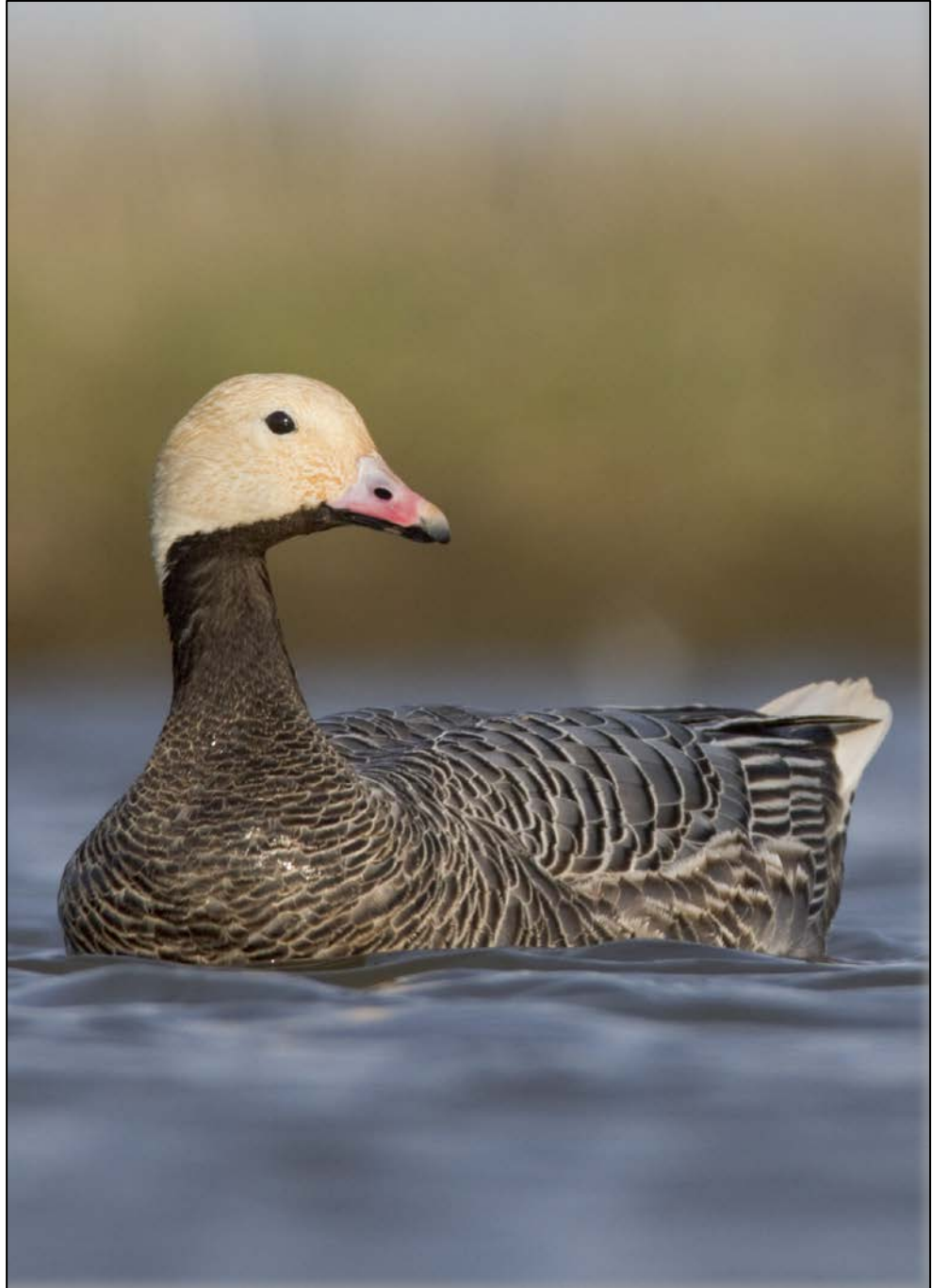




# Management Plan: Emperor Goose



September 2016

This Management Plan is the first of its kind developed cooperatively for managing the emperor goose population of Alaska. Inquiries about this plan may be directed to members of the Alaska Migratory Bird Co-Management Council or to the Executive Director, AMBCC Office, 1840 Bragaw Street, Suite 150, Anchorage, AK 99508. Information regarding the Alaska Migratory Bird Co-Management Council can be found on the Internet at [www.fws.gov/alaska/ambcc](http://www.fws.gov/alaska/ambcc).

Suggested Citation: Alaska Migratory Bird Co-Management Council. 2016. Management Plan for the Emperor goose. c/o Alaska Migratory Bird Co-Management Council Executive Director, Anchorage, Alaska. 12 pp.

Cover Photo: Milo Burcham

## ACKNOWLEDGEMENTS

The Alaska Migratory Bird Co-Management Council (AMBCC) greatly appreciates the work of the AMBCC Subcommittee on Emperor Geese and the Pacific Flyway Emperor Goose Subcommittee in developing this Management Plan.

Alaska Migratory Bird Co-Management Council, Emperor Goose Subcommittee members included:

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Tim Andrew, Association of Village Council Presidents  
Peter Devine, Aleutian/Pribilof Islands Association  
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Cyrus Harris, Maniilaq Association  
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Erik Osnas, U.S. Fish and Wildlife Service, Region 7  
Eric Taylor, U.S. Fish and Wildlife Service, Region 7

Pacific Flyway Study Committee, Emperor Goose Subcommittee members included:

Dan Rosenberg and Jason Schamber, Alaska Department of Fish and Game  
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The Alaska Migratory Bird Co-Management Council recognizes the important contributions made by many government and private individuals who have helped improve management of emperor geese, including: Steve Fleischman at the Alaska Department of Fish and Game; Joshua Dooley and Robert Stehn (retired) of the U.S. Fish and Wildlife Service; Jerry Hupp, Joel Schmutz, and Margaret Petersen (retired) at the U.S. Geological Survey-Alaska Science Center; and the U.S. Fish and Wildlife Service pilots who collected much of the information we use to manage emperor geese. The Council also wishes to thank the many researchers, managers, technicians, and members of the public in Alaska who have contributed to our understanding and management of emperor geese since the 1960s. And finally the Council thanks all the people of western Alaska who through their indigenous stewardship have allowed for the self-renewal of emperor geese through generations.

## INTRODUCTION

The purpose of this Management Plan is to establish guidelines for cooperative management of emperor geese (*Chen canagica*) among the members of the Alaska Migratory Bird Co-Management Council (AMBCC). Adoption of the AMBCC Emperor Goose Management Plan is contingent on the adoption of the Pacific Flyway Emperor Goose Management Plan by the Pacific Flyway Council. This Management Plan supersedes the Yukon-Kuskokwim Delta Goose Management Plan (YKDGMP) for emperor goose management.

As noted in Article II(4)(2)(b)(ii) of the 1997 Protocol between the United States and Canada amending the 1916 Convention for the Protection of Migratory Birds, management bodies will be created to ensure an effective and meaningful role for indigenous inhabitants in the conservation of migratory birds. These management bodies will include Native, Federal, and State of Alaska representatives as equals, and will develop recommendations for, among other things: seasons and bag limits; law enforcement policies; population and harvest monitoring; education programs; research and use of traditional knowledge; and habitat protection. The management bodies involve village councils to the maximum extent possible in all aspects of management. This Article provides the basis for the two separate but complimentary Management Plans.

The goal of this Management Plan is to ensure sustainable subsistence harvest and maintain key ecological functions throughout the range of emperor geese. Parties to the Management Plan agree that continued cooperation is essential to achieve the stated goal and to maintain the population size at levels that provide for harvest and non-consumptive uses (educational, recreational, scientific). In addition, the parties to the Management Plan agree that the benefits and investment in emperor goose conservation will be shared equitably throughout the species' range.

This Management Plan is structured following the format of the YKDGMP. Implemented in 1985<sup>1</sup>, the YKDGMP, through the cooperative efforts of the parties to the Management Plan, provided harvest guidelines and conservation measures that effectively increased severely diminished populations of four species of Arctic nesting geese, including emperor geese.

This Management Plan includes significant changes from the YKDGMP and represents a major shift in the management of emperor geese. From 1985–2016, management of emperor geese was based on the 3-year average index of emperor goose abundance during a spring migration survey in southwestern Alaska. Based on the spring survey, the population objective represented an index of 150,000 birds. Harvest closed when the 3-year average index was below 60,000 birds. Harvest could be reconsidered once the 3-year average index exceeded 80,000 birds (YKDGMP 2010), as it did in 2015. In this Management Plan, the spring survey index has been replaced by a summer survey index of indicated total birds<sup>2</sup> (hereafter; total bird index) derived from aerial surveys of emperor goose abundance on the Yukon Kuskokwim Delta (YKD) Coastal Zone Survey). The total bird index is less biased and more precise than the spring survey index and is based on statistical sampling theory. This Management Plan also includes a spring/summer

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<sup>1</sup> This Management Plan was first implemented in 1984 as the Hooper Bay Agreement

<sup>2</sup> Indicated total birds = 2 × (singles + number of pairs) + birds in flocks

harvest strategy that specifies a regulatory framework, recognizing the emperor goose population is of sufficient size to resume harvest.

Additionally, a new population objective was established as the 2016 total bird index of 34,000 from the YKD Coastal Zone Survey. This population objective is not intended to be used as the basis for harvest regulation. Rather, this population objective is a standard by which future population changes can be measured. The total bird index and population objective are viewed as interim strategies that will be reevaluated after three years of Management Plan implementation, while other population assessment models are further refined and agreement reached on the most appropriate short- and long-term survey protocols (see Pacific Flyway Emperor Goose Management Plan for more details).

The term of this Management Plan is for 2017-2021. The changes in this Management Plan significantly depart from past management; therefore, the AMBCC agrees to evaluate the emperor goose population response during the initial 3-year period in 2019. The Subcommittee will annually review available data (e.g., population status, harvest survey data, and other relevant information) and in 2019 will also reevaluate the population objective, population assessment method and harvest strategy.

This Management Plan specifies regulations for the spring/summer subsistence hunt period and will serve as a companion to the 2016 revision of the Pacific Flyway Management Plan for the Emperor Goose, which specifies regulations for the fall/winter harvest of emperor geese. The two Management Plans are intended to complement one another and contain identical population assessment methods, population objectives and regulatory harvest thresholds.

Parties to the AMBCC Emperor Goose Management Plan:

The parties to the Management Plan are the members of the AMBCC: the Association of Village Council Presidents, Bristol Bay Native Association, Chugach Regional Resources Commission, Copper River Native Association, Kawerak, Inc., Aleutian/Pribilof Island Association, Sun'aq Tribe of Kodiak, Maniilaq Association, Tanana Chiefs Conference, U.S. Fish and Wildlife Service (USFWS) Region 7, and the Alaska Department of Fish and Game (ADFG).

## **A. POLICY**

- A.1.** The parties to this Management Plan will continue to develop, improve and implement the provisions contained in the migratory bird treaties with Canada, Mexico, and Japan that allow for the legal harvest of migratory birds.
- A.2.** All participants recognize that the standard to which the Secretary of the Interior may exercise discretionary authority is of importance to Alaska Native peoples and their respective governments and has not been addressed in this Management Plan.
- A.3.** This Management Plan in no way will amend, alter, or abolish the agreements between the USFWS and village corporations regarding private lands.

- A.4.** The conservation measures and harvest strategy in this Management Plan afford special awareness to emperor geese. The species' range in North America is exclusive to Alaska. Emperor geese occur only in "included" areas<sup>3</sup> in western Alaska, and they are an important customary and traditional subsistence species. Emperor geese have been closed to subsistence hunting since 1987 following a population decline, but the population slowly recovered over 30 years and harvest can be resumed. However, the conditions of opening the species to legal harvest require considerable attention to avoid future closures.
- A.5.** The terms of this Management Plan are from 2017 to 2021, subject to annual review, and may be changed at any time upon agreement of all parties barring those sections that must comply with the Pacific Flyway Plan. Any party, upon reasonable notice to the other parties, may withdraw from the agreement.
- A.6.** The parties will cooperatively develop a harvest strategy and set corresponding regulations. In addition, the parties will monitor population status and harvest of emperor geese to assess efficacy of the harvest strategy.
- A.7.** To protect emperor geese, priority will be given to outreach and education, monitoring, verifying compliance, and regulation enforcement in accordance with the Alaska Subsistence Spring/Summer Migratory Bird Harvest regulations.
- A.8.** Use of geese for dire emergency (as defined in AS 16.05.930) during the closed season may occur with no penalty. The enforcement authorities will determine if violations of regulations can be justified as emergencies on a case-by-case basis.
- A.9.** All parties will cooperate fully to meet the agreed upon conditions of this Management Plan.

## **B. CONSERVATION**

- B.1.** The AMBCC Emperor Goose Subcommittee will review available population and harvest data on an annual basis and will be included in resource discussions involving emperor goose biology, regulation, research, and management.
- B.2.** All parties support the protection of breeding, staging, and wintering habitats in Alaska and Russia.
- B.3.** All parties shall refrain from unnecessarily disturbing emperor geese throughout their annual life cycle.

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<sup>3</sup> "Included areas" are village areas open to subsistence harvest located within the Alaska Peninsula, Kodiak Archipelago, the Aleutian Islands, or areas north and west of the Alaska Range. "Included areas" that occur outside the range of emperor geese are not listed.

- B.4.** Appropriate Federal and State resource agencies and other interested parties will continue to cooperate to improve scientific research on emperor geese, and will cooperate in securing public and private funds to carry out this research.
- B.5.** The USFWS will cooperate with Russian government agencies to assess the population status and harvest of emperor geese in Russia.
- B.6.** The AMBCC and the Pacific Flyway Council, in consultation with all interested parties, will cooperate to establish population assessment methods, a population objective, and regulatory harvest thresholds that are shared between the Pacific Flyway and AMBCC Emperor Goose Management Plans.
- B.7.** All parties will identify specific research and management needs to address current conservation concerns for emperor goose populations and habitat, including but not limited to:
- Effects of harvest;
  - Magnitude of harvest;
  - Sources of mortality (other than harvest);
  - Effects of climate change;
  - Effects of pollution, contaminants and diseases;
  - Refinement of survey and modeling methods; and
  - Effects of predation.

## **C. HARVEST OBJECTIVES**

The emperor goose is an important food source and harvesting this species is integral to passing down customary traditions. Restrictions within an open season, such as bag limits and quota systems, are inconsistent with customary and traditional practices, and quota systems are difficult and costly to implement. However, other conservation measures (see Harvest Strategy) may be considered to halt and reverse a population decline.

- C.1.** Maintain a customary and traditional harvest.
- C.2.** Reevaluate the population objective, population assessment, and harvest strategy after 2019.
- C.3.** Maintain the population of emperor geese above an index of 23,000 birds based on the indicated total birds from the YKD Coastal Zone Survey.
- C.4.** Members of the AMBCC will work cooperatively to assess the spring/summer, and fall/winter harvest of emperor geese in Alaska. Results of surveys will be produced and distributed annually.

## HARVEST STRATEGY

The harvest strategy is based on using a total bird index from the YKD Coastal Zone Survey to assess population status relative to a regulatory harvest threshold (see Figure below). The total bird index is a relative measure of population size based on the number of geese detected from aerial surveys on the YKD during the early nesting period.

Based on the total bird index, the harvest strategy defines a regulatory harvest closure threshold of 23,000 birds. This represents approximately 120,000 emperor geese based on a theta-logistic population model currently in development (USFWS, R7-Migratory Bird Management). The most recent three-year (2014–2016) average population index is 30,965 birds; representing approximately 161,000 emperor geese. The theta-logistic model and associated analysis was used to derive the optimal harvest threshold which helped guide the selection of the harvest closure threshold.

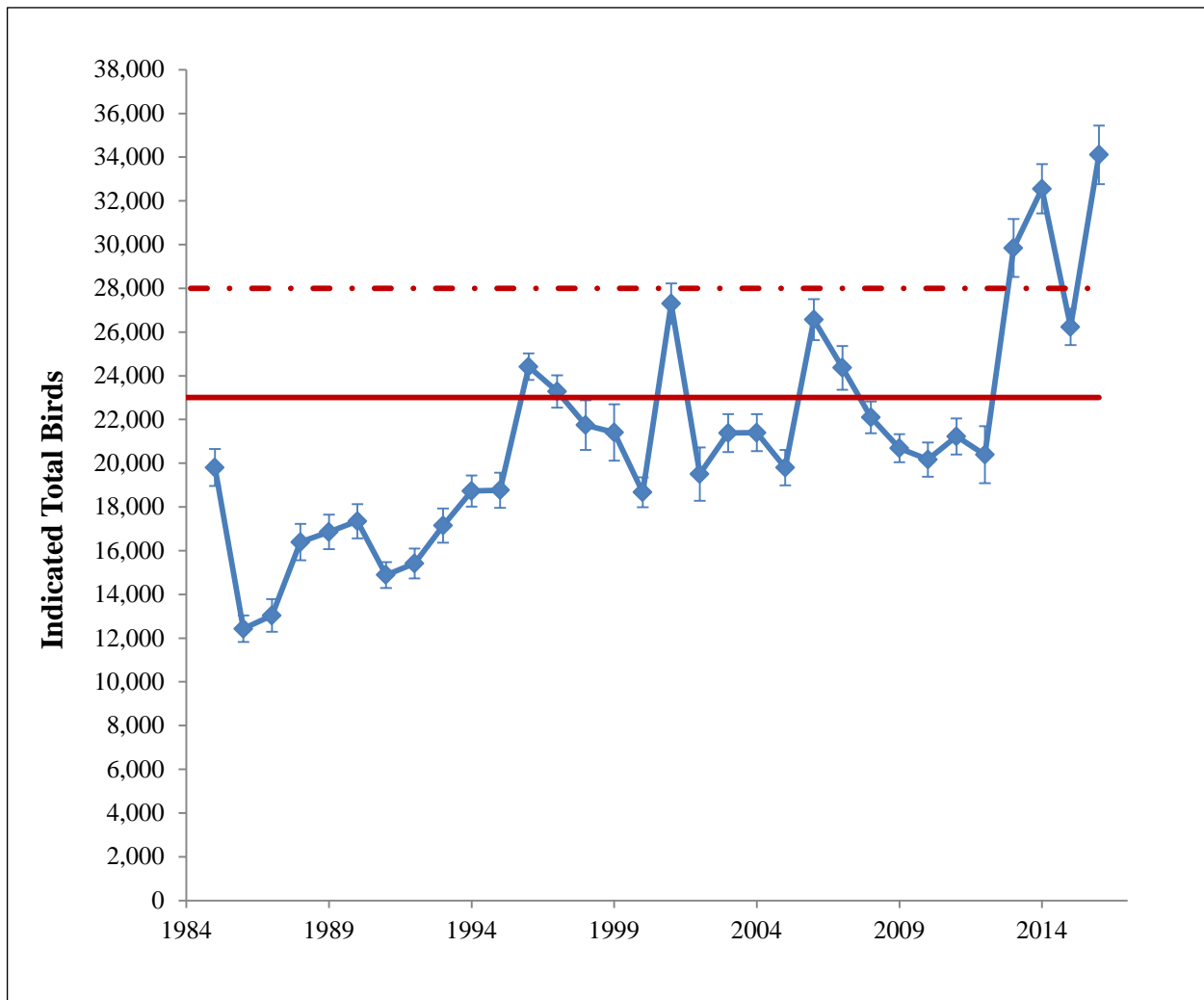
The term of this harvest strategy is the period of 2017-2021. However, during the 3-year period (2017–2019) following implementation, the Subcommittee will annually review available data (e.g., harvest survey data, population status and trend, and other relevant information) and consider the need for conservation measures (see below). After 2019, the Subcommittee will conduct a thorough analysis of the available data to determine efficacy of the harvest strategy and will consider alternative strategies if warranted. Alternatives will be considered as amendments to the Management Plan and be effective for the remainder of the five-year term. The spring/summer subsistence harvest strategy is complementary to the fall/winter harvest strategy included in the Pacific Flyway Emperor Goose Management Plan. In recognition that emperor geese are a shared resource, the AMBCC has established the following spring/summer subsistence harvest guidelines:

1. The harvest strategy seeks to maintain a population of emperor geese above an index of 23,000 birds based on the total bird index from the most recent YKD Coastal Zone Survey.
2. If the total bird index from the previous year is greater than 23,000 birds then spring/summer subsistence harvest of emperor geese will be open to customary and traditional practices during the open seasons for migratory bird harvest (see Table below).
3. If the total bird index from the previous year drops below 28,000 birds, the AMBCC will consider implementing conservation measures that include: increased outreach and education programs, reduced season length (e.g., 2-week harvest season), extension of the 30-day closure, cessation of egg collection, limiting hunting to elder and ceremonial harvest only, or other measures as identified by the parties to this Management Plan.
4. If the total bird index from the previous year is less than 23,000 birds, then emperor goose hunting will be closed.



Alaska Regions	Spring/Summer Hunt Season
<b>Northwest Arctic</b>	April 2–June 14; July 16–August 31 June 15–July 15 molting/non-nesting waterfowl
<b>Bering Straits/Norton Sound</b>	
<i>Stebbins/St. Michael Area</i>	April 15–June 14; July 16–August 31
<i>Remainder of the region</i>	April 2–June 14; July 16–August 31
<b>Yukon-Kuskokwim Delta</b>	April 2–August 31; 30-day closure dates announced annually by the Yukon Delta National Wildlife Refuge manager
<b>Bristol Bay</b>	April 2–June 14; July 16–August 31
<b>Kodiak<sup>1</sup></b>	April 2–June 20; July 22–August 31
<b>Aleutian/Pribilof</b>	
<i>Northern Unit (Pribilof Islands)</i>	April 2–June 30
<i>Central Unit (Port Moller to Unalaska Island)</i>	April 2–June 15; July 16–August 31
<i>Western Unit (Umnak Island to Attu Island)</i>	April 2–July 15; August 16–August 31

<sup>1</sup>Kodiak Island Road Area closed to hunting: the closed area consists of all lands and water (including exposed tidelands) east of a line extending from Crag Point in the north to the west end of Saltery Cove in the south and all lands and water south of a line extending from Termination Point along the north side of Cascade Lake extending to Anton Larsen Bay. Marine waters adjacent to the closed area are closed to harvest within 500 feet from the water's edge. The offshore islands are open to harvest, for example: Woody, Long, Gull and Puffin islands.



Indicated total bird index ( $\pm$ SE) from the Yukon-Kuskokwim Delta Coastal Zone Survey (1985–2016) used as the interim Pacific Flyway management index of emperor geese. The solid horizontal line (23,000 indicated total bird index) represents the threshold between open (above line) and closed (below line) seasons for spring/summer harvest of emperor geese. The dashed horizontal line (28,000 indicated total bird index) represents a threshold below which conservation measures will be considered.

## E. OUTREACH AND ENFORCEMENT

The following procedures have been developed for communicating, monitoring, and enforcing the terms of this Management Plan. The parties agree to work toward achieving the conservation measures of this Management Plan through improved education, outreach, enforcement and the cooperative efforts of all affected parties, including local village governments and residents.

- E.1. Outreach and Education.** The parties will develop and implement a comprehensive information and education program for residents in regions that harvest emperor geese. This will explain emperor goose conservation, enforcement practices, research, and management strategies necessary to attain the goals and objectives identified in this

Management Plan. Protocols for evaluating the effectiveness of information and education efforts will be included in this program.

- E2. Enforcement.** Compliance with regulatory measures will be monitored and addressed by the appropriate enforcement agency. Violations of spring/summer subsistence harvest regulations should be reported to a USFWS or State of Alaska law enforcement officer. Violations will be investigated by the appropriate enforcement agency. If practicable and allowed by law and policy, the investigating agency may coordinate with affected tribal governments. The parties agree that verification of reported violations is important.

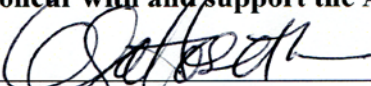
At the annual spring meeting of the AMBCC, the USFWS in cooperation with the ADFG and Native Caucus members, will present a summary of all activities including outreach, public meetings, documented violations and enforcement actions, when possible, taken in the preceding year.

Geese held as evidence will be disposed of in accordance with agency policy. If practicable and allowed by law and policy, geese no longer needed as evidence may be returned to the village for distribution to local residents or be used for research or educational purposes.

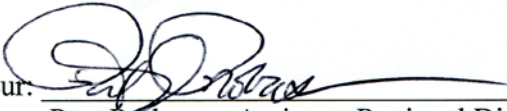
Adoption of the AMBCC Emperor Goose Management Plan is contingent on the approval of the Pacific Flyway Emperor Goose Management Plan.

The Alaska Migratory Bird Co-Management Council concurs that the population objective, assessment methodology, and harvest strategy contained herein supersede YKDGMP for emperor goose management.


**We, the undersigned members of the Alaska Migratory Bird Co-Management Council hereby concur with and support the AMBCC Emperor Goose Management Plan.**

Concur:   
Gayla Hoeseth, Chair Native Caucus  
Alaska Migratory Bird Co-Management Council

9-1-2016  
Date

Concur:   
Pete Probasco, Assistant Regional Director  
Migratory Birds and State Programs  
U. S. Fish and Wildlife Service, Region 7

Sept 01, 2016  
Date

Concur:   
Bruce Dale, Director  
Alaska Department of Fish and Game  
Division of Wildlife Conservation

9-1-2016  
Date