Double-crested Cormorants (hereafter, cormorants) are fish eating birds that nest in large colonies. The cormorant colony on Leech Lake nests primarily on Gull and Little Pelican Islands, tribally-owned islands in Leech Lake. The number of cormorants at this colony increased dramatically in the late 1990s and peaked in 2004 with a fall population of around 10,000 birds. Sport anglers and the tourism community expressed concern that the colony was having an adverse effect on the game and forage fish populations. To address these concerns, the Leech Lake Band Division of Resources Management, in partnership with the U.S. Fish and Wildlife Service, Minnesota Department of Natural Resources, and University of Minnesota, initiated diet and fisheries studies beginning in 2005.

Unfortunately, results of the first two diet studies (Hundt et al. 2013, Schultz et al. 2013) were confounded by impacts of other lake management activities that were initiated concurrently with cormorant population reduction. MNDNR was legislatively mandated to stock walleye fry from 2005-2014, which added high numbers of young walleye to the lake. The high number of stocked walleye caused a decline in perch populations and likely impacted the species type and size composition of cormorant diets during stocked years. Further, unusually low walleye survival during the mid-2000s when cormorant abundance was increasing resulted in exceptionally fast growth rates of juvenile walleye. When compared to historical length-at-age records, the walleye year classes evaluated in the 2005 and 2008 diet studies may have prematurely outgrown the size range susceptible to cormorant predation. For these reasons, it became apparent that additional investigation into cormorant diet under more “normal” conditions (i.e., a population that is neither stocked nor exhibiting abnormally high growth rates) was needed.

Another reason to continue cormorant diet studies under current conditions is that zebra mussel veligers were discovered in Leech Lake in 2016. It is anticipated that within the next six years this species will establish itself throughout the lake, altering the food web and availability of food for small fish. Data on impacts of non-native species (zebra mussels) on inland lake aquatic communities are limited. Leech Lake research is a high priority because zebra mussels are not yet established meaning the opportunity to collect pre-establishment information still exists. An unbiased diet analysis will provide a tool for evaluating the role of cormorants as a top predator in freshwater systems and will aid in determining the role of cormorants as lake ecology is modified.

Further, the MNDNR defined a cormorant population target for Leech Lake at 500 nesting pairs based on previous diet assessments. The assumption was that the productivity of Leech Lake could sustain this number of cormorants without negative consequences to important fisheries.
However, the concurrent management activities (e.g. walleye stocking and harvest regulations mentioned above) that have been occurring since 2005 have compromised the ability of biologists to assess the fitness of that management target. To resolve this issue, walleye stocking was discontinued in 2014 to allow for analysis of fish-cormorant dynamics under more natural conditions.

To gain a more unbiased understanding of the impact of cormorants on sport fish populations in Leech Lake, the Band implemented two 3-year studies beginning in 2017 that were focused on 1) cormorant diet under more “normal” conditions; and 2) the effects of a stable cormorant population on juvenile walleye survival. In 2019, the Band is requesting an increase in the amount of cormorants necessary to meet their study objectives. These studies will provide critical time-sensitive data needed for the long-term management of the lake, as well as trophic insights that could be applied to other systems throughout the Glacial Lakes region.

The EA documented the need for issuing a scientific collection permit and assessed potential impacts on the human environment from the proposed action.

MAJOR ISSUES

The EA describes the alternatives considered and evaluated using the identified issues. The following issues were identified as important to the scope of the analysis (40 CFR 1508.25).

- Effects on cormorant populations
- Effects on other wildlife species, including threatened and endangered species
- Effects on aesthetic values
- Humaneness and animal welfare concerns of the methods used

AFFECTED ENVIRONMENT

The proposed action would take up to 3,000 adult cormorants that occur only at breeding colonies on Gull and Pelican Islands within Leech Lake Minnesota in 2019. Lethal and nonlethal methods would be used to achieve study objectives. Take of cormorants is limited to a 3/4 mile buffer around the islands. There is potential for short-term closures for cormorant management activities, but these would only be in effect from the arrival of cormorants in early spring until approximately mid-June. Noise from the use of frightening devices would occur over a shorter duration because it is typically discontinued when co-nesting bird species start using the islands.
ALTERNATIVES THAT WERE FULLY EVALUATED

Alternative 1 – Issue a Scientific Collection Permit (Proposed Action)
Under this alternative, the USFWS would authorize a Scientific Collection Permit (50 C.F.R. § 21.23) for take of cormorants by the Band. A diet study and a study to analyze fish dynamics under stable cormorant populations are being conducted. The objectives and methods of the two studies are as follows:

Objectives of diet study

(1) Quantify cormorant predation on non-stocked walleye year classes (2015-present).
(2) Compare the current (2016-2019) diet study to previous diet studies (2004; 2008) to assess the effect(s) that walleye fry stocking and above-average juvenile walleye growth may have had on previous cormorant consumption estimates.
(3) This study requires the take of approximately 50 adult cormorants per week starting as soon as the birds arrive in the spring until they begin to migrate south in the fall (mid-April to August)

Objectives for monitoring fish population under a fixed cormorant population

(1) Evaluate the survival of natural walleye year classes under the current cormorant management target of 500 nesting pairs.
(2) In combination with previous diet work, establish a baseline understanding of cormorant influence on fish populations prior to zebra mussel establishment.
(3) Refine the current management target of 500 nesting pairs (USDA 2005) as appropriate using empirical evidence from these research studies.
(4) This study will rely on aerial flights and ground counts to assess cormorant population. Based on estimates, cormorants will be removed using lethal and nonlethal methods to get down to a population of 500 reproducing pairs

Alternative 2 – Only Nonlethal Management (No Action)

Under this alternative, the USFWS would not issue a SCP to the Band authorizing take of cormorants for their ongoing research. The Band would be able to use nonlethal methods to control the cormorant population on Gull and Pelican Islands to achieve the objectives for monitoring fish populations under a fixed cormorant population, but would not be able to meet the objectives of the diet study that requires lethal take of cormorants.
FINDING OF NO SIGNIFICANT IMPACT

The analysis in the EA indicates that there will not be a significant impact, individually or cumulatively, on the quality of the human environment because of this proposed action. This determination is based on the following factors:

1. The proposed action has low adverse impacts and a greater potential for beneficial impacts both direct and incidental.
2. The proposed action would have no effect on public health and safety.
3. There are no unique characteristics such as park lands, prime farm lands, wetlands, wild and scenic areas, or ecologically critical areas that would be significantly affected. Built in mitigation measures for standard operating procedures as well as adherence to laws and regulations will further ensure that the agencies' activities do not harm the environment.
4. The effects of the quality of the human environment are not highly controversial. Although there may be some opposition to lethal and nonlethal methods of take, this action is not highly controversial in terms of size, nature, or effect and in general, the public has been supportive of cormorant reduction on Leech Lake.
5. The effects of the proposed activities are not uncertain and do not involve unique or unknown risks.
6. The proposed action accounts for all take of adult cormorants in the state of Minnesota. Therefore, no significant cumulative effects were identified through this assessment. The EA discussed cumulative effects on target and non-target species populations and concluded that such impacts were not significant for this action. Further, when this take is considered with other cormorant take throughout the eastern U.S., it is still below a level that can sustainably be taken from the Atlantic and Mississippi/Central cormorant populations as indicated in the FWS 2017 take assessment for cormorants.
7. The proposed action would not affect any structures listed in the National Register of Historic Places, nor would they cause any loss of significant cultural, or historical resources.
8. The USFWS has determined that the proposed action would have no effect on any Federal listed threatened or endangered species. This determination is based upon searches of natural heritage and endangered species databases, scientific research, Leech Lake monitoring, and expert opinion. In addition, the proposed action will not adversely affect any Minnesota State or Tribally listed threatened and endangered species.
9. The proposed action would comply with all federal, state, and local laws.
DECISION AND RATIONALE

I have carefully reviewed the EA prepared for this proposal. I believe that the rationale to continue scientific research related to cormorant dynamics on Leech Lake is robust and is best addressed by selecting Alternative 1 - issuing a scientific collection permit.

This alternative is selected because:

1) it allows the Band to continue important research that may potentially have long-term ramifications for managing natural resources on Leech Lake and may provide insights into trophic interactions that could provide guidance for other lake systems within the Great Lakes Region;

2) it provides the most benefit, albeit incidental, to other co-occurring species on Leech Lake; and

3) it meets the need for action.

Therefore, it is my decision to implement the proposed action as described in the EA.

Charlie Wooley, Acting Regional Director
U.S. Fish and Wildlife Service, Region 3

Date

5/10/15