a population
- 5) Applicant is qualified

Disqualifying factors include:

- 1) Conviction or a plea of guilty or nolo contendere for felony of Lacey Act, MBTA, or Bald and Golden Eagle Protection Act (BGEPA)
- 2) Revocation of a permit
- 3) Failure to pay fees
- 4) Failure to submit timely, accurate, or valid reports

Any relevant supplemental information may be considered during application review. Permit denial is a possible decision if the issuance criteria are not met.

List of Migratory Birds (50 CFR § 10.13)

This is the list of birds protected by the MBTA. There are currently 1027 species on this list, included as species, or as species belonging to Families of birds, specifically identified by one or more of the Conventions with the four treaty nations. Double-crested, Brandt's, and Pelagic Cormorants are on the list.

Main Factors to Consider in Depredation Permit Issuance

In reviewing an application for a Migratory Bird Depredation Permit, the Service ensures the requested action: (1) meets the permit issuance requirements and criteria (*See* 50 CFR § 13.21) including that the action must not potentially threaten a wildlife or plant population (*See* 50 CFR § 13.21(b)(4)); (2) is consistent with the depredation permit regulation 50 CFR § 21.41; and (3) is compatible with the conservation of the migratory bird species as required by the MBTA, and ultimately with the Conventions with the four treaty nations.

Compatibility with Conventions and MBTA

The MBTA implements conventions with Canada, Mexico, Japan, and Russia. Cormorants as a Family (*Phalacrocoracidae*) (all cormorant species occurring naturally in the United States, including Double-crested, Brandt's and Pelagic cormorants) are covered under the treaty with Mexico (Agreement in 1972, supplementing the agreement of 1936), and Pelagic cormorants are additionally covered by the conventions with Japan (1972) and Russia (1976).

The overriding objective of each of the four Conventions is to provide for the conservation of shared bird species. Each convention also allows for regulations to be established in each

¹ "Threaten a population" is not used as defined in the Endangered Species Act. Threatened in this context is in reference to the sustainability of the population, which is measured by the trend of the population over time. As defined in the FEIS (Chapter 4, page 23), a sustainable population is a population that is able to maintain a long-term trend with numbers above a level that would not result in a major decline or cause a species to be threatened or endangered. Since the long-term population trajectory is predicted to be stable or increasing after the initial four years of implementation, the Service expects the Double-crested Cormorant western population numbers to be viable throughout implementation. Brandt's and Pelagic cormorants are not expected to be threatened by this action due to the low percentages of the regional population that may be taken.

country to control the taking of species under many different circumstances, including scientific, to protect against injury to persons or property, to protect against crop damage, or other needs to take birds.

Thus, these Conventions give broad authority to protect birds, but also to regulate their taking as long as their conservation is assured. Thus, 16 USC § 704 of the MBTA allows the Service to "... determine when ... to allow hunting, taking, capture, killing ... and to adopt suitable regulations permitting ..." these acts. However, the Service must make these decisions "... having due regard to the zones of temperature and to the distribution, abundance, economic value, breeding habits, and times and lines of migratory flight of such birds," to allow taking birds, compatible with the Conventions. Every permit issued by the Service under the MBTA involves an evaluation of the impact of that permit to the population of birds of interest. The ecological factors specifically listed in the act, the 'due regard' factors (particularly distribution, abundance, breeding habits, and migratory tendencies) are integral to that evaluation (*See* FEIS; Chapter 4; sections 2.2, 2.3, and 2.4).

Permit Application Review Process

In this section, we discuss our process for review of this depredation permit and summarize our findings. Detailed analyses supporting the findings can be found in Appendix A, (Permit Analysis for Depredation Permit). Additional relevant information can be found in Appendix B (Responses to Comments).

Our first stage of application review is to determine whether or not the applicant is requesting the appropriate type of permit. The depredation permit application was reviewed to ensure the requested take is for depredation control purposes (50 CFR § 21.41(a)). The Service concluded that the Corps' proposed action is appropriately addressed through a depredation permit. *See* Appendix A, Section A.

Our second stage of application review ensured that:

- (1) the application was complete and properly executed (50 CFR § 13.21(b)) and all relevant information was disclosed (50 CFR § 13.21(b)(2)), *See* Appendix A, Section B;
- (2) the applicant had no relevant civil penalties or criminal convictions regulating the activity (50 CFR § 13.21(b)(1)) or conviction of a felony violation of Lacey Act, MBTA, or BGEPA (50 CFR § 13.21(c)(1)), *See* Appendix A, Section B; and
- (3) there were no other reasons the applicant was not qualified (50 CFR § 13.21(b)(5)) and the applicant had no other disqualifying factors (50 CFR § 13.21(c)(2-4)) *See* Appendix A. Section B. Our third stage of application review examined in detail the responses to the Section E questions on the Migratory Bird Depredation Permit Application Form (Application Form²). *See* Appendix A, Section C. This included reviewing:

² "Application Form" is the Federal Fish and Wildlife Permit Application Form 3-200-13, Migratory Bird Depredation Permit.

- (1) the location of the damage (50 CFR § 21.41(b)(1); Application Form, Section E, Question 3), *See* Appendix A, Section C;
- (2) the description of the nature and extent of the damage (50 CFR § 21.41(b)(2,3); Application Form, Section E, Question 4-5), *See* Appendix A, Section C;
- (3) the nonlethal measures tried (Application Form, Section E, Question 6), *See* Appendix A
- (4) the proposed action (50 CFR § 21.41(b)(4); Application Form, Section E, Question 1-2), *See* Appendix A, Section C;
- (5) the long-term measures proposed to eliminate or reduce the need for lethal take (Application Form, Section E, Question 7), *See* Appendix A, Section C;
- (6) the recommendation provided by U.S. Department of Agriculture, Animal and Plant Health Inspection Service, Wildlife Services (Wildlife Services) as a Wildlife Services Permit Review Form (Form 37) (Application Form, Section E, Question 9), *See* Appendix A, Section C; and
- (7) who will be conducting the work authorized by the permit (Application Form, Section E, Question 10), *See* Appendix A, Section C.

This information was used to determine if there was a valid justification and showing of responsibility for the permit request (50 CFR § 13.21(b)(3), *See* Appendix A, Section C. For this depredation permit, the Service evaluated if: (1) sufficient practicable nonlethal methods have been attempted prior to the request for lethal take, (2) lethal take is likely to provide short-term relief from bird damage, and (3) there is sufficient commitment to finding a long-term, nonlethal solution to eliminate or reduce the depredation problem. The Service guidance document “What You Should Know About a Federal Migratory Bird Depredation Permit” which prefaces the Application Form, is used as a starting point in making determinations. The professional expertise provided by Wildlife Services in their Permit Review Form 37 and occasionally through additional internal and external consultation, is also used in determining the need for and likely outcomes of a depredation permit issuance. Additional relevant supplemental information (50 CFR § 13.21(d)) may also be used in evaluating the ‘responsibility of the applicant’ and the ‘valid justification’ for a depredation permit.

The fourth and final stage of application review is a Service review to ensure that issuance of a depredation permit will not potentially threaten a wildlife or plant population (50 CFR § 13.21(b)(4)) *See* Appendix A, Section D.

The four stages of application review are documented in Appendix A, Permit Analysis for Depredation Permit.

The Corps’ request was found consistent with take for depredation control purposes, *See* Appendix A, Section A.

The applicant has tried practicable nonlethal deterrents, and proposed a sound long-term plan, *See* Appendix A, Section C. The request is consistent with Wildlife Services’ Form 37 recommendation, *See* Appendix A, Section C. The issuance of a depredation permit is likely to reduce the depredation problem described in the application, *See* Appendix A, Section C. The

request meets the essential requirements for issuance of a Depredation permit under 50 CFR § 21.41, *See* Appendix A, Section C.

After considering each of the factors above, along with the application, the FEIS, and the full record, the Service finds that both a valid justification and a showing of responsibility have been demonstrated, as required under 50 CFR § 13.21(b)(3), *See* Appendix A, Section B.

In addition, after considering the effects analysis of the western population of Double-crested Cormorants (FEIS, Chapter 4, Section 2.2); the effects analysis of Brandt's Cormorants (FEIS, Chapter 4, Section 2.3), Pelagic Cormorants (FEIS, Chapter 4, Section 2.4) and other non-target species (FEIS, Chapter 4, sections 2.3 and 2.4); along with the application, the FEIS, and the full record, the Service finds that the proposed action will not threaten a wildlife or plant population, and therefore is compatible with the Conventions and MBTA. *See* Appendix A, Section D.

The Service concludes, following review of the depredation permit application submitted by the Corps, that all application requirements have been met.

Environmentally Preferred Alternative

Based on the comparison of regulatory requirements and issuance criteria summarized above, and on the comparison of environmental effects evaluated in the FEIS, the Service considers Option 3, 'Issue a Depredation Permit for Action Described in the Permit Application', as the most environmentally preferable option because it best balances the competing needs of the biological resources considered in the FEIS and represents the widest range of benefits to ESA-listed juvenile salmonids while reducing risk to the sustainability of the western population of Double-crested Cormorants in the long-term. While the lethal take implemented through Alternative C-1 reduces the local and regional abundance of Double-crested Cormorant through culling and egg-oiling, implementation will occur within a well-monitored and adaptive management framework with proposed take levels being reviewed annually by the Service.

Measures To Minimize Environmental Harm

All practical means to avoid or minimize adverse environmental effects have been incorporated into the Corps' Migratory Bird Depredation Permit application by citing the selected management plan including all avoidance and minimization measures as described in the FEIS.

Alternative C-1 reduced the total amount of take of individual Double-crested Cormorants by approximately 40 percent compared to Alternative C, the original Preferred Alternative. This leaves more breeding adults in the population. Additionally, changes were made to the Double-crested Cormorant population model parameters (FEIS, Appendix E) to incorporate a future reduced carrying capacity scenario to account for potential long-term threats and risks to the western population of Double-crested Cormorants. Furthermore, the adaptive management strategy was revised for alternatives considering lethal take to adjust take levels dependent upon

information received from annual monitoring of the western population of Double-crested Cormorants, per the Pacific Flyway Council Monitoring Strategy. This revision further mitigates the potential for adverse effects to the western population of Double-crested Cormorants.

Dispersal will be minimized by monitoring response of Double-crested Cormorants on and off East Sand Island. Management actions could cease temporarily if dispersal of Double-crested Cormorants is 70 percent or less than the expected abundance one week after implementation of culling or egg oiling events. Direct adverse impacts (i.e., “take” as defined by the MBTA) to other bird species during culling will be minimized by establishing a shooting protocol, training personnel, increasing the number of individuals in the field adequately trained in species identification, removing personnel unable to adequately perform duties, ceasing a particular lethal technique, or avoiding mixed species areas. Disturbance to species by personnel on the island will be minimized by building a network of privacy fences that partition the western portion of East Sand Island into different sub-areas, traveling in established routes and avoiding high concentrations of non-target species when possible. To minimize impacts to human safety, East Sand Island will be closed to the public during implementation, and personnel will adhere to all safety standards of firearm operation and training as described in the USDA-WS Policy Manual and Directive 2.615.

Monitoring and Enforcement Program

The monitoring and enforcement program is required by Service procedures; it is not related to a mitigation plan. The monitoring as described in the FEIS, Chapter 5, must be completed and the Corps must submit an annual depredation permit report by January 31, 2016.

Public Involvement

On July 19, 2012, the Corps published a Notice of Intent in the Federal Register to prepare an EIS for Double-crested Cormorant management. This notice stated that non-lethal and lethal methods were being considered. The Service accepted the invitation to be a cooperating agency. On October 25, 2012, the Corps issued a public notice announcing the scoping comment period and three public meetings. Three public meetings were held in Olympia, Washington, Portland, Oregon, and Astoria, Oregon during November, 2012. As a cooperating agency, the Service was in attendance and participated in all public meetings. The Corps and cooperating agencies, including the Service, reviewed the scoping comments and developed alternatives and analysis for the Draft Environmental Impact Statement (DEIS). A Notice of Availability for the DEIS was published in the Federal Register on June 20, 2014. Two public meetings and four webinars were held during summer of 2014; the Service participated as a cooperating agency. The comment period closed August 20, 2014.

All comments received on the DEIS were assessed and considered, both individually and collectively, for revisions to the FEIS. In response to substantive comments, the model used in the NOAA Fisheries analysis supporting the RPA action 46 was revised and the Service assisted

the Corps in revising the Double-crested Cormorant population model. Additional rationale was provided to explain how the range of alternatives were developed and complete information on all the Corps funded Double-crested Cormorant research and results to date was provided in an appendix. The Service assisted the Corps in responding to substantive comments related to effects to Double-crested Cormorants and authorities to issue take permits under the MBTA. In response to comments regarding impacts to the western population of Double-crested Cormorant, and with input from the cooperating agencies, the FEIS included an additional alternative, Alternative C-1. Alternative C-1 was a modification of Alternative C that reduced the total number of culled individuals and utilized egg oiling as a means of decreasing future productivity and population growth.

The comments and responses are in Appendix J of the FEIS and are available at:

<http://www.nwp.usace.army.mil/Missions/Current/CormorantEIS.aspx>

http://www.nwp.usace.army.mil/Portals/24/docs/environment/EIS/Cormorants/Final_EIS_Cormorant_Feb2015.pdf

A Notice of Availability was published in the Federal Register on February 13, 2015. The notice was amended February 20, 2015 to correctly identify the EIS as a Final EIS. The comment period for the FEIS ended March 16, 2015. Substantive comments were addressed in the Corps' ROD, Appendix A. The Corps' ROD is available at:

http://www.nwp.usace.army.mil/Portals/24/docs/environment/EIS/Cormorants/dcco_rod_w_app_a.pdf

The Corps considered all comments received on the FEIS in making their decision, and responded to those comments that raised substantive issues and warranted additional discussion (Corps' ROD, Appendix A). The Service adopts the responses to comments included in the Corps' ROD; also, for substantive comments on the FEIS that are relevant to issuance of a depredation permit, additional responses are provided in Appendix B.

The Service has received approximately 11,500 unsolicited comments. Most of these are form letters. All comments are on topics previously addressed in the FEIS, Appendix J; the Corps' ROD; and are expanded upon in Appendix B of this ROD.

Findings Required by Other Laws and Executive Orders

As a Federal agency, the Service is required to comply with numerous other Federal laws and Executive Orders in carrying out its duties. This section identifies laws and orders relevant to this action and our compliance with those laws and orders. Because the Corps will be implementing the broader action described in their ROD, the Service includes a discussion of their compliance to provide context. In most cases, the specific actions that will be authorized by a depredation permit—culling and egg oiling—will not implicate these environmental provisions.

Endangered Species Act

The Corps plan for cormorant control at East Sand Island is divided into two phases: Phase I, reduction of the Double-crested Cormorant colony size over four years, and Phase II, longer-term maintenance of that target population through habitat modification. *See* FEIS, Chapter 5, Phase II. The Corps completed consultation with NOAA Fisheries for ESA-listed species under its jurisdiction for Phase I in the 2014 FCRPS Supplemental Biological Opinion. The Corps also completed informal consultation with the Service (Endangered Species Program) for ESA-listed species under its jurisdiction for both phases of the action. The Corps determined the proposed action *may affect, but would not likely adversely affect* streaked horned larks, bull trout, Columbian white-tailed deer or their designated critical habitat. The Service (Endangered Species Program) concurred with this finding in a letter to the Corps dated March 5, 2015. The Service (Endangered Species Program) also concurs there will not be any additional effect by the Service (Migratory Birds and Habitat Program) issuing a depredation permit to the Corps for implementation of the management plan (letter received April 3, 2015).

Magnuson-Stevens Fishery Conservation and Management Act

Issuance of a depredation permit for culling and egg oiling does not implicate the Magnuson-Stevens Fishery Conservation and Management Act. However, the Corps completed consultation with NOAA Fisheries on the effects to essential fish habitat for Phase I actions this was included in the 2014 FCRPS Supplemental Biological Opinion. Phase II consultation on the effects to essential fish habitat will be conducted concurrently with ESA Section 7 consultation (Corps' ROD).

Clean Water Act

The culling and egg-oiling proposed in the application for a depredation permit does not require a Clean Water Act permit. However, the Corps followed all applicable substantive legal requirements per regulations under this act, 33 CFR § 336.1(a) (Corps' ROD).

National Historic Preservation Act

Under section 106 of the National Historic Preservation Act, the Service must determine whether a proposed action meets the definition of an undertaking that could result in changes in the character or use of historic resources (i.e., districts, sites, structures, or objects) that are eligible for listing on the National Register of Historic Places. The issuance of a Federal permit is an undertaking as defined by the National Historic Preservation Act that triggers consideration of section 106 review. The Service has determined that the issuance of this depredation permit would have no direct or indirect effects on cultural resources given that no ground disturbance or potential impacts to section 106 resources would occur.

However, due to extensive ground disturbance associated with terrain modification in Phase II, several historic properties could be affected. The Corps will be submitting engineering plans when they are finalized and complete consultation for Phase II prior to implementing any work that could affect historic properties (Corps' ROD).

Coastal Zone Management Act (CZMA)

Issuance of a depredation permit for culling and egg oiling does not implicate the CZMA. East Sand Island is federal land and is excluded from the state coastal zone under Section 304(a) of the Act. In Phase I, there will be no effects off East Sand Island that would affect any coastal use or resource. However, in Phase II there may be certain activities such as the placement of excavated material below high tide line associated with the terrain modification that will likely occur in state waters that are within the coastal zone. The Corps will submit a consistency determination to the Oregon Department of Land Conservation and Development for Phase II when off federal land effects are known, such as quantities of fill and locations for disposal sites (Corps' ROD).

Executive Order 13175 Tribal Consultation

This order was enacted to establish regular and meaningful consultation and collaboration with Tribal officials in the development of Federal policies that have Tribal implications, to strengthen the United States government-to-government relationships with Indian Tribes, and to reduce the imposition of unfunded mandates upon Indian Tribes. As part of the ongoing commitment to government-to-government relations with Native American Tribal Governments, the Service sent letters to the members and/or Tribal decision makers of 44 Native American groups potentially affected by the proposed action. The purpose of the letter was to reaffirm the Service's intention to work cooperatively with affected and interested Tribes, and to seek Tribal input for preparation of the consideration of the Corps depredation permit application. No tribal responses were received. The Service sent an updated letter to these same tribes to inform them that a depredation application was received by the Corps and was being considered. No tribal responses have been received.

The Corps submitted letters requesting participation in government to government consultation to eighteen federally recognized tribes during the development of the FEIS. The Colville Confederated Tribes and the Confederated Tribes of the Umatilla Indian Reservation entered into government to government consultation with the Corps and collaborated with the Corps and cooperating agencies during the NEPA process and reviews of the FEIS (Corps' ROD).

Executive Order 12898 Environmental Justice

There are no foreseeable direct or indirect effects from any of the options that create any pollution or other deleterious environmental justice effects. Furthermore, selection of Option 3 would not unnecessarily or disproportionately affect any particular community, or discriminate on the basis of race, color, or national origin.

Summary

The Service has selected Option 3, Issue depredation permit for action described in the permit application. The Service will approve and issue a depredation permit that would be valid through January 31, 2016, authorizing take of 3,489 Double-crested Cormorants and 5,879

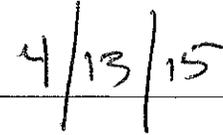
Double-crested Cormorant nests, 105 Brandt's Cormorants and 10 Pelagic Cormorants, as allowed by regulation. The Service chose this option because the Corps' permit application met all required factors and will allow the Corps to implement their Double-crested Cormorant Management Plan, which includes provisions that will enable the Service and the Corps to minimize long-term impacts to Double-crested Cormorant, Brandt's Cormorant and Pelagic Cormorant populations during the tenure of this permit, and evaluate any impacts prior to any permit renewal application. In addition, this option will meet the Corps' stated purpose and need in the FEIS, to comply with reasonable and prudent alternative action 46 in the 2008 FCRPS Biological Opinion (BiOp), and its 2010 and 2014 Supplements, issued by NOAA Fisheries, which identified a management objective no more than 5,380-5,939 breeding pairs of Double-crested Cormorants on East Sand Island (2014 Supplemental FCRPS BiOp).

Option 1 No Action (Denial), and Option 2, Partial Denial, were not feasible options because all depredation permit application requirements and criteria for issuance have been met. Option 4, Issue depredation permit with additional conditions, was not selected because the Corps' Preferred Alternative and application includes avoidance and minimization measures, monitoring and adaptive management strategies that were developed collaboratively by the Service and the Corps through the EIS development process. No additional conditions are necessary.

The Service adopts the analyses in the Corps' FEIS, in which the Corps considered the purpose and need for a management plan, developed the proposed a plan to meet the purpose and need, analyzed a reasonable range of alternatives that adequately address the purpose and need, identified the extent to which the impacts of the action could be practicably mitigated, and incorporated all practicable measures into the management plan to minimize environmental harm. The Corps has also considered public and agency comments received during the FEIS review period. In balancing the predicted effects of the various alternatives presented in the FEIS and the public interest, the Corps selected the management plan described in Alternative C-1. Alternative C-1 reflects implementation of all reasonable, practicable means to avoid, minimize, or compensate for environmental harm from the action. All applicable laws, regulations, and the objectives of salmon and steelhead recovery plans, waterbird conservation plans and the Pacific Flyway Council management documents and policies were considered in evaluating these options.

In summary, the Service finds that Option 3, 'Issue a Depredation Permit for Action Described in the Permit Application', represents the course of action that, on the balance, best serves the public interest.

Having considered the full range of options, associated effects, and public input, I select Option 3, 'Issue a Depredation Permit for Action Described in the Permit Application'. This Record of Decision is the Service's final action under the NEPA process.



Acting

Regional Director
Pacific Region
U.S. Fish and Wildlife Service

Date

Appendix A

Permit Analysis for Depredation Permit

Applicant Name: U.S. Army Corps of Engineers, Portland District
Date Completed Application Rec'd: March 23, 2015

Action Type: New Permit
Applicant Number:
MB62133B

A. Summary of Request (50 CFR § 21.41(a-b))

Regulatory Requirements: Depredation permits authorize take for depredation control purposes (50 CFR § 21.41(a)). Depredation permits are intended to provide short-term relief for bird damage until long-term, non-lethal measures can be implemented to eliminate or significantly reduce the problem. Non-lethal measures include harassment, habitat management, cultural practices, and policies.

Description of Area (§ 21.41(b)(1); Application Section E #3):

- (1) East Sand Island in Clatsop County, Oregon
- (2) Columbia River between East Sand Island and the Astoria-Megler Bridge (see Figure ES-2 in the Executive Summary of the U.S. Army Corps of Engineers, Double-crested Cormorant Management Plan to Reduce Predation of Juvenile Salmonids in the Columbia River Estuary, Final Environmental Impact Statement (FEIS)).
- (3) Columbia River Estuary dredged material islands in Oregon and Washington

Nature of Interest Injured (§ 21.41(b)(2); Application Section E #4):

Wildlife Protection - To protect species recognized by the Federal Government as an endangered or threatened species in designated critical habitat for the species.

- (1) Steelhead, federally threatened
- (2) Chinook Salmon, federally endangered or threatened
- (3) Sockeye Salmon, federally endangered

Extent of Injury (§ 21.41(b)(3); Application Section E #4 and #5):

Average predation rates on federally threatened and endangered salmonids ranges from 2 to 17 percent annually (depending on the Distinct Population Segment (DPS) or Evolutionarily Significant Unit (ESU)). As required by the U.S. Army Corps of Engineers (Corps) Section 7 Consultation for the Federal Columbia River Power System Biological Opinion (FCRPS BiOp), Double-crested Cormorant predation on federally threatened and endangered salmonids must be reduced. The National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries) "survival gap" analysis predicts an improvement of 3.54% by managing Double-crested Cormorant predation (FEIS, Appendix D).

Species Committing the Injury (§ 21.41(b)(4); Application Section E #1 and Take Request Table):

Double-crested Cormorant is the species in which the injury has been extensively researched and documented. As part of depredation control, Brandt's Cormorant and Pelagic Cormorant will likely be taken due to misidentification. Therefore, take is requested for Double-crested Cormorant, Brandt's Cormorant, and Pelagic Cormorant for the purposes of depredation control.

Proposed Action:

- 3,489 Double-crested Cormorant – Kill by shooting (primarily shotgun, some rifle, all with nontoxic shot)
- 5,879 Double-crested Cormorant – Nest Destroy (mostly by egg addling, up to 750 by nest destruction)
- 105 Brandt's Cormorant – Kill by shooting (due to misidentification)
- 10 Pelagic Cormorant – Kill by shooting (due to misidentification)

Decision: The request is consistent with take for depredation control purposes.

Biologist Name and Title: Jennifer Miller, Permits Branch Chief

Date: 4/13/2015

B. Issuance of Permits (50 CFR § 13.21):

Upon receipt of a properly executed application for a permit, the Director shall issue the appropriate permit unless (§ 13.21(b)):

- (1) Has the applicant been assessed a civil penalty or convicted of any criminal provision of any statute or regulation relating to the activity for which the application is filed?

Response: No, the applicant has not been assessed a penalty or convicted to our knowledge.

- (2) Has the applicant failed to disclose material information required, or made false statements as to any material fact, in connection with this application?

Response: No, to our knowledge the application as disclosed all material information.

- (3) Has the applicant failed to demonstrate a valid justification for the permit or a showing of responsibility?

Response: The applicant has demonstrated a valid justification and showing of responsibility. See *Section C: Application Review*.

- (4) Does the authorization requested potentially threaten a wildlife or plant population?

Response: Take will not potentially threaten a population. See *Section D: Biological Review*.

- (5) Does the Director find through further inquiry or investigation, or otherwise, that the applicant is not qualified?

Response: No additional inquiry or investigation was determined necessary.

Disqualifying factors. Any one of the following will disqualify a person from receiving permits issued under this part (§ 13.21(c)):

- (1) A conviction, or entry of a plea of guilty or nolo contendere, for a felony violation of the Lacey Act, the Migratory Bird Treaty Act, or the Bald and Golden Eagle Protection Act.

Response: No conviction or plea of guilty or nolo contendere known (see Application Form – Question 13)

- (2) The revocation of a permit under §13.28(a)(1) or (a)(2) for five years from the final agency decision on such revocation.

Response: No revocation of a permit known.

- (3) The failure to pay any required fees or assessed costs and penalties as long as such moneys are owed.

Response: No moneys owed known.

- (4) The failure to submit timely, accurate, or valid reports as required as long as the deficiency exists.

Response: No reporting deficiency exists at this time.

Decision: The criteria described in 50 CFR § 13.21 for Issuance of Permits have been met. No disqualifying factors exist to prevent the issuance of a permit.

Biologist Name and Title: Jennifer Miller, Permits Branch Chief

Date: 4/13/2015

C. Application Review:

Depredation Permits (50 CFR § 21.41b)

(1) Location of the depredation problem:

Response:

- i. East Sand Island in Clatsop County, Oregon
- ii. Columbia River between East Sand Island and the Astoria-Megler Bridge (FEIS, Executive Summary, Figure ES-2)
- iii. Columbia River Estuary dredged material islands in Oregon and Washington

(2) Summary of the depredation problem and cause for requesting a permit at this time:

Response:

The Corps states in their application that the depredation problem is Double-crested Cormorant predation on juvenile salmonids, many of which are listed under the Endangered Species Act. The FEIS presented results from research supporting this statement (see (2) below). The Corps is applying for a permit following their Endangered Species Act (ESA) consultation with NOAA Fisheries on the Federal Columbia River Power System. Reasonable and prudent alternative 46 in the 2014 Supplemental Federal Columbia River Power System Biological Opinion called for the Corps to "...develop a cormorant management plan (including necessary monitoring and research) and implement warranted actions to reduce cormorant predation in the estuary to Base Period levels (no more than 5,380 to 5,939 nesting pairs on East Sand Island)" (FEIS, Chapter 1, Section 1.1.5). We find that the Corps has adequately described the problem and why they are applying for a permit now.

(3) Evidence that the migratory bird species in question is causing injury to an interest:

Response:

The Corps provided evidence that Double-crested Cormorants are causing injury to listed juvenile salmonids. The impacts of Double-crested Cormorant predation on specific Evolutionarily Significant Units (ESU) or Distinct Population Segments (DPS) have been identified (FEIS, Appendix C, Table C-2.1). Predation rate data from steelhead DPSs (those originating entirely upstream of Bonneville Dam) indicate that juvenile steelhead are susceptible to Double-crested Cormorant predation in the Columbia River Estuary, with average annual predation rates ranging from 2 to 17 percent (depending on the DPS and year; FEIS, Appendix C). During 2007–2010, Lyons et al. (2014) documented an average annual predation rate of 26 percent by Double-crested Cormorants nesting on East Sand Island for PIT-tagged lower Columbia River hatchery Chinook salmon. Zamon et al. (2013) documented an annual predation rate of 19 percent on an experimental tagged group of Lower Columbia River ESU sub-yearling fall Chinook salmon released below Bonneville dam. (FEIS, Chapter 1, sections 1.1.6 and 1.2; FEIS, Chapter 3, sections 3.2.5 and 3.2.6; FEIS, Chapter 4, Section 4.2.5; and appendices C and D; and NOAA Fisheries 2014). We find that the Corps has adequately described the location of the depredation, the nature and extent of the injuries resulting from the depredation, and has demonstrated that Double-crested Cormorants are responsible for the identified depredation on juvenile salmonids.

The Corps also provided evidence associated with their request for 105 Brandt's and 10 Pelagic cormorants in FEIS, Chapter 4, sections 2.3 and 2.4. The Corps knows from research projects on Double-crested Cormorants, that 0.5 percent taken were misidentified Brandt's Cormorants (FEIS, Chapter 4, Section 4.2.3) and 0.13 percent taken were misidentified Pelagic Cormorants (FEIS, Chapter 4, Section 4.2.3). Therefore, take of Brandt's Cormorant and Pelagic Cormorant was requested as part of the depredation control program. Given the increased take being proposed and different methodologies, higher take rates will likely occur and a 3 percent take rate of Brandt's Cormorants and 0.3 percent take rate of Pelagic Cormorants (determined from input

by cooperating agencies on the FEIS) were used to estimate misidentification rates as part of the depredation control program. The Corps will be implementing measures to reduce misidentification to the extent possible. (See Biological Review, below, for a further discussion of the inclusion of non-target cormorants in this permit request.)

(4) Review of the nonlethal deterrents tried:

Response:

Nonlethal deterrents attempted to date are summarized in FEIS, Chapter 1, Section 1.1.6 and Appendix G. Current, ongoing hazing efforts, and subsequent hazing efforts on Columbia River dredge material sites are integrated with on-going avian predation management of dredge materials sites under the Corps' Channel and Harbors Program, which monitors dredged material placement sites for Double-crested Cormorants and Caspian terns as needed to prevent their nesting (FEIS, Chapter 2, Section 2.2.4). Planned additional non-lethal methods and adaptive response are described in Chapter 2, Section 2.2.4. This includes hazing on the eastern portion of East Sand Island to prevent Double-crested Cormorants from nesting in new areas. Personnel would observe Double-crested Cormorants from blinds or similar structures, and the following observations or behaviors on the eastern portion of the island would trigger a hazing event: 1) Double-crested Cormorant breeding behavior (i.e., courtship, nest building, or copulation); 2) more than 50 Double-crested Cormorants loafing in an area; and 3) Double-crested Cormorants present at twilight (i.e., preparing to roost overnight). Hazing triggers would be adapted if they are ineffective at producing desired results. Other visual and noise deterrents could be used during hazing events as needed depending on effectiveness of human hazers and knowledge gained during implementation. Human hazers would begin to restrict Double-crested Cormorants from nesting in areas outside the designated colony area.

During 2004–2008, social attraction techniques were employed on various islands within the Columbia River Estuary with some success at promoting Double-crested Cormorants to nest at alternative sites, primarily on Miller Sands Spit. However the locations where nesting occurred were further upriver from East Sand Island, where Double-crested Cormorant predation impacts to salmonids have been documented to be higher. During 2007–2012, social attraction techniques were used outside of the Columbia River Estuary at five known roosting sites in Oregon, but there were no nesting attempts made by Double-crested Cormorants at any site (FEIS, Chapter 2, Section 2.3; and FEIS, Appendix G).

In 2007, the Corps initiated studies to investigate certain non-lethal methods to dissuade Double-crested Cormorants from nesting in specific locations on East Sand Island. Methods tested to date include human disturbance (2008–2009 and 2011–2013), removal of nest structures prior to egg-laying (2011–2013), pond-liner material placed over nesting substrate (2009–2010), hazing using lasers (2008–2009), erection of potential perches for bald eagles (2007), placement of low (1.2m tall) silt fencing (2007), and reflective tape placed in nesting trees (FEIS, Chapter 2, Section 2.3; and FEIS, Appendix G).

During the 2011–2013 nesting seasons, studies were conducted to test the use of privacy fences and targeted human disturbance prior to egg-laying to reduce the amount of available nesting habitat for Double-crested Cormorants on East Sand Island, which consists of approximately 16 acres on the western half of the island. By design, available Double-crested Cormorant habitat on East Sand Island was not reduced or hazing increased to such a level to intentionally reduce overall Double-crested Cormorant colony size, as research objectives were designed at an appropriate scope and scale so as to inform future management decisions on the feasibility of techniques when applied to a larger scale (FEIS, Chapter 1, Section 1.1.6; and FEIS, Appendix G).

These studies provided relevant information about Double-crested Cormorant commitment to East Sand Island and the Columbia River Estuary, likely dispersal locations, and the feasibility of various actions that would achieve the purpose and need of the FEIS. Research that considered non-lethal Double-crested Cormorant management at a large geographic scale, demonstrated that non-lethal methods (hazing and temporary habitat modification on East Sand Island) would likely be effective at reducing the Double-crested Cormorant colony size on East Sand Island or in specific areas of the Columbia River Estuary (FEIS, Chapter 2, Section 2.2.2). However, it is not expected that non-lethal methods would be effective or feasible at preventing Double-crested Cormorants from nesting within the 172 river miles of the Columbia River Estuary. This could potentially result in greater impacts to other ESA-listed salmonids in the Columbia River Estuary as documented in past research; juvenile salmonids were three times more prevalent in the diet of Double-crested Cormorants nesting in the upper estuary (45 percent of the identifiable biomass) as compared to Double-crested Cormorants nesting on East Sand Island (15 percent; Collis et al. 2002) (FEIS, Chapter 1, Section 1.1.6). Additionally, past research and management efforts have documented that Double-crested Cormorants prefer (i.e., repeatedly return to) certain locations, and express high nest site fidelity to breeding areas and high continued usage in productive foraging areas. Given the substantial growth and size of the East Sand Island colony compared to other areas, the Columbia River Estuary is likely one of the most productive foraging and breeding areas within the range of the western population of Double-crested Cormorants. Based on the scope and scale of the management feasibility studies conducted to date, Double-crested Cormorants would likely not abandon this area easily based upon the species' biology, results of prior research and management efforts, and documented high Double-crested Cormorant commitment to East Sand Island and the Columbia River Estuary.

After considering the application, the information in the FEIS, and other information in the record, we find that the proposed action described in the application and in the FEIS is part of an adequate long-term non-lethal program. The dynamics of cormorant nesting and feeding at East Sand Island and in the Columbia River Estuary require that any lethal or non-lethal program consider the possibility of displacement of nesting, including displacement to areas where salmonid predation rates are higher than near East Sand Island. The Corps' careful approach to cormorant management has adequately explored the options for non-lethal management and the proposed action described in the Corps' ROD demonstrates that they have been implementing a proactive non-lethal program.

- (5) Review of the proposed action and its effectiveness in achieving the desired outcome:

Response:

The Corps management plan described in the FEIS is a two-phased plan, with lethal take as the primary strategy during Phase I and non-lethal as primary during Phase II. In Phase I, the Corps would implement a lethal management program over a period of 4 years to reduce the Double-crested Cormorant colony size in order to achieve juvenile salmonid survival goals. In Phase II there would be a transition to lower maintenance non-lethal techniques and reduction in the amount of human presence needed on the island while still ensuring colony size objectives are not exceeded to maintain juvenile salmonid survival goals. Continued non-lethal management on East Sand Island is expected to be necessary to slow or stop abundance increase of the colony. This would be accomplished through terrain modification and/or other habitat management supplemented with human hazing and use of visual deterrents. The proposed terrain modification would allow for frequent inundation of the western portion of East Sand Island to preclude Double-crested Cormorant nesting in this area, which is a long-term solution to limit Double-crested Cormorant abundance on East Sand Island. Based on knowledge gained during Phase I, a limited amount of egg take on East Sand Island may be requested in a depredation permit

application in Phase II to ensure hazing efforts can continue during the nesting season (see FEIS, Chapter 2, Section 2.2.2 and FEIS, Chapter 5 for more detailed information on Phase II).

Evaluation of effectiveness will occur through a monitoring and adaptive response program (FEIS, Chapter 2, Section 2.2.4; and FEIS, Chapter 2, Section 2.4, Table 2-10). On East Sand Island, in Phase I, aerial counts and counts by field crews will be used to determine Double-crested Cormorant colony abundance, take, and to assess dispersal, behavior, and response of non-target species. PIT tag recoveries after the breeding season will be used to assess predation. In Phase II, the same monitoring will be done as necessary. An average 3-year peak breeding season colony size estimate would be used to evaluate observed colony size to management objective. Also in Phase I, priority areas within the Columbia River Estuary will be monitored to assess Double-crested Cormorant abundance from aerial surveys and in conjunction with the Corps' Channels and Harbors program. In Phase II, Double-crested Cormorant abundance surveys will be conducted as needed, depending on future information needs. Outside of the Columbia River Estuary, in Phase I, the Pacific Flyway Council Monitoring Strategy will be implemented annually to determine difference between the predicted (FEIS, Appendix E) and observed abundances of Double-crested Cormorants on East Sand Island and in the western population. Each year, the Corps would monitor all specified locations of the monitoring strategy, where and when there are not already established monitoring efforts and secure funding sources, supplement data processing of aerial photography, and assist in preparing an annual summary report of the Pacific Flyway Council and other collected monitoring data. In Phase II, the Pacific Flyway Council Monitoring Strategy will revert to implementation every 3 years. We find that the Corps' proposed action, including the monitoring and adaptive management elements, provide an adequate program to evaluate the effectiveness of the depredation management program and incorporate that information in to subsequent applications for depredation permits. Because our permits will be annual permits, new information that will be gathered each year under the proposed action will be evaluated prior to the issuance of the any subsequent depredation permit.

- (6) The long-term measures proposed to reduce or eliminate the problem:

Response:

We find that the Corps' proposed action is part of a long-term plan, under which the need to kill birds or destroy nests is limited to a four-year transition period, following which no or little lethal take will be required to meet the Corps' objectives. We find that this meets the goal on the permit application form of not using lethal means as a long-term solution.

- (7) The recommendation provided on the Wildlife Services Form 37:

Response:

The take requested is consistent with the recommendation by Wildlife Services. Wildlife Services is very familiar with this project and has been working closely with the Corps as a cooperating agency throughout the EIS and management plan development.

- (8) The expertise of who will be conducting the work (permittee and/or subpermittee(s)):

Response:

The work will be conducted by Wildlife Services personnel. As stated in the FEIS, Chapter 2, Section 2.2.3, shooters would receive species identification training, and individual(s) or biologist(s) trained in species identification would be present when lethal take occurs to minimize take due to misidentification (i.e., Brandt's and Pelagic cormorants). Species would be identified prior to shooting. If there is a high concentration of non-target species in the area, these areas would be avoided.

Decision: The applicant has tried practicable nonlethal deterrents and proposed a sound long-term plan. The request is consistent with Wildlife Services Form 37 recommendation. The issuance of a depredation permit is likely to reduce the depredation problem. The request meets the requirements for issuance of a Depredation permit under 50 CFR § 21.41. After considering each of the factors above, along with the application, the FEIS, and the full record, we find that a valid justification and showing of responsibility requirement has been demonstrated as required under 50 CFR § 13.21(b)(3).

Biologist Name and Title: Michelle McDowell, Waterbird Biologist

Date: 4/13/2015

D. Biological Review

Take requested must not potentially threaten a wildlife or plant population (50 CFR § 13.21(b)(4)), consistent with the MBTA (16 USC § 703-712) and must be compatible with the Conventions. The MBTA implements conventions with Canada, Mexico, Japan, and Russia. The overriding objective of each of the four Conventions is to provide for the conservation of shared bird species. These Conventions give broad authority to protect birds, but also to regulate their taking as long as their conservation is assured. Thus, 16 USC § 704 of the MBTA allows the Service to "... determine when ... to allow hunting, taking, capture, killing ... and to adopt suitable regulations permitting ..." these acts. However, the Service must make these decisions "... having due regard to the zones of temperature and to the distribution, abundance, economic value, breeding habits, and times and lines of migratory flight of such birds," to allow taking birds, compatible with the Conventions.

The Corps' FEIS describes the effects of Alternative C-1 on the western population of Double-crested Cormorants. Based on modeled results, the abundance of the western population is projected to decline to approximately 38,500 breeding individuals at the end of four years of management, then increase to a long-term (i.e., 20 year) projected population size of approximately 45,000 breeding individuals (discussed below). Thus, this model predicts a sustainable (defined below) population over the long-term, following this action. Based on this predicted population trend, issuing a depredation permit is compatible with the conservation of the western population of Double-crested Cormorants and the proposed take does not have potential to threaten the western population of Double-crested Cormorants.

Sustainable Population

A sustainable population is defined in the FEIS as "... a population that is able to maintain a long-term trend with numbers above a level that would not result in a major decline or cause a species to be threatened or endangered. Based on the past population trend and the current number of active colonies, it appears the western population is sustainable around 41,660 breeding individuals (ca. 1990 abundance)" (FEIS, Executive Summary). We agree with this definition of a sustainable population.

The long term population trend is the determining factor for sustainability and whether a population will potentially become threatened. The population, post-management, is predicted to be approximately 45,000 breeding individuals at year 20 (FEIS, Appendix E-2, Table E-2 3 and Figure E-2 2). The ca. 1990 population level is a known data point in time. The western population has increased from numbers much lower than described for ca. 1990. As stated in the FEIS (Chapter 4, Section 4.2.2), the western population would likely rebound to some extent if abundance levels were to temporarily drop below the ca. 1990 level given that: 1) mortality factors known to limit Double-crested Cormorant populations prior to the 1970s have been reduced or eliminated, 2) since the ca. 1990 time period the western population has exhibited growth on the whole, and 3) the sum of the breeding colony counts of the western population (excluding East Sand Island) ca. 2009 is similar to that observed in ca. 1990. Risk to the long-term sustainability of the western population is further reduced given that take on East Sand Island would occur within a well monitored and adaptive management framework (FEIS, Chapter 2, Section 2.1; and

FEIS, Appendix E-2), monitoring of the western population will occur annually and this information will be used to evaluate and adjust future management activities, and an annual depredation permit application would need to be prepared, reviewed, and issued prior to take.

We are considering updated western regional population data as supplemental information. The Pacific Flyway Monitoring Strategy for the western population of Double-crested Cormorants was implemented for the first time in 2014 and the analysis was provided to the Pacific Flyway Council on March 10, 2015. The monitoring strategy sampling protocol selected 44 colonies for monitoring across nine states and British Columbia. Data were reported for 43 of the selected sites and 73 additional sites were monitored, for a total of 116 monitored sites. The Nongame Migratory Bird Technical Committee of the Pacific Flyway Council coordinated collection of colony data by state and federal agencies, and submitted survey result data to the Service. The Service compiled these data from the sampled sites of the western population to derive a breeding population estimate for the western population. These data yield an estimate of 76,036 (74,796-77,274; $\pm 95\%$ confidence limit) breeding individuals. This estimate is higher than the ca. 2009 estimate of 62,400 (Adkins et al. 2014) using a simple count method. Data are still being summarized from some colonies, but the addition of those to the dataset will not appreciably change this estimate. The difference from ca. 2009-2014 may be a true increase in the western population or this could be attributed to a different estimation methodology. Regardless, this population estimate may suggest that the western population is at least similar to, if not higher than, the estimate of the western population analyzed in the FEIS. Thus, effects to the western population from selection of Alternative C-1 could be less than as described in the FEIS if these data reflect a true population increase. Monitoring of the western population will continue every year from 2015 through 2019 to monitor the effects of the action on East Sand Island on the western population of Double-crested Cormorants.

The Corps' FEIS describes the effects of Alternative C-1 on the regional populations of both Brandt's and Pelagic cormorants (sections 4.2.3 and 4.2.4). Based on past studies, the Corps predicts that some Brandt's and Pelagic cormorants will be taken as misidentified Double-crested Cormorants (FEIS, Chapter 4, Section 4.2.3). To account for this potential take, the Corps conservatively estimates that 3.0 percent of the cormorants lethally taken might be misidentified Brandt's Cormorants. In year one, this could amount to 105 Brandt's Cormorants (3,489 Double-crested Cormorants multiplied by 0.03). The regional population of Brandt's Cormorants is estimated at 74,000 birds (FEIS, Chapter 3, Section 3.2.3), so the take of 105 Brandt's in year one amounts to 0.14 percent (105/74,000) of the regional population. If 3 percent of the cormorants culled annually are Brandt's Cormorants, this amounts to potentially 327 Brandt's Cormorants being taken over the course of the 4 years of implementation (105, 93, 72, and 57 in years 1-4, respectively), or about 0.45 percent of the regional population (327/74,000). This level of take would reduce the size of the Brandt's Cormorant colony on East Sand Island, but would likely have negligible effects on the regional population (FEIS, Chapter 4, Section 4.2.3). Based on this level of effect on the regional population, issuing a depredation permit to include 105 Brandt's Cormorants is compatible with their conservation and the proposed take does not have potential to threaten the regional population of Brandt's Cormorants.

As with Brandt's Cormorants, a percentage of the Double-crested Cormorants killed might be misidentified Pelagic Cormorants. Based on previous studies, the Corps conservatively estimates that rate at 0.3 percent. In year one, this could amount to 10 Pelagic Cormorants (3,489 Double-crested Cormorants multiplied by 0.003). The regional population of Pelagic Cormorants is estimated at 29,000 birds (FEIS, Chapter 3, Section 3.2.3), so the take of 10 Pelagic Cormorants in year one amounts to 0.03 percent (10/29,000) of the regional population. If 0.3 percent of the cormorants culled annually are Pelagic Cormorants, this amounts to potentially 33 Pelagic Cormorants being taken over the course of the 4 years of implementation (10, 10, 7, and 6 in years 1-4, respectively), or about 0.11 percent of the regional population (33/29,000). This level of take would likely have negligible effects on the regional population. Although no Pelagic Cormorants breed on East Sand Island, a colony of 150 birds that nest

nearby on the Astoria-Megler Bridge might be negatively affected by this level of take. Nevertheless, based on this level of effect on the regional population, issuing a depredation permit is compatible with the conservation of the Pelagic Cormorants and the proposed take does not have potential to threaten the regional population of Pelagic Cormorants.

The Corps' FEIS describes the effects of Alternative C-1 on other migratory birds (in sections 4.2.3 and 4.2.4), ESA-listed birds (Section 4.2.4), ESA-listed Fish (sections 4.2.5 and 4.2.6), and vegetation (Section 4.2.1). In addition the Corps' FEIS describes the cumulative effects from Alternative C-1 with past, present, and reasonably foreseeable future actions (Section 4.4.3).

Decision: After considering the history and effects analysis of the western population of Double-crested Cormorants; the effects analysis of Brandt's Cormorants, Pelagic Cormorants and other non-target species; along with the application, the FEIS, and the full record, we find that the proposed action will not threaten a wildlife or plant population and therefore is consistent with MBTA and compatible with the Conventions.

Biologist Name and Title: Michelle McDowell, Waterbird Biologist

Date: 4/13/2015

E. Permit Conditions

The following permit conditions are required by regulations (50 CFR § 21.41(c)). A national template is used for the formatting of the conditions on the permit when issued. A permit may include clarifications and/or additional conditions based on applicant's proposed action.

- (1) Take of migratory birds authorized on the permit

Authorization:

- i. Kill 3,489 Double-crested Cormorant
- ii. Destroy 5,870 Double-crested Cormorant nests
- iii. Kill 105 Brandt's Cormorant (due to misidentification)
- iv. Kill 10 Pelagic Cormorant (due to misidentification)

- (2) Unless otherwise specifically authorized, killing of migratory birds by shotgun no larger than No. 10 gauge fired from the shoulder in the location described on the permit.

Authorization:

- i. Kill by firearm (shotgun or rifle) with nontoxic shot
- ii. Destroy nests by addling (up to 750 by destruction; as restricted in the FEIS)

- (3) For the purposes of luring or enticing birds within gun range, the permittee may not use blinds, pits, or other means of concealment, decoys, duck calls, or other devices.

Authorization:

- i. Blinds used will be consistent with the regulatory prohibition.

Explanation: In this situation, blinds will be used to minimize disturbance to non-target birds (FEIS, Chapter 2, Section 2.2.3). Blinds will not be used for luring or enticing birds into gun range. Commonly, blinds are used in concert with decoys, calls, or other devices for luring or enticement purposes. The decoys lure the game-birds in and blinds are used as concealment. In the proposed management plan, the purpose of the blinds is to minimize impact to non-target birds, not to entice or lure birds into gun range. The blinds allow visual isolation from areas with active culling, thereby limiting disturbance to non-target birds. Therefore, the use of blinds is not for enticement purposes and remains consistent with this regulation.

- (4) All migratory birds killed shall be retrieved by the permittee and disposed of by:

Authorization:

- i. Donation to public educational or scientific institution
- ii. Burial
- iii. Incineration

- (5) Only persons named on the permit are authorized to act as agents of the permittee

Subpermittees Authorized:

- i. USDA-Wildlife Services

Modified Permit Conditions:

(1) Clarifications:

- i. Block 11(D): Removal of template condition "Lethal take is not to be the primary means of control." For this action, practicable nonlethal techniques will be implemented. Some nonlethal techniques that would otherwise be considered practicable are not for this action due to the management ramifications from that action. See FEIS, Chapter 4, Section 7.
- ii. Block 11(D): Clarification that take must be in accordance with application materials and FEIS Alternative C-1. A number of decision points and restrictions on the method of take, locations, etc. exist in these documents that must be followed but are not explained in detail in the permit conditions.
- iii. Block 11(E): Clarification regarding the use of blinds. The use of blinds is authorized to reduce disturbance to non-target birds. Blinds may not be used for enticement. See (3) above and FEIS, Chapter 2, Section 2.2.3.
- iv. Block 11(F): Clarification that all birds killed must be retrieved by the permittee. This is as required under the depredation regulation 50 CFR § 21.41(c)(4). Block 11(G): Removal of template condition allowing permittee to designate subpermittees without contacting the Service. This general authorization is not appropriate for this permit. The Corps' must contact the Service to designate subpermittee. The Service will list all subpermittees on the permit.
- v. Block 12: Column 3 location reporting requires the Corps' to report the location of take as specified in Block 10. The Depredation - Annual Report (Form 3-202-9) requires reporting when and where take occurs. Column 3 states "County (or equivalent)". For this permit instead of county, the Corps' will report "the equivalent" using the locations as stated in Block 10.

(2) Additional Conditions:

- i. Additional conditions are those which require avoidance and minimization measures, monitoring, and adaptive management to further reduce effects.
- ii. No additional conditions are required by this permit.

Biologist Name and Title: Jennifer Miller, Permits Branch Chief

Date: 4/13/2015

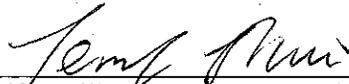
F. Certification:

The U.S. Fish and Wildlife Service finds that this permit is consistent with the Migratory Bird Treaty Act, 16 U.S.C. § 704(a), and compatible with all of the applicable Conventions. The take authorized is consistent with the regulations for depredation control purposes (50 CFR § 21.41).

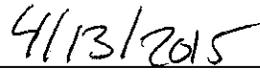
Since the Service was a cooperating agency on the Corp's Environmental Impact Statement, it is appropriate for the Service to adopt analyses of the Final EIS and issue a separate Record of Decision

(40 CFR 1506.3(c)). The Service has independently reviewed the FEIS and determined NEPA procedures have been satisfied.

Within the spirit and intent of the Council on Environmental Quality's regulations for implementing the National Environmental Policy Act (NEPA; 40 CFR 1500-1508), and other statutes, orders, and policies that protect fish and wildlife resources, I have established the attached administrative record and determined the following proposed action has met NEPA documentation requirements as provided by 516 DM 6 Appendix 1).



Jennifer Miller, Permit Branch Chief
Migratory Birds and Habitat Program



Date

Appendix B. Responses to Comments

Comments were submitted on the FEIS. A majority of the comments were duplications of comments received on the DEIS that were considered and incorporated in the FEIS, or were otherwise responded to in Appendix J of the FEIS. The Corps considered all comments received on the FEIS in making its decision, and responded to those comments that raised substantive issues and warranted additional discussion. Responses to these comments were provided in the Comment Response Document (Appendix A) of the Corps' ROD. We hereby adopt and incorporate by reference the response to comments included in the Comment Response Document (Appendix A) of the Corps' ROD. In this section, the Service provides responses to comments on the FEIS that are relevant to issuance of a depredation permit. These responses expand upon responses to comments included in the FEIS and in the Corps' ROD.

Commenter	Issue	Comment	Response
EPA ¹		We are concerned about the level of lethal take. We believe the amount of lethal take of Double-crested Cormorants could be reduced if monitoring after some take in the first year shows that salmonid populations are trending toward a sustainable target level.	The number of double-crested cormorants authorized to be taken through January 31, 2016 is 3,489 individuals and 5,879 nests. Future take requests will be reviewed as described in our ROD and would include new or updated information available at that time. See Section 2.1.3 of the FEIS which describes the adaptive management strategy in the Corps' management plan. Regarding the response of salmonid populations to the action, as stated in the FEIS (Chapter 2, Page 6), due to annual variability in predation impacts, monitoring would likely need to occur over a longer period of time (5-10 years) to assess overall trends and effects, accounting for yearly fluctuations. In any case, "salmonid populations trending toward a sustainable target level" might be a potential measure of the effectiveness of the Corps' overall program, but is not an appropriate measure of the effectiveness of the depredation program which is more narrowly focused on Double-crested Cormorant predation on juvenile salmonids. Also, the salmonid species of interest to the Corps have a multi-year life cycle, so information relating to trends toward a sustainable target level will not be available

¹ The Corps followed up with EPA following issuance of its ROD to confirm that issues raised by the EPA had been adequately addressed in the ROD. Email from Gayle Lear, April 3, 2015 regarding letter sent April 3, 2015 from Casey to Reichgott regarding Double-crested Cormorant Plan. The EPA responded that the letter provided clarity, they are in support of the adaptive management program, they understand the Corps commitment to carrying out the FCRPS 2014 Supplemental BiOp (letter sent April 6, 2015 from Reichgott to Casey).

		<p>after the first year of the Corps project (See FEIS, Chapter 2, Page 6).</p>
EPA	<p>We are concerned that this project may set a precedent for the amount and methods of lethal take of native, protected, fish-eating, migratory birds in the western U.S.</p>	<p>The methods proposed are not unique, or new under depredation permits. The amount of take requested under this permit is an increase over previous permits issued by the Service for fish-eating birds in the western U.S. However, every depredation permit application is evaluated for administrative, biological, and other effects as required under the Service's permitting regulations at 50 CFR § 21.41, and as required under the NEPA. The Service will not issue permits that do not meet the requirements of these statutes.</p>
EPA	<p>It appears that there is some uncertainty about maintaining a sustainable western population of Double-crested Cormorants, given that this project will result in a population below the presumed sustainable 1990 abundance, and rely on a potential slow increase over a 20 year period to restore viable numbers.</p>	<p>While there is always some uncertainty about the response of populations to management actions, the Service is using the best available science to inform the population model that predicts the long-term population trend of the western population of Double-crested Cormorants after the implementation of the Corps' management plan. As defined in the FEIS (Chapter 4, page 23), a sustainable population is a population that is able to maintain a long-term trend with numbers above a level that would not result in a major decline or cause a species to be threatened or endangered. Since the long-term population trajectory is predicted to be stable or increasing we expect the Double-crested Cormorant western population numbers to be viable throughout implementation. The predicted population based on the model will always remain within 1 standard deviation of the population ca. 1990, and is below the 1990 level for only 5 years (years 5-9 following the start of implementation). After that, the population is predicted to surpass the 1990 level and at 20 years after implementation begins is predicted to be 3,300 individuals above 1990 levels (See FEIS, Figure 4-10; FEIS, Appendix E-2). Thus, the population is predicted to remain sustainable throughout implementation of this action and into the foreseeable future.</p> <p>In addition, the following factors were used in our analysis of</p>

<p>the population: 1) mortality factors known to limit Double-crested Cormorant populations prior to the 1970s have been reduced or eliminated, 2) since the ca. 1990 time period the western population has exhibited growth on the whole, and 3) the sum of the breeding colony counts of the western population (excluding East Sand Island) in ca. 2009 is similar to that observed in ca. 1990. Risk to the long-term sustainability of the western population is further reduced given that take on East Sand Island would occur within a well monitored and adaptive management framework (See FEIS, Chapter 2, Section 2.1 and Appendix E-2), monitoring of the western population will occur annually and this information will be used to evaluate and adjust future management activities, and an annual depredation permit application would need to be submitted for the Service's review and issued prior to take. Management actions will be adjusted if the population is not responding as predicted.</p>			
<p>There are conflicting views on what constitutes a balanced ecosystem dynamic, particularly in the Columbia River ecosystem where hydrologic dams have altered river dynamics, with corresponding changes to the plants and animals that rely on the river system. While lethal control operations have been shown to be ineffective in some vertebrate control operations, they have been shown to be effective in others (Coates and Delehanty 2004; Lauten et al. 2006; FEIS, Chapter 2, page 38). Whether or not avian predation has contributed to the decline of ESA listed salmonids is outside the scope of this depredation permit decision. Impacts of Double-crested Cormorant predation on ESA-listed salmonids is addressed in the FEIS (Chapter 1, page 21).</p>	<p>We are concerned that the proposed level of lethal take of Double-crested Cormorants may not achieve the desired balance in ecosystem dynamics. A number of wildlife researchers report that lethal control efforts are counterproductive, and avian predation has not necessarily contributed to the decline of ESA-listed salmonids.</p>		
<p>Climate change effects, other human impacts, and predation by eagles and gulls were analyzed in the evaluation of potential effects to the western population of Double-crested Cormorants (FEIS Chapter 4). These effects were analyzed</p>	<p>We are concerned about reducing the Double-crested Cormorant western population below 1990 levels. It is not clear if additional stresses on the Double-crested Cormorant</p>		

<p>qualitatively and quantitatively through population modeling (FEIS Appendix E-2). Specifically we reduced the carrying capacity parameter in the model to account for the effects listed above by assuming the carrying capacity would only support 82% of the ca. 2009 estimated Double-crested Cormorant abundance (FEIS Appendix E-2, page 9). This reduction in carrying capacity incorporates these additional stresses that may also affect the long-term trend of the western population. Additionally, the adaptive management framework incorporated into the preferred alternative in the FEIS will result in a careful, measured process of colony reduction, monitoring and conservation of the western population of Double-crested Cormorants.</p>	<p>western population were adequately taken into account in the modeling exercise, to incorporate the degree and rate of change in ecosystem dynamics that affect stresses. For example, there may be loss of food sources, habitats, and colonies due to climate change and other human impacts, and increased predation on adults, chicks, and eggs from eagles and gulls. We recommend a precautionary approach that would retain a buffer above the 1990 level to account for these adverse conditions.</p>	<p>quantitatively and quantitatively through population modeling (FEIS Appendix E-2). Specifically we reduced the carrying capacity parameter in the model to account for the effects listed above by assuming the carrying capacity would only support 82% of the ca. 2009 estimated Double-crested Cormorant abundance (FEIS Appendix E-2, page 9). This reduction in carrying capacity incorporates these additional stresses that may also affect the long-term trend of the western population. Additionally, the adaptive management framework incorporated into the preferred alternative in the FEIS will result in a careful, measured process of colony reduction, monitoring and conservation of the western population of Double-crested Cormorants.</p>
<p>The Audubon Society of Portland</p>	<p>Regulations under MBTA do not allow for incidental take</p>	<p>The Audubon Society of Portland's (ASP) comments refer to an article indicating that the Service is considering amending its MBTA regulations to allow the incidental take of migratory birds. It is true that FWS is considering developing an EIS regarding revisions to the MBTA regulations to more expressly authorize incidental take under the MBTA. The current regulations regarding take for depredation-control purposes, however, are broad enough to cover the take of non-target birds during depredation control activities. Thus, the situation at issue here is distinguishable from the wind-farm example given in the article.</p>
<p>The Audubon Society of Portland's (ASP) comments refer to an article indicating that the Service is considering amending its MBTA regulations to allow the incidental take of migratory birds. It is true that FWS is considering developing an EIS regarding revisions to the MBTA regulations to more expressly authorize incidental take under the MBTA. The current regulations regarding take for depredation-control purposes, however, are broad enough to cover the take of non-target birds during depredation control activities. Thus, the situation at issue here is distinguishable from the wind-farm example given in the article.</p>	<p>The MBTA and its regulations do not address the permissibility of non-target, or incidental takes. USFWS submitted a notice to the White House OMB that it plans to prepare an EIS regarding permitting incidental take under MBTA.</p>	<p>The depredation permit regulations provide that "a depredation permit is required before any person may take, possess, or transport migratory birds for depredation control purposes." 50 CFR § 21.41(a); See also 16 USC § 704a. There is nothing in the regulations limiting the permit to those migratory birds that are responsible for the depredation, only that the migratory birds be taken as part of a depredation control program. The regulations therefore allow the Service to permit take of non-target migratory birds when those birds are taken as part of a depredation control program.</p>

<p>The ASP comments attempt to read the information-provision parts of the regulations as limiting the take that can be covered under a permit. Indeed, the regulations do require submission of a detailed permit application, 50 CFR § 13.21(a), and require the applicant to identify “the particular species of migratory birds committing the injury.” 50 CFR § 21.41(b)(4). The Service’s application form also asks the permit applicant to identify the total number of birds causing the depredation problem. The Service uses that information, in part, to determine if the application is properly for a depredation control program and to determine if the proposed control program will be effective in alleviating the depredation problem. But needing that information does not preclude the Service from recognizing, as here, that the depredation control program may, due to misidentification or other issues, cause take of non-target migratory birds.</p>			
<p>The ASP comments refer to a 2002 scientific article co-authored by two U.S. Fish and Wildlife Service employees as defining the Service’s “formulation” of its regulations. First, a USFWS employee’s statement in a symposium article is not binding on the agency. Second, the statement in the article jumps from the lack of a general provision for permitting incidental take of migratory birds (discussed above) to an unsupported conclusion that take of nontarget species could not be covered under a depredation permit. This is simply incorrect.</p>	<p>“The MBTA does not provide a legal mechanism for incidental take of non-target migratory birds. Thus a depredation permit could allow the take of blackbird species causing crop damage, but it does not allow the incidental take of nontarget birds which might die as a result of the blackbird control effort.” This quote from USFWS officials at a symposium runs counter to the interpretation here, which includes Brandt’s and Pelagic cormorants in the proposed permit, and which are incidental to the Double-crested Cormorant control.</p>	<p>The MBTA does not provide a legal mechanism for incidental take of non-target migratory birds. Thus a depredation permit could allow the take of blackbird species causing crop damage, but it does not allow the incidental take of nontarget birds which might die as a result of the blackbird control effort.” This quote from USFWS officials at a symposium runs counter to the interpretation here, which includes Brandt’s and Pelagic cormorants in the proposed permit, and which are incidental to the Double-crested Cormorant control.</p>	<p>The ASP comments refer to a 2002 Memorandum of Understanding (MOU) between APHIS and USFWS. As noted in the ASP comment, the MOU does acknowledge that take of non-target migratory birds may occur “during actions covered under depredation permits, depredation and control orders, and</p>
<p>The ASP comments refer to a 2012 Memorandum of Understanding (MOU) between APHIS and USFWS. As noted in the ASP comment, the MOU does acknowledge that take of non-target migratory birds may occur “during actions covered under depredation permits, depredation and control orders, and</p>	<p>The EO 13186 MOU between USFWS and USDA categorized non-target takes as outside the realm of a depredation control permit.</p>	<p>MOU between FWS and USDA</p>	<p>Audubon Society of Portland</p>

			<p>agricultural control and eradication activities.' But acknowledging the existence of possible take of non-target species and agreeing to work to minimize such take does not mean to narrow the scope of the depredation permit regulation. The comment goes too far in reading this agreement to generally work to minimize take of non-target species as a limitation on the scope of depredation permits. In reviewing the Corps' permit application, the Service both acknowledges the measures being taken to minimize the take of non-target species and permits the take of non-target species that cannot be avoided using those reasonable measures. That is consistent with the MOU and with the depredation permit regulation.</p>
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Appendix C: Literature Cited

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