

**Pacific Flyway Council**  
Recommendations, Informational Notes,  
and Subcommittee Reports



A Product from the Meetings of the:

**Pacific Flyway Nongame Technical Committee**

and the

**Pacific Flyway Study Committee**

August 24 to 27, 2020

Virtual Meeting

for the

**Pacific Flyway Council**

August 28, 2020

Virtual Meeting

Summer 2020

## Preface

The Migratory Bird Treaty Act implemented multiple international treaties addressing migratory bird conservation, and established federal authority over migratory birds. The U.S. Fish and Wildlife Service (Service), under the authority of the Secretary of the Interior, collaborates with the Pacific Flyway Council (Council) to develop regulations for migratory birds in the United States Pacific Flyway. Two technical committees advise the Council: the Study Committee (SC) and the Nongame Technical Committee (NTC), collectively referred to as Committees. The Committees are scientific fact finding bodies whereas the Council is an administrative and policy setting body.

The Service develops migratory game bird hunting regulations annually by establishing frameworks including outside dates, season lengths, bag limits, and hunting areas. The Council makes framework recommendations annually to the Service according to biological status, management objectives, and policy considerations. Members of the Council and the SC meet in late summer/early fall to share data, review the status of populations and actions outlined in management plans, and propose annual hunting frameworks. They meet again in late winter to develop cooperative management programs, and coordinate research and management for the protection and conservation of migratory game birds. The Council typically makes season framework recommendations to the Service in October.

The NTC also meets twice each year with the Council and SC. The NTC provides a consolidated forum for the Service and state fish and wildlife agencies to discuss, plan, and coordinate actions to address management, regulations, monitoring, and other issues related to nongame migratory birds. The NTC both responds to emerging issues originating with the Council or the Service and works proactively with conservation partners and with other states to identify and prioritize flyway-relevant issues that require attention.

Recommendations, informational notes, and subcommittee reports are prepared by the Committees, and forwarded to the Council for consideration or adoption. The Council may develop or modify Committee recommendations as necessary. The Council has a policy of considering management plans for adoption only after having received the management plan for review at least 45 days in advance. The Service assumes the Council support for continuation of the previous year's frameworks if no recommendation is received.

Each recommendation and informational note identifies a contact person. The contact person drafts the recommendation or informational note (or facilitates its development) to represent the position of the Committee or the Council. The contact person is usually knowledgeable on the specific subject matter and serves as a contact for more information. If the recommendation or informational note comes from a subcommittee, that subcommittee is identified on the recommendation or note. The Chair of each subcommittee ensures the preparation of the subcommittee's report and is identified on that report.

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## **Members, Officers, and Representatives**

### **Pacific Flyway Council**

#### **Members**

Ryan Scott, Alaska Department of Fish and Game  
Josh Avey, Arizona Game and Fish Department  
Stafford Lehr, California Department of Fish and Wildlife  
Brian Dreher, Colorado Parks and Wildlife  
Toby Boudreau, Idaho Department of Fish and Game  
Ken McDonald, Montana Fish, Wildlife, and Parks  
Mike Scott, Nevada Department of Wildlife  
Kevin Blakely, Oregon Department of Fish and Wildlife  
Justin Shannon, Utah Division of Wildlife Resources  
Eric Gardner, Washington Department of Fish and Wildlife  
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#### **Officers**

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Toby Boudreau, Idaho (Sr.)  
Ryan Scott, Alaska (Jr.)

#### **Representative on the National Flyway Council**

Toby Boudreau, Idaho

#### **Representative on the North American Wetlands Conservation Council**

Mike Scott, Nevada

#### **Representative on the North American Waterfowl Management Plan Committee**

Stafford Lehr, California

#### **Representative on the Sea Duck Joint Venture Management Board**

Eric Gardner, Washington

#### **Representative on the Arctic Goose Joint Venture Management Board**

Ryan Scott, Alaska

## **Pacific Flyway Study Committee**

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Johnathan O'Dell, Arizona  
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Russell Woolstenhulme, Nevada  
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Aleutian Cackling Goose  
Minima Cackling Goose  
Dusky Canada Goose  
Emperor Goose  
Interior Band-Tailed Pigeon  
Lesser, Taverner Canada Goose and Taverner's Cackling Goose  
Lower Colorado River Valley Sandhill Crane  
Mourning and White-Winged Dove  
Pacific Brant  
Pacific Coast and Central Valley Sandhill Crane  
Pacific Coast Band-Tailed Pigeon  
Pacific Coast Trumpeter Swan  
Pacific/Rocky Mountain Western Canada Goose  
Rocky Mountain Sandhill Crane  
Rocky Mountain Trumpeter Swan  
Western and Eastern Tundra Swan  
Western Canada Goose  
White Geese  
White-Fronted Goose

## **Pacific Flyway Nongame Technical Committee**

### **Members**

Travis Booms, Alaska  
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Raptors  
Double-crested Cormorant  
Pelican

## **Representatives to the Pacific Flyway Council and Technical Committees**

### **U.S. Fish and Wildlife Service**

Todd Sanders, DMBM, Vancouver  
Steve Olson, DMBM, Vancouver  
Joe Sands, Columbia-Pacific Region, Portland  
Michelle McDowell, Columbia-Pacific Region, Portland  
Dan Collins, Lower Colorado Basin Region, Albuquerque  
Kammie Kruse, Lower Colorado Basin Region, Albuquerque  
David Olson, Missouri and Upper Colorado River Basin Region, Denver  
David Safine, Alaska Region, Anchorage  
Rick Lanctot, Alaska Region, Anchorage  
Thomas Leeman, California-Great Basin Region, Sacramento

### **Canadian Wildlife Service**

André Breault, British Columbia  
Garnet Raven, Alberta

### **Alberta Environment and Sustainable Resource Development**

Jason Caswell, Alberta

### **Alaska Migratory Bird Co-management Council**

Patty Schwabenberg

## **Recommendations**

# PACIFIC FLYWAY COUNCIL

Alaska • Arizona • California • Colorado • Idaho • Montana  
Nevada • New Mexico • Oregon • Utah • Washington • Wyoming



## Recommendation 1 — Duck and Merganser Season Framework

### Recommendation

The Pacific Flyway Council (Council) recommends no change to the duck season framework.

Council recommends a 107-day season with a daily bag limit of 7 ducks and mergansers, including no more than 2 female mallards, 1 pintail, 2 canvasbacks, 2 scaup, and 2 redheads. For scaup, the season length is 86 days, which may be split according to applicable zones and split duck hunting configurations approved for each state.

### Justification

In 2008, a western mallard stock was recognized to inform duck harvest management decisions in the Pacific Flyway and is currently defined by two substocks: 1) those mallards breeding in Alaska and 2) those mallards breeding in British Columbia, California, Oregon, and Washington.

The Waterfowl Breeding Population and Habitat Survey was not conducted in 2020 due to the COVID-19 pandemic; consequently, adjustments to optimization methods and AHM decision frameworks were developed to inform duck hunting regulations based on a predicted 2020 breeding population size and the regulatory alternatives selected for the 2020 hunting season.

### Duck and Merganser

In 2008, Council and the U.S. Fish and Wildlife Service (Service) adopted the Western Mallard Adaptive Harvest Management Protocol to inform harvest management decisions for ducks and mergansers in the Pacific Flyway.

The optimal regulatory alternative for the 2021 duck and merganser hunting season was calculated using: (1) the management objective to maximize long-term cumulative harvest of western mallards; (2) current regulatory alternatives; and (3) current population models and parameter estimates. Based on the liberal regulatory alternative selected for the 2020 hunting season, a predicted 2020 breeding population size of 0.94 million mallards observed in Alaska (0.41 million) and the southern Pacific Flyway (0.53 million), the optimal choice for the 2021 hunting season is the liberal regulatory alternative.

More restrictive regulations for duck species of concern (i.e., pintails, scaup, canvasbacks, and redheads) are established within the context of the general duck season, and each is based on a separate harvest strategy protocol after the general duck seasons length is determined.

### Northern Pintail

In 2010, the Service and flyway councils adopted the adaptive harvest management protocol to inform harvest management decisions for northern pintails in all four flyways. For pintails, optimal regulatory alternatives for the 2021 hunting season in each flyway were calculated using: (1) an objective to maximizing long-term cumulative harvest; (2) current pintail regulatory alternatives, including a closed-season constraint of 1.75 million birds; and (3) current

population models and their relative weights. Based on a liberal regulatory alternative with a one-bird daily bag limit selected in 2020, a predicted 2020 breeding population size of 2.45 million pintails observed at a mean latitude of 55.16 degrees, the optimal regulatory choice for the 2021 hunting season for all four flyways is the liberal regulatory alternative with a one-bird daily bag limit.

#### Scaup

In 2008, the Service and flyway councils adopted the adaptive harvest management protocol to inform harvest management decisions for scaup in all four flyways. For scaup, optimal regulatory alternatives for the 2019 hunting season were calculated using: (1) an objective to achieve 95% of long-term cumulative harvest; (2) current scaup regulatory alternatives; and (3) the current population model and updated parameter estimates. The resulting regulatory strategy includes options conditional on the regulatory alternative selected the previous hunting season. Based on a restrictive regulatory alternative selected in 2020, a predicted 2020 breeding population size of 3.53 million scaup, the optimal regulatory choice for the 2021 hunting season for all four flyways is the restrictive regulatory alternative, with a two-bird daily bag limit.

#### Canvasback

At the October 2015 Service Regulatory Committee (SRC) meeting, the SRC requested a group be convened to develop a decision support tool (DST) to deliver canvasback framework recommendations for the 2017–18 hunting seasons. A group of U.S. Fish and Wildlife Service and state biologists was formed to develop the DST. At the November 2015 Harvest Management Working Group meeting, this group established criteria for developing the DST, which consisted of the following: (1) it needed to be biologically-based, (2) must use data that is currently available, (3) must be simple (i.e., could not require lengthy, intensive analyses), and (4) would be used as a short-term approach for developing harvest recommendations, preferably only for the next 1–2 hunting seasons. The group agreed that an “assessment of harvest potential” analysis, that used fixed values for demographic variables estimated for canvasbacks, would likely be sufficient to use as the framework for the DST. Results from the analysis recommend canvasback seasons open, with a 1-bird daily bag, provided the most recent breeding population estimate is above 460,000. Moreover, the daily bag limit can increase to two birds per day when the most recent population estimate is above 480,000. The committee recognizes that this analysis used maximum sustained yield as a harvest objective and thus may not be fully reflective of the long-term canvasback population and harvest objectives of the flyways. Given the short-term use of the tool and that the flyways will be addressing long-term canvasback objectives as part of the process of revisiting overall duck harvest objectives, the committee was comfortable moving forward with the DST.

Two methods were used to predict the 2020 breeding abundance of canvasbacks; a formal time series analysis and a balance equation developed and employed prior to the adoption of the 2013 SEIS. Based on the time series analysis model the forecast of the 2020 canvasback is 671,280 (95% CI 462,759–879,801), and the estimate based on the balance equation is 550,799. Results of both methods exceed the threshold for a liberal two-bird daily bag limit for the 2021–2022 season for all four flyways. It is important to emphasize the DST is intended to be used in the short term while the Service and flyways continue to address long-term canvasback objectives.

#### Redhead

The two-bird daily bag limit on redheads has primarily been based on concern for canvasback populations. Because redheads look so similar to canvasbacks, managers tend to agree any increase in the redhead bag limit would likely translate to an increased canvasback harvest.

Redhead regulations have been tied to canvasback regulations as far back as 1972, when the Secretary of the Interior formed a working group to investigate the status of these two species. At that time, there was a discussion of a season closure for both species. A two-bird daily bag limit for redheads has been in place since at least 1973 in the Pacific Flyway.

**Notification of changes to duck zones in the Pacific Flyway for the 2021–22 to 2025–26 seasons**

In Nevada (Figures 1 & 2):

- Move Eureka and Lander counties from the Northwest zone to the Northeast Zone.
- Move Esmeralda and Nye counties from the Northwest zone to the South Zone.



Figure 1. Current Nevada Zones



Figure 2. Proposed Nevada Zones

The described changes to duck zones will align with proposed goose zone changes. Additionally, these changes will align with Nevada Department of Wildlife administrative regions. This alignment will should provide sportsmen a better understanding of zone boundaries. These changes will also provide clarity to law enforcement officers, whose duty areas were split between zones and caused uncertainty about open and closed seasons.

**Adoption**  
Pacific Flyway Study Committee  
August 26, 2020

Melanie Weaver, Chair

Pacific Flyway Council  
August 28, 2020

Contact: Jeff Knetter

Stafford Lehr, Chair

# PACIFIC FLYWAY COUNCIL

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## Recommendation 2 — Goose Season Framework

### Recommendation

The Pacific Flyway Council (Council) recommends no changes to goose season frameworks for the Pacific Flyway except:

- Increase the bag limit for light geese in Oregon to 20 per day, statewide and during the entire season framework.
- Increase the bag limit for light geese in Washington on or before the last Sunday in January to 10 per day and 20 per day thereafter.
- Decrease the bag limit for Canada/cackling geese in Oregon's Northwest Permit Zone to 4 per day.

(Proposed changes compared to the 2020 Final Frameworks are detailed in Attachment 1)

Additionally, Council recommends that the 2021–22 brant season frameworks be determined based on the harvest strategy in the Council's management plan for the Pacific population of brant pending results of the 2021 Winter Brant Survey (WBS). If results of the 2021 WBS are not available, results of the most recent WBS should be used.

### Justification for proposed changes to light goose bag limits in Oregon and Washington

In 2008, the Flyway began liberalizing light goose frameworks, allowing the season to close as late as possible (March 10) and incrementally increasing bag limits to 20 per day. Exceptions to liberalization occurred in those areas where data indicated a majority of snow geese present were composed of birds from the Wrangel Island Population (WIP) whose status at the time was of concern. Regions where flocks are assumed to be predominantly WIP occur in Washington season long and fall migrant and wintering birds in Oregon. The WIP has since increased from approximately 140,000 to 685,000 (Figure 1). The management plan objective for the WIP is to maintain a total spring population of 120,000 on Wrangel Island (three-year average), which the population has exceeded since 2006. Substantial population growth has been observed since 2015.

During the same time, the number of snow geese wintering in the Columbia Basin of Oregon and Washington (Figure 2) and the Sauvie Island/Ridgefield region of Oregon and Washington (Figure 3) has grown substantially. Most data suggest these wintering flocks are predominantly WIP. Also, recent surveys of the Fraser-Skagit winter flock (northwest Washington/southwest British Columbia) have exceeded the harvest strategy threshold that promotes a harvest rate greater than 14%. Commensurate with an increase in wintering snow geese in these regions, complaints of agricultural damage have increased.

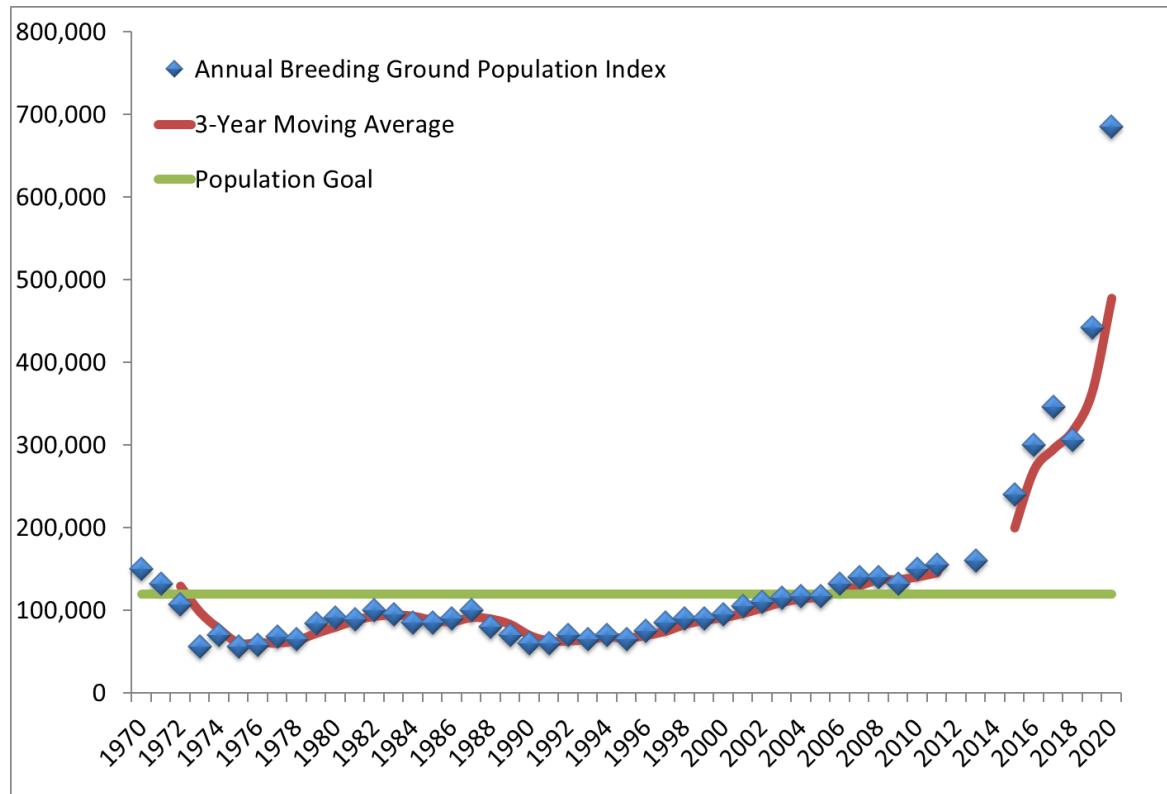


Figure 1. Annual Wrangel Island snow goose population index and running three-year average (1970 – 2020).

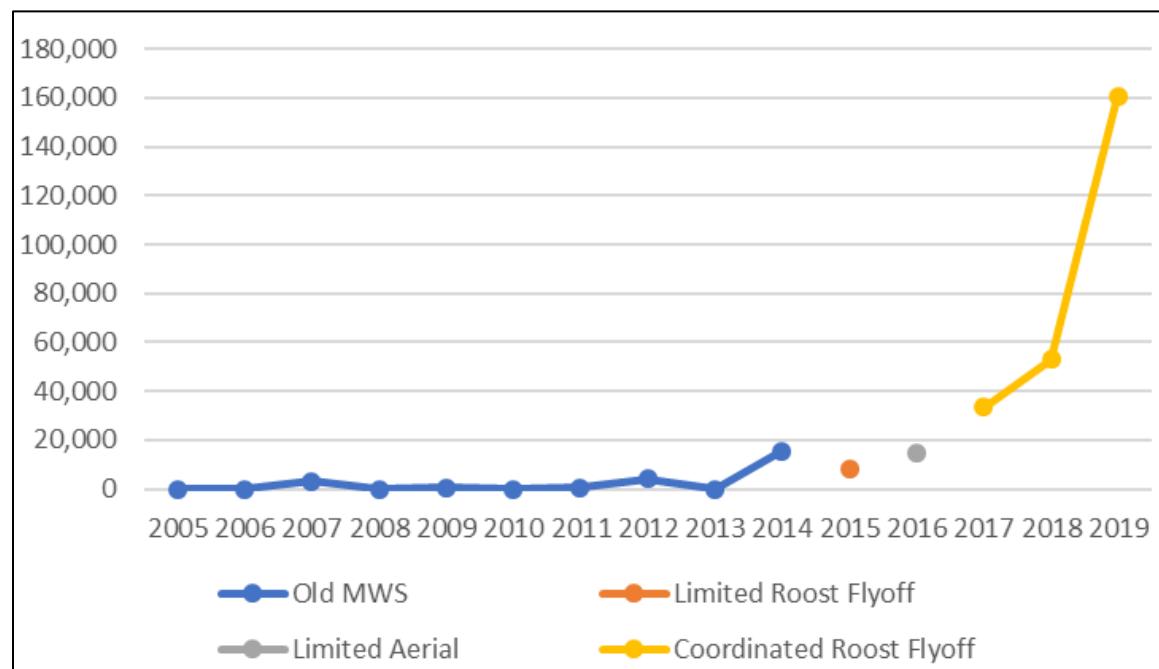


Figure 2. December flock size indices for snow geese in the Columbia Basin of Oregon and Washington (2005 – 2019).

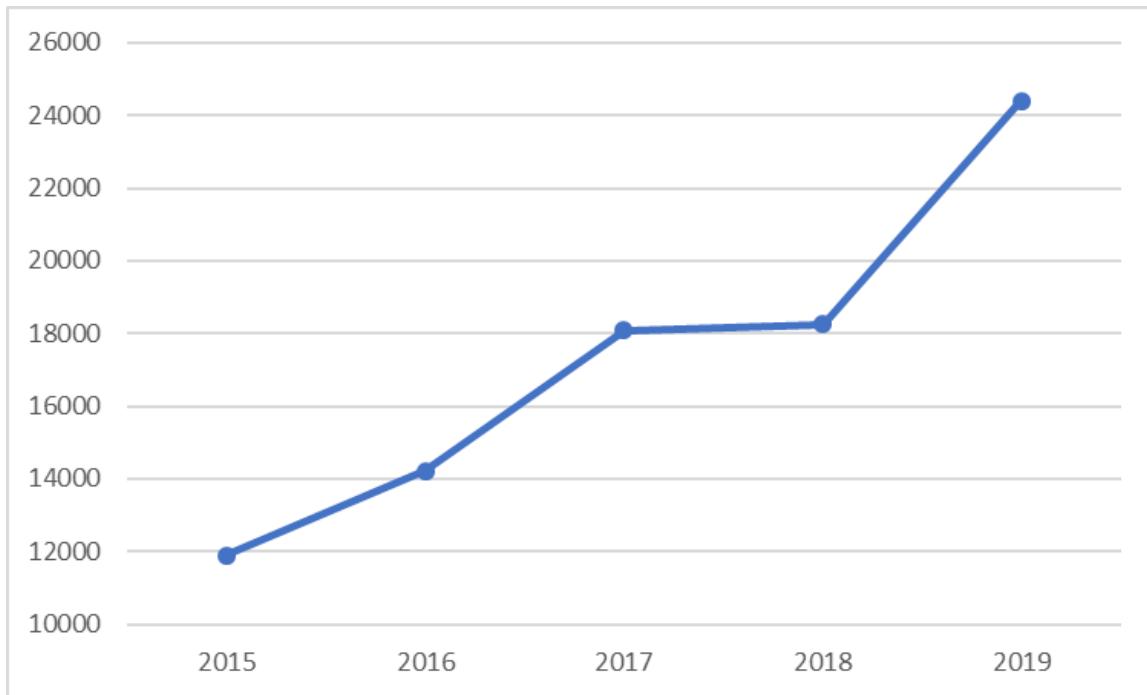


Figure 3. December flock size indices of snow geese in the Lower Columbia River Region of Oregon and Washington (2015 – 2019). Counts from aerial photography.

The WIP Plan does not address harvest management when the population exceeds the goal, except for the segment wintering in Frasier/Skagit. The plan does suggest that if the population is above 160,000, the flyway should evaluate the possibility of establishing conservation seasons in migration and wintering areas. Conservation seasons is assumed to mean expanding the Conservation Order for light geese into the Pacific Flyway. The Flyway has asked the Service to evaluate the possibility, and although feasible, it is not likely in the near term. Implementation of a Conservation Order in the Pacific Flyway would also infer that other methods to increase harvest have been exhausted. We believe, harvest can be increased by raising the bag limit and modifying season timing (allowed in frameworks) and the current WIP population status and agricultural depredation justify an increase in harvest.

This proposal will not likely increase harvest for snow geese from the Western Arctic Population (WAP) or Ross' Geese. In areas and time periods when WAP geese are present in Oregon (generally absent in Washington), the daily bag limit is already 20 per day.

#### **Justification for proposed changes to cackling/Canada goose bag limits in Oregon's Northwest Permit Zone**

The Cackling Canada Goose Management Plan (2016) harvest strategy (hereafter minima cackling goose) seeks to maintain a population of  $250,000 \pm 10\%$ , as measured by the three-year average index of total indicated birds, expanded to approximate fall population size. In 2017 Oregon proposed an increase in the bag limit framework for cackling and Canada geese in the Northwest Permit Zone from four to six per day for the 2018 season; at this time the most recent three-year average was 321,475. The proposal was supported by Council and the Service Regulation Committee in fall 2017. However, the 2018 spring survey data suggested the population may have declined to below objective. Despite the framework allowing a six-bird daily bag limit for cackling and Canada geese, the Oregon Fish and Wildlife Commission kept the bag limit at four per day given the reduced abundance of minima cackling geese.

The most current three-year average (2017 – 2019) index for minima cackling geese is 232,946, 7% below the objective (Figure 4), with the most recent two estimates <210,000. The Yukon-Kuskokwim Delta Coastal Zone Survey was not conducted in 2020 due to the COVID-19 pandemic, so there are no current estimates. Given the management index is currently within 10% of the objective (with the two most recent counts below the lower threshold), increasing harvest is not supported by the plan. In response, the frameworks should no longer allow a daily bag limit of six cackling and Canada geese per day in the Northwest Permit Zone. This proposal seeks to decrease the framework bag limit of six per day to four as guided by the plan.

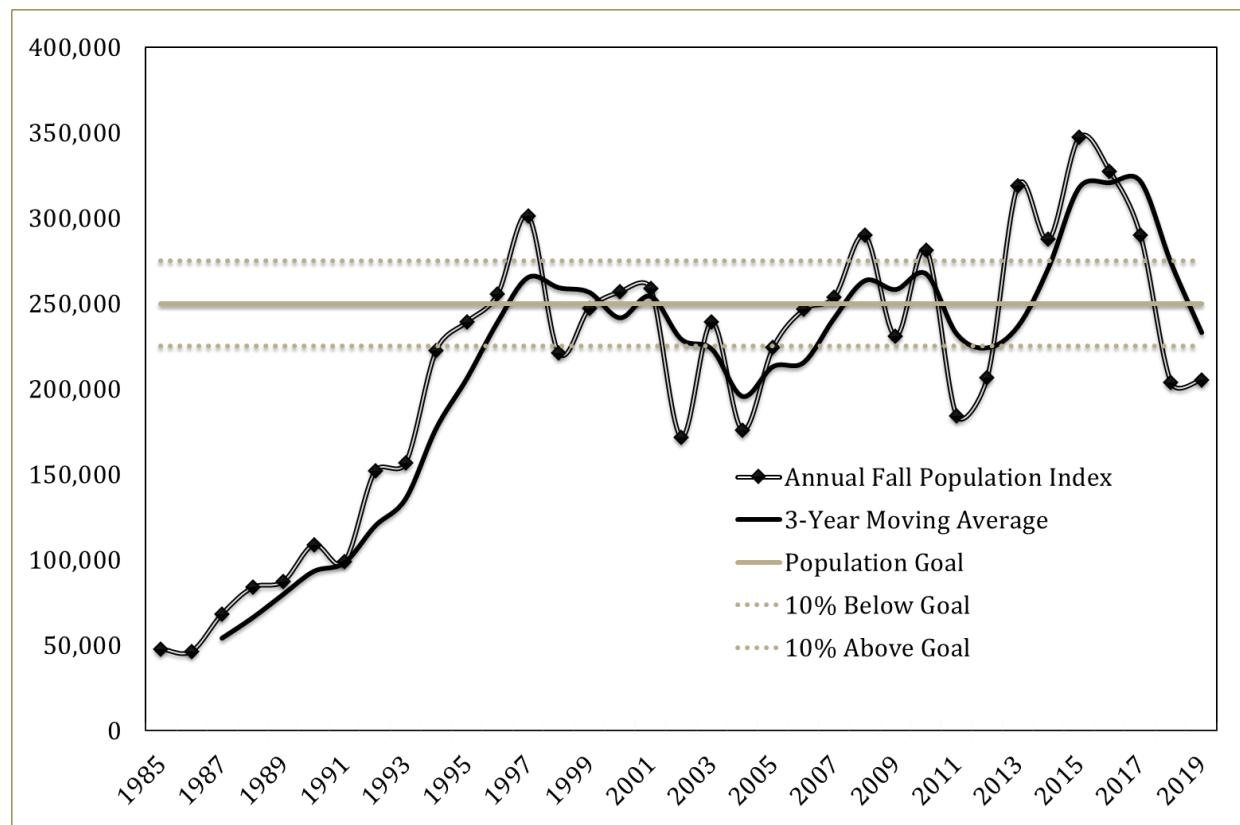


Figure 4. Annual minima cackling goose population index and running three-year average (1985 – 2019).

### **Notification of changes to goose hunting zones in the Pacific Flyway (Zone changes only require notification of the Flyway Representative)**

In Oregon (Figure 5 & 6):

- Dissolve the Eastern Zone, the Klamath County Zone, the Lake & Harney Counties Zone, and the Malheur County Zone.
- Create a new zone consisting of Gilliam, Hood River, Morrow, Sherman, Umatilla, and Wasco counties, named the Mid-Columbia Zone.
- Create a new zone consisting of Baker, Crook, Deschutes, Grant, Harney, Jefferson, Klamath, Lake, Malheur, Union, Wallowa, and Wheeler counties, tentatively names Goose Zone 2.

- Delete the Lower Columbia/N. Willamette Valley Management Area.



Figure 5. Current Oregon Zones



Figure 6. Proposed Oregon Zones

These changes will allow Oregon to align duck and goose zone boundaries in eastern Oregon so opening days will coincide in all areas. Additionally, Oregon anticipates modifying both light and white-fronted goose season structure to address the increasing number of wintering snow geese in the Columbia Basin.

#### In Washington:

- Move Island County from Goose Management Area 1 to Goose Management Area 3
- Move a portion of Snohomish County from Goose Management Area 1 to Goose Management Area 3.
- Move Whatcom County from Goose Management Area 3 to Goose Management Area 1.
- Slight modification to boundaries in Whatcom and Snohomish counties will be determined during WDFW's three-year season setting process currently in progress.

Goose Management Area 1 exists to monitor harvest on Fraser-Skagit winter flock of the Wrangel Island snow goose. The primary difference between Goose Management areas 1 and 3 is that goose harvest opportunity exists into February in Goose Management Area 1 and a mandatory harvest report card to estimate hunter effort and harvest of snow geese.

These modifications will allow Washington to align seasons with white goose distribution and timing.

#### In Nevada: (Figures 7 & 8)

- Move Eureka and Lander counties from Northwest zone to the Northeast Zone.
- Move Esmeralda and Nye counties from Northwest zone to the South Zone.



Figure 7. Current Nevada Zones



Figure 8. Proposed Nevada Zones

These modifications will align Nevada's goose zones to proposed duck zone changes.

**Adoption**  
Pacific Flyway Study Committee  
August 26, 2020

Contact: Brandon Reishus

*Melanie Weaver*  
Melanie Weaver, Chair

Pacific Flyway Council  
August 28, 2020

*Stafford Lehr*  
Stafford Lehr, Chair

**Attachment 1.** Proposed 2021 Federal Frameworks for Geese in the Pacific Flyway (Proposed deletions from the 2020 Final Frameworks in strikeout and proposed additions in bold underline)

### Special Early Canada Goose Seasons

A Canada goose season of not more than 15 days during September 1–20 may be selected. The daily bag limit may not exceed 5 Canada geese, except in Pacific County, Washington, where the daily bag limit may not exceed 15 Canada geese. Areas open to hunting of Canada geese in each State must be described, delineated, and designated as such in each State's hunting regulations.

### Regular Goose Seasons

#### Season Lengths, Outside Dates, and Limits

*Canada Geese and Brant:* Except as subsequently provided, 107-day seasons may be selected with outside dates between the Saturday nearest September 24 and January 31. In Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, and Wyoming, the daily bag limit is 4 Canada geese and brant in the aggregate. In California, Oregon, and Washington, the daily bag limit is 4 Canada geese. For brant, in California, Oregon and Washington, a 27-day season may be selected. Days must be consecutive. Washington and California may select hunting seasons for up to 2 zones. The daily bag limit is 2 brant and is in addition to other goose limits. In Oregon and California, the brant season must end no later than December 15.

*White-fronted Geese:* Except as subsequently provided, 107-day seasons may be selected with outside dates between the Saturday nearest September 24 and March 10. The daily bag limit is 10.

*Light Geese:* Except as subsequently provided, 107-day seasons may be selected with outside dates between the Saturday nearest September 24 and March 10. The daily bag limit is 20.

*Split Seasons:* Seasons may be split into 3 segments. Three-segment seasons for Canada geese and white-fronted geese require Pacific Flyway Council and U.S. Fish and Wildlife Service approval and a three-year evaluation by each participating State.

### California

The daily bag limit for Canada geese is 10.

*Balance of State Zone:* A Canada goose season may be selected with outside dates between the Saturday nearest September 24 and March 10. In the Sacramento Valley Special Management Area, the season on white-fronted geese must end on or before December 28, and the daily bag limit is 3 white-fronted geese. In the North Coast Special Management Area, hunting days that occur after January 31 should be concurrent with Oregon's South Coast Zone.

*Northeastern Zone:* The white-fronted goose season may be split into 3 segments.

### Oregon

~~The daily bag limit for light geese is 6 on or before the last Sunday in January (January 31).~~

*Harney and Lake County Zone:* For Lake County only, the daily white-fronted goose bag limit is 1.

*Northwest Permit Zone:* A Canada goose season may be selected with outside dates between the Saturday nearest September 24 and March 10. Canada goose and white-fronted goose seasons may be split into 3 segments. ~~The daily bag limits of Canada geese and light geese are 6 each.~~ In the Tillamook County Management Area, the hunting season is closed on geese.

*South Coast Zone:* A Canada goose season may be selected with outside dates between the Saturday nearest September 24 and March 10. Canada goose and white-fronted goose seasons may be split into 3 segments. The daily bag limit of Canada geese is 6. Hunting days that occur after January 31 should be concurrent with California's North Coast Special Management Area.

#### Utah

A Canada goose and brant season may be selected in the Wasatch Front Zone with outside dates between the Saturday nearest September 24 and the first Sunday in February (February 7).

#### Washington

The daily bag limit for light geese is **6 10 on or before the last Sunday in January.**

*Areas 2 Inland and 2 Coastal (Southwest Permit Zone):* A Canada goose season may be selected in each zone with outside dates between the Saturday nearest September 24 and March 10. Canada goose and white-fronted goose seasons may be split into 3 segments.

*Area 4:* Canada goose and white-fronted goose seasons may be split into 3 segments.

#### Permit Zones

In Oregon and Washington permit zones, the hunting season is closed on dusky Canada geese. A dusky Canada goose is any dark-breasted Canada goose (Munsell 10 YR color value 5 or less) with a bill length between 40 and 50 millimeters. Hunting of geese will only be by hunters possessing a State-issued permit authorizing them to do so. Shooting hours for geese may begin no earlier than sunrise. Regular Canada goose seasons in the permit zones of Oregon and Washington remain subject to the Memorandum of Understanding entered into with the Service regarding monitoring the impacts of take during the regular Canada goose season on the dusky Canada goose population

# PACIFIC FLYWAY COUNCIL

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## Recommendation 3 — Coot and Moorhen Season Framework

### Recommendation

The Pacific Flyway Council (Council) recommends no change in season frameworks for coots and moorhens.

The daily bag limit is 25, singularly or in the aggregate with a possession limit of three times the daily bag limit. Outside dates and season length are the same as the duck season framework.

### Justification

Population status data were not collected in 2020 due to the COVID-19 pandemic. In 2019, the breeding population index for American coots in Washington, Oregon, and California combined was 391,080 (SE = 76,119, 95% CI = 241,888–540,273) coots, and in 2018 was 531,149 (SE = 103,514, 95% CI = 328,263–734,036) coots. Abundance appeared to decrease 26.4% between 2018 and 2019 but was statistically insignificant (Z-score = 1.09,  $P = 0.28$ ). The average abundance during the most recent two years that data were available (2018 and 2019) was 461,115 coots (SE = 90,855, 95% CI = 283,040–639,190).

The most current data available from the North American Breeding Bird Survey indicate coot abundance is stable in the 12 western states during the long-term (1968–2019; routes = 448, annual percent change = -0.46, 95% credible interval = -2.18 to 0.76) and most recent 10 years (2009–2019; routes = 227, annual percent change = 0.40, 95% credible interval = -3.79 to 4.43) (John Sauer, USGS, unpublished analysis).

Current regulations have resulted in modest coot harvest, while providing additional opportunity to hunters. The Pacific Flyway coot harvest estimates for 2018 and 2019 were 47,300 and 22,300, respectively.

### Adoption

Pacific Flyway Study Committee

August 26, 2020

Contact: Will Schultz

Melanie Weaver, Chair

Pacific Flyway Council  
August 28, 2020

Stafford Lehr, Chair

# PACIFIC FLYWAY COUNCIL

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## Recommendation 4 — Swan Season Framework

### Recommendation

The Pacific Flyway Council (Council) recommends no changes to swan season frameworks for the Pacific Flyway.

In portions of the Pacific Flyway (Idaho, Montana, Nevada, and Utah), an open season for taking a limited number of swans may be selected. These seasons are also subject to the following conditions:

Outside Dates: Between the Saturday nearest September 24 and January 31.

Hunting Seasons: Seasons may not exceed 107 days and may include two segments.

Permits: Swan hunting is by permit only. Permits will be issued by the State and will authorize each permittee to take no more than 1 swan per season with each permit. Only 1 permit may be issued per hunter in Idaho, Montana and Utah, 2 permits may be issued per hunter in Nevada. The total number of permits issued may not exceed 50 in Idaho, 500 in Montana, 650 in Nevada, and 2,750 in Utah.

Quotas: The swan season in the respective State must end upon attainment of the following reported harvest of trumpeter swans: 20 in Utah and 10 in Nevada. There is no quota in Idaho and Montana.

Monitoring: Each State must evaluate hunter participation, species-specific swan harvest, and hunter compliance in providing either species-determinant parts (at least the intact head) or bill measurements (bill length from tip to posterior edge of the nares opening, and presence or absence of yellow lore spots on the bill in front of the eyes) of harvested swans for species identification. Each State should use appropriate measures to maximize hunter compliance with the State's program for swan harvest reporting. Each State must achieve a hunter compliance of at least 80 percent in providing species-determinant parts or bill measurements of harvested swans for species identification or subsequent permits will be reduced by 10 percent in the respective State. Each State must provide to the Service by June 30 following the swan season a report detailing hunter participation, species specific swan harvest, and hunter compliance in reporting harvest. In Idaho and Montana, all hunters that harvest a swan must complete and submit a harvest report with the bill measurement and color information from the harvested swan within 72 hours of harvest for species determination. In Utah and Nevada, all hunters that harvest a swan must have the swan or species-determinant parts examined by a State or Federal biologist within 72 hours of harvest for species determination.

Other Provisions: In Utah, the season is subject to the terms of the Memorandum of Agreement entered into with the Service in July 2019, regarding harvest monitoring, season closure procedures, and education requirements to minimize take of trumpeter swans during the swan season.

**Justification**

The status of Western Population (WP) tundra swans is measured using survey data from the combined Waterfowl Breeding Population and Habitat Survey and the Yukon-Kuskokwim Delta Coastal Zone Survey. The 2019 survey of swans was 101,102; no survey was conducted in 2020.

**Adoption**

Pacific Flyway Study Committee

August 26, 2020

Contact: Russell Woolstenhulme



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Melanie Weaver, Chair

Pacific Flyway Council

August 28, 2020



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Stafford Lehr, Chair

# PACIFIC FLYWAY COUNCIL

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## Recommendation 5 — Alaska Season Framework

### Recommendation

The Pacific Flyway Council (Council) recommends no changes to the Alaska season framework for the 2021–2022 season.

The Council recommends that the 2021–22 brant season frameworks be determined based on the harvest strategy in the Council's Management Plan for the Pacific population of brant pending results of the 2021 Winter Brant Survey (WBS). If results of the 2021 WBS are not available, results of the most recent WBS should be used.

### Justification

Ducks: Council recommends retention of the current framework of 107-day seasons and basic daily limits ranging from 7–10 over five regulatory zones. An adaptive regulatory regime guides Pacific Flyway duck regulations based on the Western Mallard Model, which is defined by two substocks: (1) those birds breeding in Alaska and the Yukon Territory, and (2) those birds breeding in California, Oregon, Washington, and British Columbia.

Due to the COVID-19 pandemic, the U.S. Fish and Wildlife Service (Service) and their partners were unable to perform the Waterfowl Breeding Population and Habitat Survey (WBPHS) and estimate waterfowl breeding populations; as well as, evaluate breeding habitat conditions in the spring of 2020. As a result, the information requirements, assessment methodologies, and decision protocols that typically define the annual regulatory process have required some modifications. Accordingly, the Service and the flyway councils have agreed to use optimal harvest policies calculated with model weights and model parameters based on the most recent information available to inform waterfowl harvest decisions for the 2020 regulations process. For 2020, the Western Mallard Model and Bayesian estimation frameworks were used to predict a median breeding population size of western mallards of 0.94 million (SE=0.09 million); the combined predicted totals of the Alaska-Yukon Territory (0.41 million; SE=0.07 million) and California-Oregon-Washington-British Columbia (0.53 million; SE=0.06 million). The prescribed optimal regulatory strategy for the Pacific Flyway for the 2020–21 hunting season, given the current alternatives, is a liberal package. For details regarding the modified analyses to prescribe optimal strategies, see *U.S. Fish and Wildlife Service. 2020. Adaptive Harvest Management: 2021 Hunting Season. U.S. Department of Interior, Washington, D.C. 109 pp.* Alaska accounted for ~2% of the Pacific Flyway duck harvest in 2019.

Canvasbacks: Council recommends no change in the bag/possession limit of two/six canvasbacks for Alaska. The 2020 breeding population survey was canceled due to the COVID-19 pandemic. Accordingly, estimation frameworks were developed to predict the canvasback 2020 breeding population as 1) a function of historical breeding population time-series, and 2) a modified existing canvasback population model that uses 2019 breeding population estimate, 2019 Canadian ponds, and average total canvasback harvest under a liberal-2 season (implemented for the 2019–20 hunting season). The time-series analysis predicted the 2020 canvasback breeding population is 671,280 (PI=462,759–879,801). The population model predicted a 2020 breeding population of 550,799. Although the time-series model predicted the 2020 canvasback population at 100,000 birds higher than the prediction from the population

model, both forecasts were well above the 480,000-bird threshold required for a liberal-2 canvasback season in 2021–22. For more details regarding the alternative predictive analyses for the 2020 canvasback breeding population, see *Garrettson, P. 2020. Canvasback 2020 BPOP Forecasts. U.S. Fish and Wildlife Service, Division of Migratory Bird Management, Branch of Assessment and Decision Support*. The estimated 2019 fall-winter harvest of canvasbacks in Alaska was zero.

**Sea Ducks:** Council recommends no change to the current sea duck bag/possession limits of 10 daily, 20 in possession, singly or in the aggregate, including no more than six each of either harlequin or long-tailed ducks. Lower limits are required for nonresident hunters. Sea ducks include scoters, common and king eiders, harlequin ducks, long-tailed ducks, and common and red-breasted mergansers. The season is closed for Steller’s and spectacled eiders.

**Geese:** Council recommends no change to the seasons and bag limits for geese in Alaska. Due to the COVID-19 pandemic, many surveys were canceled in 2020; thus, multiple goose populations have missing data that are used to guide selection of harvest regulations for the 2021–22 season. The Service (Branch of Assessment and Decision Support) provided 2020 abundance predictions from state-space, theta-logistic, and auto-regressive integrated moving average models for multiple Pacific goose populations that do not have current year data (Dooley 2020, Osnas 2020). These populations include: Emperor geese, Pacific white-fronted geese, *minima* Cackling geese, Pacific lesser Canada geese, Tavener’s cackling geese, and dusky Canada geese. All other goose populations have current year data to help guide regulatory decisions (Table 1).

All models predicted abundance near 2019 estimates or most recent three-year averages: although, with considerable uncertainty (Dooley 2020). Most goose population management indices are likely near or above their management plan population objectives (Table 1), supporting no change in the Alaska frameworks. The model for emperor geese predicted a 2020 abundance index above the 23,000-bird closure threshold with ~75% certainty, but likely remains between the population thresholds (between 23,000 and 28,000 birds) requiring maintaining the reduced quota implemented in the 2020 fall-winter season.

Table 1. Most recent population status, and management plan objectives for Pacific Flyway goose populations in Alaska

	Recent Survey Index	3-year Average Index		Management Index	Objective	
	Estimate	Year	Estimate	Years		
Pacific white-fronted geese	479,289	2019	601,650	2017–2019	3-year avg	300,000
Midcontinent white-fronted geese	1,266,902	Fall 2019	937,536	2017–2019	3-year avg and harvest rate	600,000
<i>minima</i> cackling geese	205,262	2019	235,137	2017–2019	3-year avg	250,000
Pacific lesser Canada geese	13,066	2019	5,962	2017–2019	No index	None
Tavener’s cackling geese	58,924	2019	50,177	2017–2019	No index	None
Aleutian Canada geese	118,388	2020	163,087	2018–2020	3- year avg	60,000
Dusky Canada geese	17,727	2019	14,408	2017–2019	3-year avg	20,000
Vancouver Canada geese	No data				No index	None
Emperor geese	26,585	2019	28,928	2017–2019	Single year	34,000
Pacific brant	142,556	2020	145,388	2018–2020	3-year avg	162,000
Western Arctic lesser snow geese	446,599	2013	2007, 09, 13		Single year	200,000
Wrangel Island lesser snow geese	685,120	2020	477,706	2018–2020	3-year avg	120,000

*Dooley, J. 2020. Goose and Swan Indices Out-year Model Predictions for 2020. U.S. Fish and Wildlife Service, Division of Migratory Bird Management, Branch of Assessment and Decision Support*

*Osnas, E. 2017. A simple state space model framework to predict harvest management survey observations in 2020. USFWS, publ analyses: <https://github.com/USFWS/State-Space-Prediction-2020>*

**Western Tundra Swans:** Council recommends no change to the current framework of a permit hunt in Units 17, 18, 22, and 23 with no more than three swans authorized per permit. The western tundra swan population is managed using the three-year average of the breeding ground index, which includes the combined total bird indices from the Waterfowl Breeding Population and Habitat Survey (Strata 8, 9, 10, and 11) and the Yukon Kuskokwim Delta Coastal Zone Survey. However, both surveys were canceled in 2020 due to the COVID-19 pandemic. The Service (Branch of Assessment and Decision Support) provided out-year abundance predictions from state-space, theta-logistic, and auto-regressive integrated moving average models for the western swan population using indices included in the 2019 Status Report (USFWS 2019). All three models predicted the 2020 breeding abundance of swans (101,100–110,300 swans) above or near the 2019 breeding ground index of 101,102 swans. The most recent three-year (2017–2019) average was 127,556 swans, well above the management plan objective of 60,000 tundra swans. For more details, see *Dooley, J. 2020 Goose and Swan Indices Out-year Model Prediction for 2020. U.S. Fish and Wildlife Service, Division of Migratory Bird Management, Branch of Assessment and Decision Support.*

**Midcontinent Lesser Sandhill Cranes:** Council recommends no change to the current framework of a daily bag of three cranes in Units 11–13 and 18–26. The population is likely well above management thresholds. The 2020 photo-corrected aerial survey of the Central Platte River Valley was canceled due to the COVID-19 pandemic. The 2019 index was 946,000 cranes and the most recent three-year average from 2017–2019 was 840,000 cranes, which exceeds the established population objective range of 350,000–475,000 cranes. The 2019 estimated fall-winter harvest in Alaska was 659 cranes. The fall-winter Alaska harvest accounted for about 1.5% of the North American harvest in 2019.

**Pacific Population Lesser Sandhill Cranes:** Council recommends no change to the current framework of a daily bag of two cranes in Units 1–10, 14–17. Alaska is the only state that harvests this population. The 2019 fall–winter harvest estimate of cranes in Units 1–10 and 14–17 was 140 cranes (HIP).

**Snipe:** Council recommends no change to the current framework of a daily bag limit of 8 birds in all Units. The reported harvest of snipe during the 2019 fall-winter harvest in Alaska was zero.

**Falconry:** Council recommends no change to the current framework of a daily bag limit of three birds. There are currently 53 registered falconers in Alaska. Of these, 25 falconers have a total of 44 falconry birds in possession and migratory game bird harvest is negligible.

**Adoption**  
Pacific Flyway Study Committee  
August 26, 2020

Contact: Jason Schamber

  
Melanie Weaver, Chair

Pacific Flyway Council  
August 28, 2020

A handwritten signature in blue ink, appearing to read "Stafford Lehr".

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Stafford Lehr, Chair

# PACIFIC FLYWAY COUNCIL

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## Recommendation 6 — Special Youth, Veteran, and Active Military Personnel Waterfowl Hunting Days Season Framework

### Recommendation

The Pacific Flyway Council (Council) recommends no change in the special youth, veteran, and active military personnel waterfowl hunting days season framework.

Council recommends states may select two days per duck-hunting zone designated as “Youth Waterfowl Hunting Days,” and two days per duck-hunting zone designated as “Veterans and Active Military Personnel Waterfowl Hunting Days,” in addition to their regular duck seasons. These days may be held concurrently. The Youth Waterfowl Hunting Days must be held outside any regular duck season on weekends, holidays, or other non-school days when youth hunters would have the maximum opportunity to participate. Both sets of days may be held up to 14 days before or after any regular duck season frameworks or within any split of a regular duck season, or within any other open season on migratory birds.

Daily bag limits may include ducks, geese, swans, mergansers, coots, moorhens, and gallinules and would be the same as those allowed in the regular season. Flyway species and area restrictions would remain in effect. Swans may only be taken by participants possessing applicable swan permits. Shooting hours are one-half hour before sunrise to sunset.

States may use their established definition of age for youth hunters. However, youth hunters must be under 18 years of age. In addition, an adult at least 18 years of age must accompany the youth hunter into the field. This adult may not hunt, but may participate in other seasons that are open on the special youth day. Veterans (as defined in section 101 of title 38, United States Code) and members of the Armed Forces on active duty, including members of the National Guard and Reserves on active duty (other than for training), may participate. All hunters 16 years of age or older must possess a Federal Migratory Bird Hunting and Conservation Stamp (also known as Federal Duck Stamp).

### Justification

Council supports special opportunities for youth, veterans, and active military personnel to learn about waterfowl and wetland conservation, and waterfowl hunting. The intent of this special season is to (1) introduce hunters to the concepts of ethical utilization and stewardship of waterfowl and other natural resources, (2) encourage youngsters and adults to experience the outdoors together, and contribute toward the long-term conservation of the migratory bird resource, (3) provide the best and safest learning environment for those who are interested in hunting, and (4) provide a high-quality hunting experience for youth, veterans, and active military personnel.

The special season may help recruit non-hunters and novice hunters into the activity. In the long-term, participation in this special season may result in support for waterfowl and wetland conservation and foster a more knowledgeable public, continued support for waterfowl hunting, and continued support for the protection and enhancement of wetland ecosystems.

**Adoption**  
Pacific Flyway Study Committee  
August 26, 2020



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Melanie Weaver, Chair

Pacific Flyway Council  
August 28, 2020



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Stafford Lehr, Chair

Contact: Kyle Spragens

# PACIFIC FLYWAY COUNCIL

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## Recommendation 7 — Special Early Canada and Cackling Goose Season Framework

### Recommendation

The Pacific Flyway Council (Council) recommends no change to the framework for special early Canada and Cackling goose seasons.

A Canada and cackling goose season of up to 15 days during September 1–20 may be selected. The daily bag limit may not exceed five Canada geese, except in Pacific County, Washington, where the daily bag limit may not exceed 15 Canada geese. Areas open to hunting of Canada geese in each state must be described, delineated, and designated as such in each state's hunting regulations.

### Justification

The special early Canada goose hunting season aims at increasing harvest on resident Canada goose populations. The current management plan population objective and harvest strategies are based on the Breeding Population Index for both the Pacific Population (PP) and Rocky Mountain Population (RMP) of Canada geese.

The 2018 breeding population index for PP Canada geese is 346,992, a 1% decrease from the 2018 index of 350,684. The three-year average (2017–2019) is 330,725, up 13% from the previous three-year average of 291,974 (2016–2018). No survey was conducted in 2020.

The breeding population index for RMP Canada Geese in 2019 is 175,652, a 30% decrease from the 2018 index of 252,695. The three-year average (2017–2019) is 205,338, down 11% from the previous three-year average of 230,662 (2016–2018). The RMP management plan objective is a breeding population index of 117,000. No survey was conducted in 2020.

### Adoption

Pacific Flyway Study Committee  
August 26, 2020

Contact: Blair Stringham



Melanie Weaver, Chair

Pacific Flyway Council  
August 28, 2020



Stafford Lehr, Chair

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## Recommendation 8 — Dove Season Framework

### Recommendation

The Pacific Flyway Council (Council) recommends the “Standard” regulatory alternative as prescribed by the mourning dove harvest strategy for doves in the Western Management Unit (WMU), which is no change from the previous season.

Council recommends a framework with outside dates between September 1 and January 15 with state-specific season lengths and bag limits as follows:

In Idaho, Nevada, Oregon, Utah, and Washington, the season length shall be not more than 60 days, which may be split between two periods. The daily bag limit is 15 mourning and white-winged doves in the aggregate. Oregon may select seasons in each of 2 zones.

In Arizona and California, the season length shall be not more than 60 days, which may be split between two periods, September 1–15 and November 1–January 15. In Arizona, during the first segment of the season, the daily bag limit is 15 mourning and white-winged doves in the aggregate; of which no more than 10 may be white-winged doves. During the remainder of the season, the daily bag limit is 15 mourning doves. In California, the daily bag limit is 15 mourning and white-winged doves in the aggregate; of which no more than 10 may be white-winged doves.

### Justification

A mourning dove harvest strategy was endorsed by flyway councils and Service Regulations Committee in 2013, for the Eastern, Central, and Western Management Units, with implementation beginning in 2014.

The harvest strategies for each Management Unit share a common assessment framework:

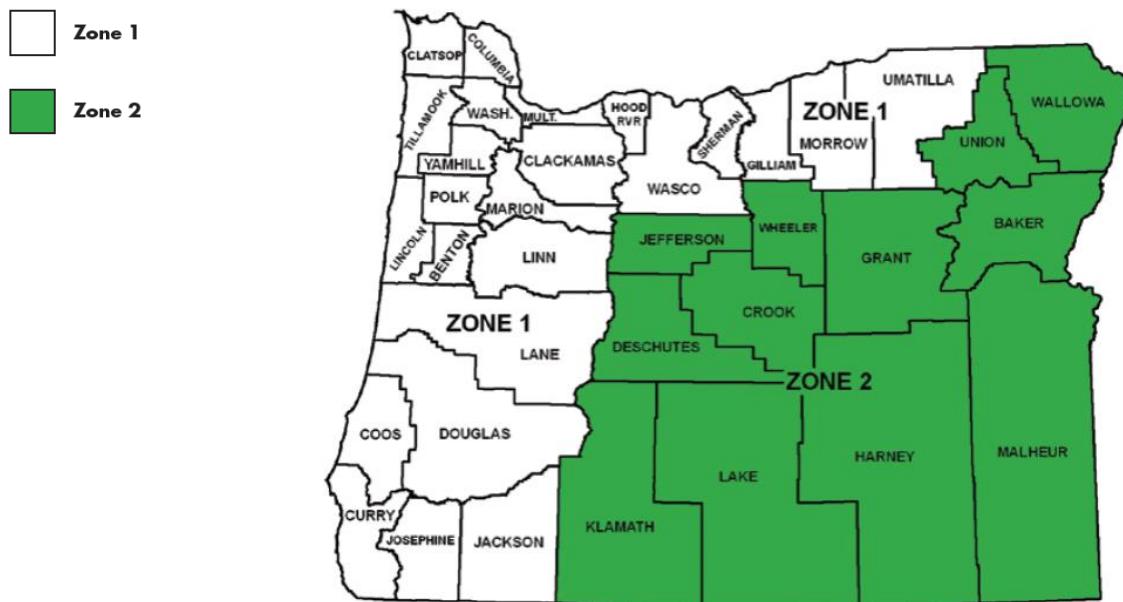
- 1) Discrete logistic model to estimate population parameters (intrinsic rate of growth, carrying capacity) and predict population abundance in the year subsequent to the data time series,
- 2) Critical abundance thresholds based on 30% and 50% of approximated maximum sustained yield,
- 3) 85% confidence predicted abundance exceeds the critical threshold necessary to trigger a regulatory change,
- 4) Standard, restrictive, and closed regulatory alternatives with a consistent daily bag limit.

The predicted abundance of mourning doves and respective credible intervals (in millions) for 2020 in the WMU is 42.85 million. The predicted abundance results in a “Standard” regulatory alternative as prescribed by the harvest strategy.

**Notification of changes to dove hunting zones in the Western Management Unit**  
(Zone changes require notification of the Flyway Representative)

New guidelines for dove zones and split seasons in the Western Management Unit were approved in the fall of 2019. The guidelines allow WMU states the option to establish dove seasons in up to two zones for the 2021 – 2025 period, if notice of selection and zone boundary descriptions were provided during the selection period. Previously, zoning for dove seasons in the WMU was not authorized.

- Oregon requested the ability to select seasons within two zones with the following zone names and boundary descriptions for the 2021/22 – 2025/26 seasons (identical to current duck hunting zones).
  - Zone 1: Benton, Clackamas, Clatsop, Columbia, Coos, Curry, Douglas, Gilliam, Hood River, Jackson, Josephine, Lane, Lincoln, Linn, Marion, Morrow, Multnomah, Polk, Sherman, Tillamook, Umatilla, Umatilla, Wasco, Washington, and Yamhill counties.
  - Zone 2: The remainder of Oregon not included in Zone 1.



**Adoption**  
Pacific Flyway Study Committee  
August 26, 2020

Contact: Johnathan O'Dell

  
Melanie Weaver, Chair

Pacific Flyway Council  
August 28, 2020

  
Stafford Lehr, Chair.

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## Recommendation 9 — Subsistence Season Framework

### Recommendation

The Pacific Flyway Council (Council) endorses the Alaska Migratory Bird Co-Management Council (AMBCC) recommended 2021 regulations for spring and summer subsistence harvest of migratory birds and their eggs in Alaska (50 CFR 92), which are unchanged from the 2020 season with the following exceptions:

- 1) For the Upper Copper River Region, allow issuance of a permit to hunters from excluded areas certifying eligibility and invitation to hunt in the subsistence area of the region; and
- 2) Close harvest of Emperor goose eggs in all regions of Alaska.

### Justification

Regulations allow for continuation of customary and traditional subsistence uses of migratory birds in Alaska. Regulations were developed by the AMBCC, which consists of the U.S. Fish and Wildlife Service (Service), the Alaska Department of Fish and Game (ADFG), and 11 Alaska Native Regional Management bodies. The AMBCC has proposed to maintain the 2020 spring-summer subsistence harvest regulations for migratory birds in 2021 with the two amendments below.

Allow a permit for invitation to hunt in the Upper Copper River Region: Current regulation in 50 CFR § 92.5(d) allows immediate family members (children, parents, grandparents, and siblings) living in excluded areas to participate in the customary spring-summer subsistence harvest of migratory birds in a village's subsistence area, if invited via letter by the respective tribal council to assist permanent residents of the village in meeting their nutritional and other essential needs or for teaching cultural knowledge. A letter of invitation is sent to the hunter with a copy provided to the Executive Director of the AMBCC, who will inform law enforcement within two working days. In addition to the letter of invitation, this proposal would add another method (a permit) to invite a hunter from an excluded area to participate in the spring-summer subsistence hunt in the Upper Copper River region. The permit would certify the prospective hunter was an immediate family member as defined in 50 CFR § 92.4 and thereby authorized to assist family members in hunting migratory birds in the subsistence harvest area of the region.

To date, the AMBCC Executive Director has received two letters of invitation to hunt across the state of Alaska since the inception of 50 CFR § 92.5(d) in 2014. The letter of invitation requirement is viewed as burdensome and administratively inefficient due in large part to high turnover in tribal administrative staff. In the Upper Copper River Region, an invitation to hunt by permit is considered less onerous and a more practical approach for tribes to invite participation by hunters living in excluded areas. The proposal would not change the existing regulations; rather, it would add the permit option for the tribes in the Upper Copper River Region to administer the invitation to hunt in their subsistence harvest area. Invited hunters would be required to carry the permit while hunting as proof of eligibility. The permit would have a two-year term limit of use for the permittee from the date of issuance. A list of permittees will be forwarded to the AMBCC Executive Director, who will then forward the list to law enforcement.

This change in regulation is not anticipated to result in a significant increase in harvest of birds and eggs in the Upper Copper River Region because invited hunters are authorized only to assist in fulfilling the needs of immediate family members in villages or teaching cultural knowledge.

The proposed changes to the existing regulation and draft general provision language are as follows:

50 CFR § 92.5(d) Participation by permanent residents of excluded areas. Immediate family members who are residents of excluded areas may participate in the customary spring and summer subsistence harvest in a ~~village's~~ **tribal community's** subsistence area with permission of the **tribal**/village council **or whichever is appropriate**, to assist indigenous inhabitants in meeting their nutritional and other essential needs or for the teaching of cultural knowledge **using one of the following procedures:**

- (1) A letter of invitation will be sent by the **tribal**/village council to the hunter with a copy to the Executive Director of the Co-management Council, who will inform law enforcement and the Service's Co-management Council ~~coordination office~~ **Coordinator** within 2 working days. The Service will then inform any affected Federal agency when residents of excluded areas are allowed to participate in the subsistence harvest within their Federal lands; **or**
- (2) **For the Upper Copper River Region, a permit may be issued by the tribal council or their authorized tribal representative to the invited hunter certifying that the permit holder is an immediate family member authorized to assist eligible family members in hunting migratory birds in the tribe's subsistence harvest area. A permit is valid for two years from date of issuance. A list of permit holders will be sent to the Executive Director of the Co-management Council, who will inform law enforcement and the Service's Co-management Council Coordinator within 2 working days. The Service will then inform any affected Federal agency when residents of excluded areas are allowed to participate in the subsistence harvest within their Federal lands.**

Close harvest of Emperor goose eggs statewide: The harvest strategies in the AMBCC Emperor Goose Management Plan (Plan) and the Pacific Flyway Council Management Plan for Emperor Geese are based on using the indicated total bird index (index) from the Yukon-Kuskokwim Delta Coastal Zone (Coastal Zone) survey conducted by the Service-Alaska Region to assess population status relative to established thresholds. The harvest strategy in the Plan specifies the spring-summer subsistence harvest will be open to customary and traditional practices if the Coastal Zone index from the previous year is greater than 23,000 birds, and harvest will be closed if the index is below this threshold. If the Coastal Zone index is between 23,000 and 28,000 birds, the AMBCC will consider implementing regulatory or non-regulatory conservation measures. The conservation measures listed in the Plan to be considered by the AMBCC include increased outreach and education, cessation of egg harvest, elder and ceremonial harvest only, or other measures as identified by parties to the Plan.

In 2019, the Coastal Zone index (26,585; 95% CL = 24,161–29,008 birds) dropped below the 28,000-bird threshold that triggers consideration of conservation measures. For the 2020 spring-summer hunting season, the AMBCC agreed to implement the non-regulatory measure of increased outreach and education.

In 2020, the Coastal Zone survey was canceled due to the COVID-19 pandemic, resulting in the lack of a 2020 index to inform regulatory decisions for the 2021 season. The harvest strategy in the Plan does not include guidance on making regulatory decisions in the absence of previous year's survey data; thus, the Emperor goose subcommittee is responsible for considering all the available information and recommending a course of action.

The Emperor goose subcommittees convened on 2 June 2020 to consider information which may inform population status in the absence of 2020 survey data and recommend harvest regulations for the 2021 spring-summer hunt of Emperor geese. A number of possible approaches were discussed that could be used to infer Emperor goose population status in 2020 including: the most recent observed Coastal Zone index (2019) or a model-based projection of the current year (2020) Coastal Zone index (Osnas 2020). There was no general agreement on an approach. Some recommended using the most recent (2019) index as an appropriate measure, which has precedence among flyway councils to manage a few species (e.g., brant and cranes) in the absence of current year data. Others preferred using a state-space model developed by the Service-Alaska Region which used all years (1985–2019) of Coastal Zone survey data to predict a 2020 index (27,591 birds; 95% CI: 18,509–39,493) above the 23,000-bird closure threshold with ~75% certainty. However, the consensus was that both of these approaches were in general agreement, indicating the 2020 population status likely remains between the population thresholds requiring consideration of conservation measures (between 23,000 and 28,000 birds) with low probability that abundance was below the closure threshold. Thus, it is recommended the hunt remain open with a continuation of conservation measures for the 2021 spring-summer Emperor goose hunt. The conservation measures for 2021 would include maintaining increased outreach and education, but also add the regulatory change of closing harvest of Emperor goose eggs in all regions of Alaska to maximize productivity, particularly given the uncertainty in 2020 population status and to reduce the probability of having a closed season in the future. The 2018 spring-summer subsistence harvest estimate of Emperor goose eggs was 2,815 (CIP: 116%).

*Osnas, E. 2020. A simple state space model framework to predict harvest management survey observations in 2020. USFWS, publ. analyses: <https://github.com/USFWS/State Space-Prediction-2020>.*

The proposed change to existing regulation is as follows:

50 CFR § 92.22 Subsistence migratory bird species.

You may harvest birds or gather eggs from the following species, listed in taxonomic order, within all included areas except Southeast Alaska, which is restricted to glaucous-winged gull egg harvesting only. When birds are listed at the species level, all subspecies existing in Alaska are also open to harvest. All bird species not listed are closed to harvesting and egg gathering.

(a) Family Anatidae.

(3) Emperor goose (*Chen Anser canagica*) – **except no egg gathering is permitted in any region.**

**Adoption**

Pacific Flyway Study Committee  
August 26, 2020



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Melanie Weaver, Chair

Contact: Jason Schamber

Pacific Flyway Nongame Technical Committee  
August 26, 2020

Contact: Travis Booms



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Neil Clipperton, Chair

Pacific Flyway Council  
August 28, 2020



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Stafford Lehr, Chair.

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## Recommendation 10 — Rocky Mountain Population Sandhill Crane Season Framework

### Recommendation

The Pacific Flyway Council (Council) recommends no change in the season framework for Rocky Mountain Population (RMP) sandhill cranes, except:

- Expand the existing Uintah County Zone to include Duchesne County in northeast Utah
- The addition of a new hunt district in Cascade and Teton counties in northcentral Montana

Council also recommends allowable harvest be determined based on the formula described in the Pacific and Central Flyway Management Plan for the Rocky Mountain Population of Sandhill Cranes pending results of the 2020 fall abundance and recruitment surveys.

### Justification for proposed changes to crane hunt zones in Utah

The Uintah Basin in northeastern Utah has long been a staging area for RMP sandhill cranes. Historically, cranes begin migrating into this area in early September, and by the end of November there are few cranes remaining in the county. However, over the last decade more cranes have been observed in the area during the breeding season, and cranes are staging in the area for longer periods of time. This has led to increased damage to unharvested corn, winter wheat, and alfalfa fields. Landowner tolerance for cranes has declined and several state legislators have applied political pressure on the Utah Division of Wildlife Resources to resolve the issue.

After several meetings with affected landowners, county commissioners, and state legislators, Utah proposes to expand the existing Uintah County Zone to include Duchesne County (Figure 1). Cranes are present in this entire area during fall migration and birds regularly move across county lines. Survey data for Duchesne County can be found in Table 1.

Historical and recent survey data show that hunter success ranged from 64.3% to 89.3% over the last five years in the Uintah County Zone (Table 2). Overall, harvest is expected to remain well within the state's allocation as the number permits issued for this new hunting district would remain below 100 total permits.

Long-term monitoring of crane numbers at fall pre-migration staging areas will continue through the coordinated September survey. Harvest surveys will be conducted to monitor crane harvest annually.

Figure 1. Map of Uintah County and proposed addition of Duchesne County.

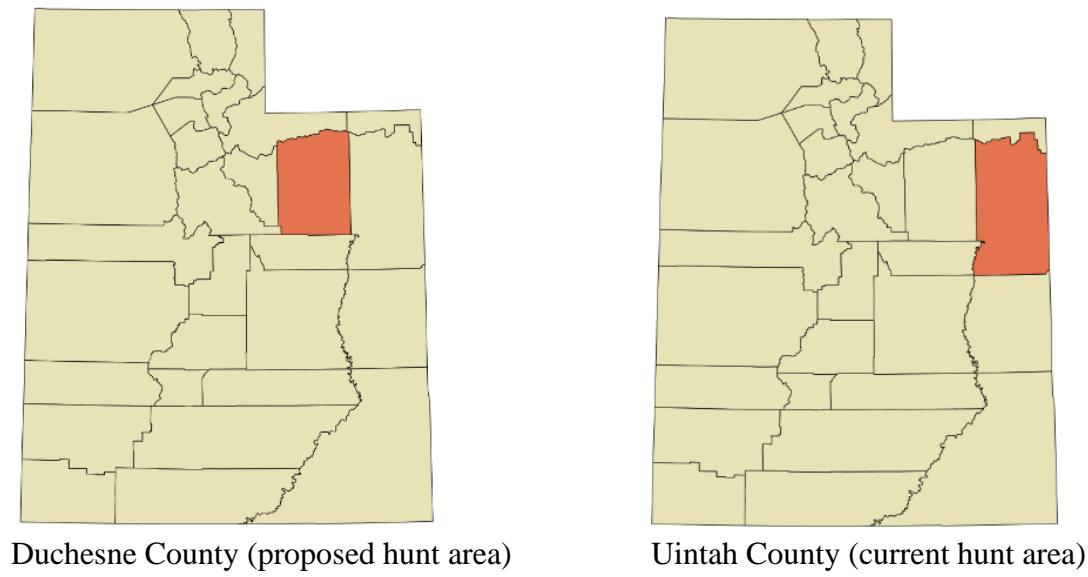


Table 1. Statewide survey data for the last five years.

	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>
Weber Co.	28	68	85	70	42
Rich Co.					
Bear River	980	410	551	501	437
Round Valley	100	18	24	25	24
Cache Co.	350	469	594	434	501
Box Elder Co.	335	806	626	663	412
Davis Co.	13	21	14	25	13
Summit Co.	27	16	15	46	57
Wasatch Co.	24	39	55	60	42
Uintah Co.					
Leland Bench	8	0	7	0	12
Jensen	1520	1230	832	776	1347
Pelican Lk. Vic.	178	111	78	80	112
Duchesne Co.	44	19	26	9	236
Morgan Co.	91	91	87	81	92
Millard Co.	2	2	3	3	5
Sevier Co.	126	63	14	14	43
Piute Co.	0	48	16	11	64
Wayne Co.	81	53	26	18	56
Sanpete Co.			282	201	241
Utah Co.			144	136	152
Emery Co.					94
<b>Total</b>	<b>3,907</b>	<b>3,464</b>	<b>3,479</b>	<b>3,153</b>	<b>3,982</b>

Table 2. Sandhill crane harvest statistics for Uintah County.

Year	2015	2016	2017	2018	2019
UINTAH COUNTY PERMITS	30	30	120	90	75
HUNTERS AFIELD	28	26	101	75	63
CRANES HARVESTED	18	18	78	67	52
YOUNG HARVESTED	1	1	8	8	6
PERCENT SUCCESS (Active Hunters)	64.3	69.2	77.2	89.3	82.5
PERCENT YOUNG	5.6	5.6	10.3	11.9	11.5
UNRETRIEVED LOSS	0	2	2	3	4

### **Justification for proposed changes to crane hunt zones in Montana**

Currently, Montana has six sandhill crane permit areas, as well as an over-the-counter license valid in the Central Flyway (outside special license areas). Four hunting districts are fully within the Pacific Flyway (HD 280-01, HD 284-01, HD 380-01, HD 390-01), HD 599-00 is in the Central Flyway and HD 586-01 includes counties in both flyways. Montana proposes a new hunting district in the Pacific Flyway to provide additional hunting opportunity for RMP sandhill cranes within the annual harvest allocation.

The proposed district is located in north-central Montana and includes all of Cascade and Teton counties (Figure 1). Three years of survey data are required under the Management Plan for Rocky Mountain Population of Sandhill Cranes before a hunting district can be proposed and/or established. This requirement has been exceeded in the proposed hunting district, with 19 and 16 years of survey data within Cascade and Teton counties, respectively. Aerial surveys at fall pre-migration staging areas show stable, to increasing, crane numbers within the proposed hunting district (Figure 2; Table 1). Over the last five years (2015 – 2019), the Missouri River count ranged from 87–271 cranes and Teton River-Eureka Reservoir count ranged from 312–604 cranes.

Harvest is expected to remain well within the state allocation with the addition of a new hunting district, as only a limited number of permits will be available through a random drawing process in the initial year. A successful applicant would receive one sandhill crane permit. The proposed quota for the first season (2021) is 20 permits, valid in Cascade and Teton counties.

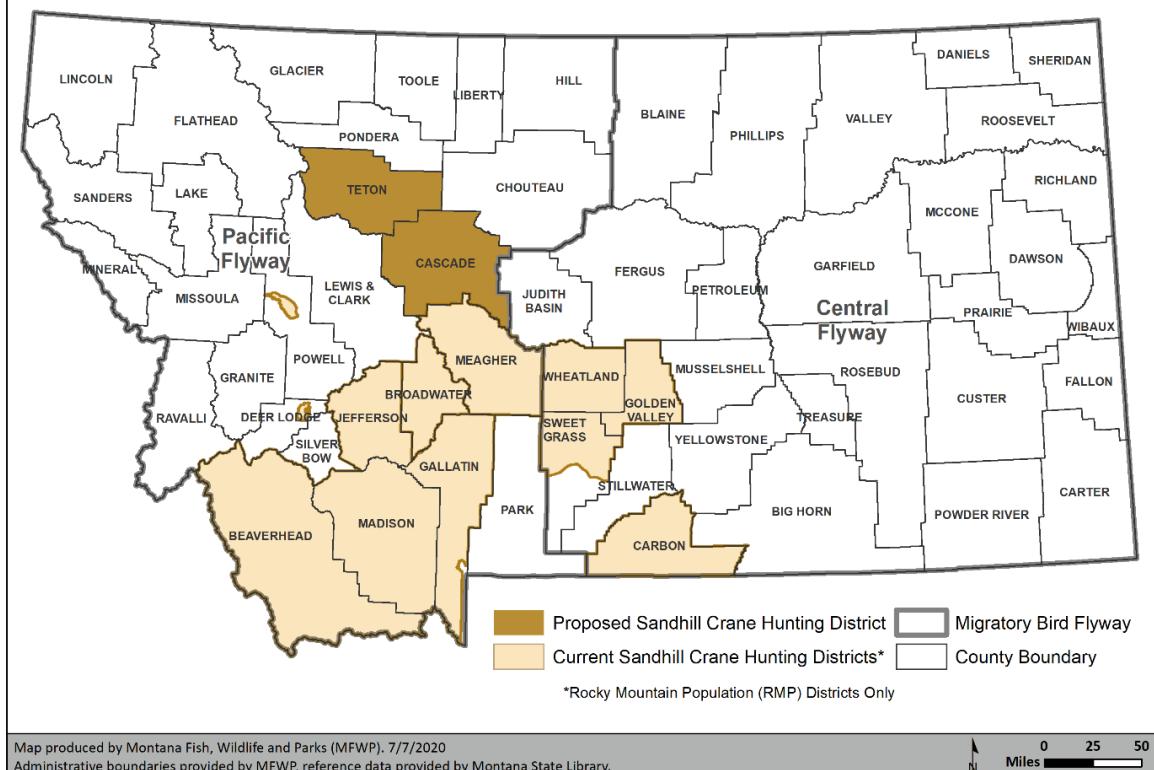
Historical and recent survey trend data for the area suggest a limited entry quota of 20 permits would have little, if any, impact on the number of sandhill cranes that use fall pre-migration staging areas within the proposed hunting district. While hunter success varies annually in other hunting districts across the state, the statewide average success per license is near 35%. Based on the allowable harvest formula for this population, Montana has a statewide allocation of 303 cranes for the 2020 season. Montana has always been conservative in its harvest of the population and has been below its allocated harvest (Table 2).

Long-term monitoring of crane numbers at fall pre-migration staging areas will continue through the coordinated September survey. Crane hunter harvest will be monitored through questionnaires.

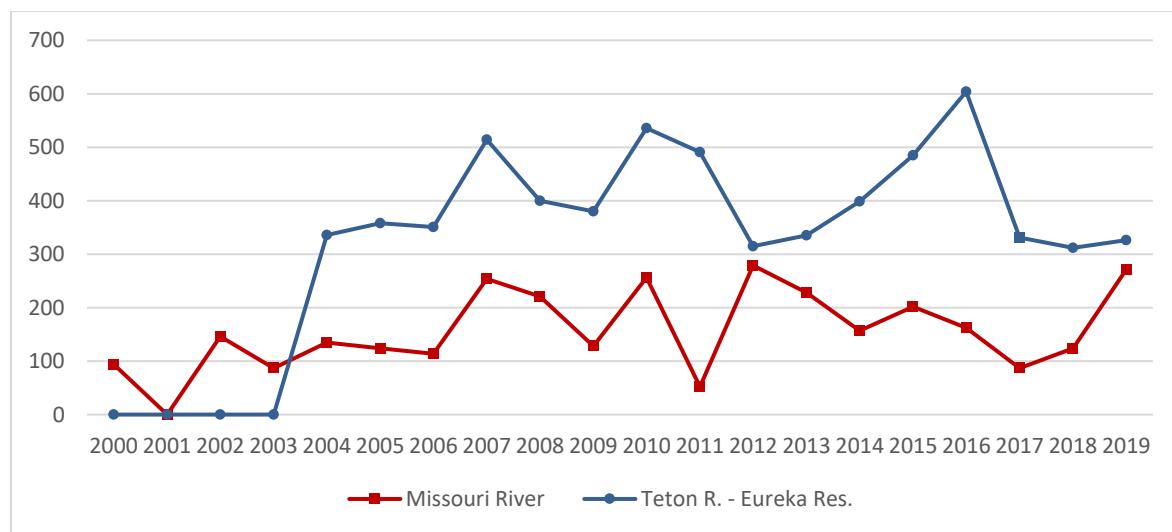
## Proposed Sandhill Crane Hunting District

MONTANA FWP

2020 Season



**Figure 1.** Current and proposed Sandhill crane hunting districts in Montana's Central and Pacific Flyways.



**Figure 2.** Annual counts of Greater Sandhill crane within the Missouri River and Teton River staging surveys.

**Table 1.** Greater Sandhill Crane population data for the Rocky Mountain Population (RMP) total, Montana statewide, and the staging surveys associated with the new proposed hunt areas.

Year	RMP Total	MT Statewide	Missouri River Cascade – Great Falls	Teton River – Eureka Reservoir
2000	19,990	3,598	94	NC
2001	16,559	4,714	NC	NC
2002	18,803	4,843	146	NC
2003	19,523	4,964	87	NC
2004	18,510	4,637	135	336
2005	20,865	5,588	124	358
2006	Incomplete	Incomplete	114	351
2007	22,822	6,509	254	514
2008	21,156	6,419	221	400
2009	20,321	6,329	128	380
2010	21,064	7,335	256	536
2011	17,494	6,642	52	491
2012	15,417	6,150	279	315
2013	20,360	7,218	228	335
2014	19,668	6,555	157	399
2015	24,330	9,493	202	485
2016	22,264	7,507	162	604
2017	19,592	7,149	87	331
2018	21,801	7,553	124	312
2019	21,290	7,511	271	326

**Adoption**

Pacific Flyway Study Committee  
August 26, 2020

Melanie Weaver, Chair

Contact: Jeff Yost

Pacific Flyway Council  
August 28, 2020

Stafford Lehr, Chair

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## Recommendation 11 — Interior Band-tailed Pigeon Season Framework

### Recommendation

The Pacific Flyway Council (Council) recommends no change in the season framework for interior band-tailed pigeons.

Council recommends a framework in the Pacific Flyway portion of Arizona, Colorado, New Mexico, and Utah with outside dates between September 1 and November 30, season length of 14 days, and daily bag limit of 2. New Mexico may select hunting seasons in two zones: North and South Zones. The North Zone consists of the area north of a line following U.S. Highway 60 from the Arizona State line east to Interstate 25 at Socorro and south along Interstate 25 from Socorro to the Texas state line. The South Zone includes the remainder of the State. The South Zone season may not open until October 1.

### Justification

Total harvest estimates, obtained from the Harvest Information Program (HIP), for the Interior population of band-tailed pigeons was 600 birds in 2019, which was up from 200 birds in 2018. State harvest surveys in Arizona and Colorado were discontinued when HIP was implemented; however, the harvest survey was maintained in Utah and estimated harvest was four in 2018 and 2019.

There is still considerable uncertainty in harvest estimates from the federal harvest survey. All states are working to refine harvest surveys to improve harvest estimates, and each state now has a permit system required for anyone hunting band-tailed pigeons. Permits should provide a better sampling frame to increase the accuracy of harvest estimates.

### Adoption

Pacific Flyway Study Committee  
August 26, 2020

Contact: Dan Collins

*Melanie Weaver*  
Melanie Weaver, Chair

Pacific Flyway Council  
August 28, 2020

*Stafford Lehr*  
Stafford Lehr, Chair

# PACIFIC FLYWAY COUNCIL

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## Recommendation 12 — Pacific Band-tailed Pigeon Season Framework

### Recommendation

The Pacific Flyway Council (Council) recommends no change in the season framework for Pacific Coast band-tailed pigeons.

Council recommends a framework in California, Nevada, Oregon, and Washington with outside dates between September 15, 2021 and January 1, 2022, a season length of nine consecutive days, a daily bag limit of two, and a possession limit of six. California may select seasons in each of two zones (North Zone and South Zone). The North Zone includes Alpine, Butte, Del Norte, Glenn, Humboldt, Lassen, Mendocino, Modoc, Plumas, Shasta, Sierra, Siskiyou, Tehama, and Trinity counties. The South Zone includes the remainder of the State. The season in the North Zone must close by October 3.

### Justification

Based on the harvest strategy in the Council's Management Plan for Pacific Coast Band-tailed Pigeons, the results of the 2020 Mineral Site Survey, and the annual assessment by the Branch of Assessment and Decision Support, the prescribed regulatory alternative for California, Nevada, Oregon, and Washington during the 2020 season is the restrictive regulatory alternative. This represents no change from last season.

### Adoption

Pacific Flyway Study Committee  
August 26, 2020

Contact: Brandon Reishus

Melanie Weaver, Chair

Pacific Flyway Council  
August 28, 2020

Stafford Lehr, Chair

# PACIFIC FLYWAY COUNCIL

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## Recommendation 13 — Snipe Season Framework

### Recommendation

The Pacific Flyway Council (Council) recommends no change in the season framework for snipe.

Council recommends a framework with outside dates between September 1 and February 28, season length of 107 days, daily bag limit of eight, and possession limit of 24. Seasons may be split into two segments. Seasons may be selected by zones established for duck hunting.

### Justification

The most current data available from the North American Breeding Bird Survey indicate snipe abundances were stable to slightly declining in the 12 western states during the long term (1968–2019) and most recent 10 years (2009–2019) (John Sauer, USGS, unpublished analysis). The estimated annual percent change during the long term was -0.64% (95% credible interval = -1.67 to 0.21, routes = 642) and short term was -1.21 (95% credible interval = -2.91 to 0.47, routes = 433) indicating stable abundance during both time periods.

Hunter participation and harvest estimates for snipe are obtained from the Harvest Information Program. In 2018 and 2019, the snipe harvest estimate in the Pacific Flyway was 2,900 and 5,000, respectively.

### Adoption

Pacific Flyway Study Committee  
August 26, 2020

Contact: Russell Woolstenhulme

Melanie Weaver, Chair

Pacific Flyway Council  
August 28, 2020

Stafford Lehr, Chair

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## Recommendation 14 — Rail Season Framework

### Recommendation

The Pacific Flyway Council (Council) recommends no change in season frameworks for sora and Virginia rails.

Council recommends a framework including sora and Virginia rail in the Pacific Flyway portions of Colorado, Montana, New Mexico, and Wyoming. Season length of 70 days, and daily bag and possession limits of 25 sora and Virginia rail in the aggregate. Season length may be split into two segments. The season shall be closed in the remainder of the Pacific Flyway.

### Justification

The most current data available from the North American Breeding Bird Survey indicate Virginia rail and sora abundances were stable or increasing in the 12 western states during the long term (1968–2019) and most recent 10 years (2009–2019) (John Sauer, USGS, unpublished analysis). For Virginia rails, the estimated annual percent change during the long term was 0.21 (95% credible interval = -1.28 to 1.13, routes = 117) and short term was 0.27 (95% credible interval = -2.25 to 3.12, routes = 44) indicating stable abundance during both time periods. For Sora, the estimated annual percent change during the long term was 1.16 (95% credible interval = 0.10 to 2.10, routes = 306) and short term was 4.51 (95% credible interval = 1.7 to 7.83, routes = 175) indicating increasing abundance over both time periods.

Hunter participation and harvest estimates for sora and Virginia rails are obtained from the Harvest Information Program. Rail seasons are only open in the western portions of Colorado, Montana, New Mexico, and Wyoming within the Pacific Flyway and harvest data are combined with the Central Flyway estimates.

### Adoption

Pacific Flyway Study Committee  
August 26, 2020

Contact: Russell Woolstenhulme

Melanie Weaver, Chair

Pacific Flyway Council  
August 28, 2020

Stafford Lehr, Chair

# PACIFIC FLYWAY COUNCIL

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## Recommendation 15 — Special Falconry Season Framework

### Recommendation

The Pacific Flyway Council (Council) recommends no change in the special season framework for extended falconry seasons.

Falconry is a permitted means of taking migratory game birds in any state meeting the federal falconry standards in 50 CFR 21.29(k). Council recommends these states may select an extended season for taking migratory game birds in accordance with the following:

For all hunting methods combined, the combined length of the extended season, regular season, and any special or experimental seasons shall be 107 days for any species or group of species in a geographical area. Each extended season may be divided into three segments. Outside dates shall be between September 1 and March 10. The falconry daily bag limit for all permitted migratory game birds shall be three singly or in the aggregate, during extended falconry seasons, any special or experimental seasons, and regular hunting seasons in all states, including those that do not select an extended falconry season. General hunting regulations, including seasons and hunting hours, shall apply to falconry in each state listed in 50 CFR 21.29(k). Regular season bag and possession limits shall not apply to falconry. The falconry bag limit shall not be in addition to gun limits.

### Justification

Impacts of falconry harvest on migratory bird populations are negligible. Most Pacific Flyway states select a 107-day season when available, so in many cases, no additional days remain for an extended falconry season. During waterfowl season frameworks of less than 107 days, additional days would be available for extended falconry seasons and states may wish to consider extended falconry seasons at that time.

### Adoption

Pacific Flyway Study Committee

August 26, 2020

Contact: Blair Stringham



Melanie Weaver, Chair

Pacific Flyway Council

August 28, 2020



Stafford Lehr, Chair

# PACIFIC FLYWAY COUNCIL

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## Recommendation 16 — Budget

### Recommendation

The Pacific Flyway Council (Council) adopts the attached budget authorizing Council expenditures in calendar year 2021.

### Justification

The Study Committee and Nongame Technical Committee are charged with preparing a calendar year budget for Council consideration. The budget includes administrative expenses, travel expenses for Flyway representation, and special project expenses.

The proposed 2021 budget includes \$83,760 in anticipated expenses. Expected income of \$180,890 includes \$49,500 from member assessments (11 states; \$4,500 each), \$6,390 from NABCI assessments (9 states, excluding Colorado and Wyoming; \$710 each), \$20,000 from Banks Island banding assessments (8 states, excluding Colorado, Montana, and Wyoming; \$2,500 each), and a \$105,000 estimated carryover from calendar year 2020. Please note \$20,000 of this carryover is earmarked for year three of the five-year commitment made to support banding white geese on Banks Island in August 2017. An additional \$3,470 remains to support the Arctic Goose Joint Venture project Council supported for \$14,100 in September 2018.

Since 2013, member assessments of \$4,500 have provided a base budget. This budget recommendation does not require an increase in the base assessment in 2021.

### Adoption

Pacific Flyway Study Committee  
August 26, 2020

Contact: Jeff Knetter

Melanie, Chair

Pacific Flyway Nongame Technical Committee  
August 26, 2020

Neil Clipperton, Chair

Pacific Flyway Council  
August 28, 2020

Stafford Lehr, Chair

## Pacific Flyway Council Budget - Calendar Year 2021

Function	Attendance	Notes	Projected Amount
<b>A. Council, SC/NTC, and Regulatory Functions</b>			
National Flyway Council dues	1	\$	2,000
Pacific Flyway Council March			
PFC Secretary (OR)	1 meeting, 1 person	\$	1,200
SC and NTC Chairs (OR)	1 meeting, 2 person	\$	2,400
SRC Fall (SC support; OR)	1 meetings, 1 person	\$	1,200
AHM Working Group (AK, OR)	1 meeting, 2 persons	\$	2,400
NTC - SRC/AFWA BCC (NTC support; OR)	1 meeting, 1 person	\$	1,200
	<b>Subtotal</b>	\$	10,400
<b>B. North American Waterfowl Management Plan</b>			
NAWMP Science Support Team (WA)	2 meetings, 1 person	\$	2,400
Arctic Goose Joint Venture			
Management Board (AK)	1 meeting, 1 person	\$	1,200
Technical Committee (ID)	1 meeting, 1 person	\$	1,200
Sea Duck Joint Venture			
Management Board (WA)	1 meeting, 1 person	\$	1,200
Cont. Technical Team (WA)	1 meeting, 1 person	\$	1,200
	<b>Subtotal</b>	\$	7,200
<b>C. Other Flyway Representation</b>			
Special Projects as Needed	1 meeting, 2 persons	\$	2,400
Mourning Dove Task Force (AZ, NV)	1 meeting, 2 persons	\$	2,400
Human Dimensions Working Group (UT, WA)	1 meeting, 2 persons	\$	2,400
Avian Knowledge Network Steering Committee	1 meeting, 1 person	\$	1,200
PIF Western Working Group	2 meetings, 1 person	\$	2,400
AMBCC Representation (CA)	1 meeting, 1 person	\$	2,500
Council Travel Support Vasily Baranyuk March Meeting	1 meeting, 1 person	\$	500
Bird & Fish Conflicts Working Group (WA)	2 meeting, 1 person	\$	2,400
	<b>Subtotal</b>	\$	16,200
<b>D. Operational Surveys and Projects</b>			
PF Duck BPOP Survey Expansion	2	\$	10,000
PF Supplemental Duck Banding		\$	5,000
Fall RMP Crane Recruitment Survey		\$	4,000
	<b>Subtotal</b>	\$	19,000
<b>E. Administrative Costs</b>			
Misc. expenses including production of minutes, etc.	3	\$	500
PFC Website domain name registration		\$	400
PFC Website maintenance		\$	200
	<b>Subtotal</b>	\$	1,100
<b>F. One-Time or Time-Limited Special Projects</b>			
NABCI Coordination through Special Assessment - 9 states		\$	6,390
Banks Island LESG Banding Assessment - 8 states		\$	20,000
Goose Harvest Evaluation and Improvement Project Support		\$	3,470
	<b>Subtotal</b>	\$	29,860
<b>BASE BUDGET</b>			
Re-occurring annual costs Sections A-E		\$	53,900
Time limited special project cost, Section F		\$	29,860
	<b>TOTAL</b>	\$	83,760
<b>REVENUE</b>			
Estimated carry-forward from 2020		\$	105,000
Council assessments 2021		\$	49,500
Special NABCI Assessment - 9 states		\$	6,390
Banks Island LESG Banding Assessment - 8 states		\$	20,000
Southern Wings Assessment - voluntary participation		\$	-
	<b>TOTAL</b>	\$	180,890

Pacific Flyway Council assessments to the 11 member states are based on projected expenses for flyway representation in Sections A - C, plus costs of operational PF-sponsored duck and crane surveys and duck banding in Section D and administrative costs in Section E. This provides for base budgeting at \$49,500 per year (11 states @ \$4,500).

### CY 2021 NOTES:

1. NFC assessment of all flyways for Secretary travel and other expenses. **40**
2. PF-sponsored surveys and banding included in base budget and assessment assumptions.
3. No expenses are budgeted for facilities and services for regular meetings; costs recovered in registration fees.

# PACIFIC FLYWAY COUNCIL

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## Recommendation 17 — Harvest Management Working Group Priorities

### Recommendation

The Pacific Flyway Council (Council) endorses the 2021 priority rankings and project leads for technical work as proposed by the Harvest Management Working Group (HMWG) in July 2020.

### Justification

Each year the HMWG develops a list of work priorities for the upcoming year. Flyway councils are asked to review and approve this list and suggest any necessary modifications. The Councils' recommendations are then forwarded to the Service Regulations Committee (SRC) for consideration at their October meeting.

Although Council is not endorsing a change in priority, we do believe the major Division of Migratory Bird Management (DMBM) assistance to support the Two-tier licensing concept has been completed now that the SRC has approved the concept for implementation and that evaluation will not be needed, in earnest, until after 2021. Therefore, although the Two-tier action item remains a high priority, we do not anticipate that it should preclude work on the pintail harvest strategy revision.

Revision of the northern pintail Adaptive Harvest Management (AHM) remains the Pacific Flyway Council's highest priority. Council recognizes several factors have impacted workloads for many of the DMBM and U.S. Geological Survey staff assisting with the revision but we are concerned that very little progress on the revision has been communicated to the Flyways since the December 2019 HMWG meeting. The November 2019 work plan indicated the technical committees would work through trade-off analyses at their August 2020 meetings; we view that as a critical next step for implementation for the 2022–23 regulation cycle. Implementation may still be achievable in 2022–23 however that leaves minimal time for flyway input and review.

### **2021 Harvest Management Working Group Priorities (\* denotes new)**

Priority rankings and project leads identified for technical work proposed at the 2020 HMWG meeting

#### **Highest Priorities (Urgent and Important)**

- Evaluation of Experimental two-tier license system (Central Flyway Council, DMBM)
- Northern Pintail AHM revision (DMBM, Flyway Councils, USGS)
- *\*Reconsideration of North American Duck Harvest Management* (DMBM, Flyway Councils)
- Development of an Eastern mallard harvest strategy (Atlantic Flyway Council, DMBM)
- Re-invigorating institutional support for AHM (DMBM, and HMWG Communications Team)

### **Long-range Priorities (Non-urgent, but Very Important)**

- \*Time-dependent optimal solutions to address system change (e.g., habitat change; hunter dynamics; climate change) (USGS, Branch of Assessment and Decision Support (BADS))
- Western mallard AHM revision (Pacific Flyway Council, BADS)

### **Additional Priorities**

- Waterfowl Banding Needs Assessments (BADS, USGS, Flyway Councils)
- Waterfowl harvest potential assessment methods case study development (Atlantic Flyway Office, DMBM)

### **Adoption**

Pacific Flyway Study Committee  
August 26, 2020

Contact: Brandon Reishus



Melanie Weaver, Chair

Pacific Flyway Council  
August 28, 2020



Stafford Lehr, Chair

# PACIFIC FLYWAY COUNCIL

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## Recommendation 18 — Pacific Flyway Representative to the Waterbird Council

### Recommendation

The Pacific Flyway Council nominates Colleen Moulton (ID) as their representative to the Waterbird Conservation Council.

### Justification

The Waterbird Conservation Council of the Waterbird Conservation for the Americas initiative is a voluntary board tasked with coordinating, supporting, and communicating implementation of the North American Waterbird Conservation Plan (NAWCP). The Waterbird Council has been inactive for several years and the U.S. Fish and Wildlife Service and others are working to revitalize the Council. The Nongame Technical Committees from each flyway have been asked to provide a representative to the Waterbird Council to assist in implementation of the NAWCP, updating the plan, and other waterbird conservation activities.

### Adoption

Pacific Flyway Nongame Technical Committee  
August 26, 2020

Contact: Neil Clipperton

Neil Clipperton, Chair

Pacific Flyway Council  
August 28, 2020

Stafford Lehr, Chair

# PACIFIC FLYWAY COUNCIL

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## Recommendation 19 — Additional Sources of Trumpeter Swans of Rocky Mountain Population Origin for Release at Council Approved Restoration Projects.

### Recommendation

The Pacific Flyway Council (Council) recommends inclusion of offspring from the following captive-reared trumpeter swans for release at Council approved sites:

- 1) The Trumpeter Swan Society's (TTSS) pinioned Aspen Lakes Golf Course pair in Sisters, Oregon.
- 2) The Montana Waterfowl Foundation's captive pair in Pablo, Montana.

Inclusion of the Aspen Lakes Golf Course pair is contingent on pending (expected in September) USGS genetics test results from the 2019 collected sample (or subsequent sample) that is expected to confirm the results from the 2018 collected sample, which was Rocky Mountain Population (RMP) RMP-C haplotype, Tri-state genetics.

### Justification

Per the Pacific Flyway Rocky Mountain Population of trumpeter swan Management Plan, captive-reared trumpeter swan cygnets or yearlings can only be released into approved sites in Idaho, Montana, and Wyoming if they are of RMP origin. Birds of RMP and Pacific Coast Population (PCP origin can be released into approved sites in Washington and Oregon.

The Wyoming Wetland Society (WWS) is the primary source of RMP trumpeter swans for release in the Pacific Flyway, but swans have also come from the wild and other facilities including zoos and other organizations. These facilities need to provide test results demonstrating genetic compatibility with trumpeter swans from the RMP, prior to their release.

The Trumpeter Swan Society currently manages three captive (pinioned) trumpeter swan pairs with local partners to provide stock for use in western restoration projects: the Aspen Lakes Golf Course pair whose 2018 cygnets tested as RMP-C (Tri-state genetics) and whose 2019 cygnets are in the queue to be tested. Others that are currently untested but could become sources in the future include; the Sunriver Nature Center pair, whose 2019 cygnets and the adult male are in the queue for testing, and the Pronghorn Resort pair which could potentially begin breeding next year. All these breeding pairs are marked with a plastic tarsal band.

The Montana Waterfowl Foundation in Pablo, Montana also had a flock, purchased by the Confederated Salish-Kootenai tribes and the genetic certainty was provided as RMP at the beginning of restoration efforts. These birds originated from the same flock as the Wyoming Wetlands Society and were released as part of the Flathead trumpeter swan restoration project for almost 20 years until its completion last year. The Foundation has one remaining pair, hatching five cygnets this year. These cygnets will be tested for genetic compatibility, prior to their release.

Addition of these sources would increase the number of birds available for release each year into Council approved sites in Idaho, Montana, and Wyoming, and would support state and regional efforts to increase swan translocation efforts in the Greater Yellowstone Area.

**Adoption**  
Pacific Flyway Study Committee  
August 26, 2020



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Melanie Weaver, Chair

Pacific Flyway Council  
August 28, 2020



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Stafford Lehr, Chair

Contact: Claire Gower

# PACIFIC FLYWAY COUNCIL

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## Recommendation 20 — Letter to Jennifer Miller, U.S. Fish and Wildlife Service, Regarding Proposed Memorandum Related to Release of Captive-bred Migratory Birds

### Recommendation

The Pacific Flyway Council approves sending the attached letter to Jennifer Miller, National Permits Policy Lead for the Service, commenting on a proposed Memorandum clarifying that intentional release of captive-bred migratory birds requires authorization.

### Justification

See the attached letter.

### Adoption

Pacific Flyway Study Committee  
August 26, 2020

Contact: Brandon Reishus

Melanie Weaver, Chair

Pacific Flyway Nongame Technical Committee  
August 26, 2020

Contact: Neil Clipperton

Neil Clipperton, Chair

Pacific Flyway Council  
August 28, 2020

Stafford Lehr, Chair

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# PACIFIC FLYWAY COUNCIL

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August 28, 2020

Jennifer Miller  
National Permits Policy Lead  
U.S. Fish & Wildlife Service  
Division of Migratory Bird Management  
1211 SE Cardinal Court, Suite 100  
Vancouver, WA 98683-9684

Subject: Proposed Memorandum Clarifying that Intentional Release of Captive-bred Migratory Birds Requires Authorization

Dear Ms. Miller:

The Pacific Flyway Council (Council) is writing to comment on development of a proposed new Service Memorandum to clarify that a permit or other authorization is required prior to intentionally releasing captive-bred migratory birds to the wild.

The Council agrees that persons or entities should be required to receive prior authorization from the Service, and states, prior to releasing any captive-bred migratory bird to the wild. Although Council defers to the Service's assessment that the term "disposal" includes the activity of intentional release, we think rules specifically addressing intentional release of captive-bred migratory birds would be more definitive.

The Council looks forward to working with the Service to determine when intentional release of captive-bred migratory birds is appropriate. We hope this effort will include consideration of the release of captive-bred mallards. As Council has previously commented (January 29, 2014 letter), we fully support rules that would regulate the release of captive-bred mallards and recommend that the Service consider similar rules for other migratory birds.

Sincerely,

Stafford Lehr,  
Chair, Pacific Flyway Council

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## Recommendation 21 — Letter Regarding Roberts Bank Terminal 2 Project

### Recommendation

The Pacific Flyway Council (Council) endorses the enclosed letter to The Honorable Jonathan Wilkinson, Minister of Environment and Climate Change Canada, regarding the proposed marine shipping terminal (Roberts Bank Terminal 2 Project) in the Fraser River Estuary, British Columbia.

### Justification

The Fraser River Delta harbors globally important migratory bird resources, including migratory stopover and feeding habitat for most of the global population of Western Sandpipers. The Vancouver Fraser Port Authority has proposed development of a new shipping container terminal in the Fraser River Delta, and the Government of Canada has carried out an impact assessment to inform a decision on project approval. The assessment concluded that the effect of the project on Western Sandpiper and other shorebirds is uncertain due to information gaps regarding salinity changes and resulting impacts to food resources. Given the importance of the Fraser River Estuary to Western Sandpipers and other shorebird species, there is need to resolve scientific uncertainty prior to project approval. The letter also emphasizes a lack of mitigation measures for potential impacts to Western Sandpiper, and requests that mitigation measures be identified and incorporated before the project is approved.

### Adoption

Pacific Flyway Nongame Technical Committee  
August 26, 2020

Contact: Joe Buchanan

  
Neil Clipperton, Chair

Pacific Flyway Council  
August 28, 2020

  
Stafford Lehr, Chair

# PACIFIC FLYWAY COUNCIL

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August 28, 2020

The Honorable Jonathan Wilkinson  
Minister of Environment and Climate Change Canada  
200, Sacre-Coeur Blvd, 2<sup>nd</sup> Floor  
Gatineau, Quebec  
K1A 0H3

Re: Proposed Roberts Bank Terminal 2 Project

Dear Minister Wilkinson:

The Pacific Flyway Council (Council) is comprised of the fish and wildlife agencies of 11 western states responsible for science-based management, conservation, and regulation of migratory birds in western North America. The Council works in association with federal agencies and other cooperators in the United States, Canada, and Mexico.

The Council is writing to comment on the permit application for the Roberts Bank Terminal 2 Project in Delta, British Columbia. This project is a proposed three-berth marine container terminal located at Roberts Bank designed to greatly increase the shipping capacity of existing terminals. The proposed project is located in the Fraser River estuary, an ecologically productive and sensitive area of coastal British Columbia.

The Fraser River Estuary is well-known for the large number of shorebirds that use the area during spring and fall migration. The estuary is one of the most heavily used migration stopover sites in the Pacific flyway for the Western Sandpiper and was designated a Site of Hemispheric Importance in 2005 for hosting more than 500,000 Western Sandpipers in a single day.

Environment and Climate Change Canada (ECCC) has estimated that 42 to 64 percent of the global Western Sandpiper population uses the mudflats on Roberts Bank during annual migrations. These mudflats occur where freshwater from the Fraser River mixes with sea water; the resulting salinity levels may be important for producing the food (including a fatty acid-rich biofilm produced by diatoms) used by migrating Western Sandpipers and other small shorebirds to rebuild reserves that are essential to successful migration.

Although Western Sandpipers are still abundant, the species has experienced a long-term population decline<sup>1</sup>. The Council understands that ECCC scientists concluded the project could constitute a species-level risk to the Western Sandpiper due to disruptions to the salinity regime and cascading impacts to the sandpiper's food web in the estuary. Contrary to this, the Federal Review Panel for the Environment Impact Statement concluded that "it is unable to conclude with sufficient certainty whether potential Project effects on the production of fatty acids that are nutritionally important for shorebirds would occur or not" and "[d]ue to the uncertainty with

<sup>1</sup> Brown, S., C. Hickey, B. Harrington, and R. Gill, eds. 2001. The U.S. Shorebird Conservation Plan, 2nd ed. Manomet Center for Conservation Sciences, Manomet, MA.

respect to fatty acid production in biofilm, the Panel is unable to conclude with reasonable confidence that the Project would or would not have an adverse effect on the Western sandpiper.”

We appreciate the studies on the biofilm food source that have been conducted by the project proponent to date, and the resulting improvements to our understanding of biofilm dynamics at Roberts Bank. The continued monitoring and research programs recommended by the Federal Review Panel to be conducted during construction of the project and for the first three years of operation will expand our understanding of biofilm dynamics and the potential effects on shorebirds. It is also possible that the continued research could inform effective mitigation measures to compensate for any impact to shorebird food sources.

Given the importance of the Fraser River Estuary and Roberts Bank to Western Sandpiper and other shorebirds, and the uncertainty regarding potential impacts to and effectiveness of mitigation measures for shorebird food sources, we would prefer that the uncertainty regarding potential effects on production of nutritionally important fatty acids be resolved prior to project approval. Regardless of the outcome of the proposed additional monitoring and research, the recommendations provided by the Review Panel provide no assurance that mitigation measures would be put in place if negative impacts to shorebirds are revealed during project construction and operation. We understand that there are strict time limits on decision making as part of the Government of Canada’s Impact Assessment Process. Therefore, if project approval cannot wait for additional monitoring and research to reduce uncertainty, we would appreciate consideration of mitigation measures that are informed by continued research.

Thank you for your consideration of these comments.

Sincerely,



Stafford Lehr  
Chair, Pacific Flyway Council

Cc: Jerome Ford, Assistant Director, Migratory Bird Program, U.S. Fish and Wildlife Service

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## Recommendation 22 — Pacific Coast Population of Sandhill Crane Status Review

### Recommendation

The Pacific Flyway Council (Council) approves the Pacific Flyway Council Status Review for the Pacific Coast Population of Sandhill Cranes.

### Justification

The Pacific Flyway Study Committee undertook a lengthy effort to review the status of sandhill cranes that breed in southern Alaska and western British Columbia. The decision was made to replace the 1983 Pacific Flyway Management Plan for the Pacific Coast Population of Sandhill Cranes with a Status Review. A Status Review is more appropriate for this population given the minimal harvest occurring only in Alaska, low management priority, and few practical management options to affect population status. The draft Status Review was provided to Council for their review in mid July 2020. Minor edits have been made to that draft plan, including updating the population status as estimated by the California Midwinter Survey conducted in January 2020.

The Status Review includes conservation concerns, ongoing management actions, and information needs. The objectives from the 1983 plan have largely been achieved, including maintaining an abundance of 20,000–25,000 (current three-year average 41,175 birds).

### Adoption

Pacific Flyway Study Committee  
August 26, 2020

Contact: Melanie Weaver

Melanie Weaver, Chair

Pacific Flyway Council  
August 28, 2020

Stafford Lehr, Chair

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## Recommendation 23 — Letter of Appreciation for Jeff Yost

### Recommendation

The Pacific Flyway Council approves sending the attached letter of appreciation to Jeff Yost, Study Committee member from Colorado.

### Justification

Jeff Yost is retiring from Colorado Park and Wildlife. See attached letter.

### Adoption

Pacific Flyway Study Committee  
August 26, 2020

Contact: Will Schultz

Melanie Weaver

Melanie Weaver, Chair

Pacific Flyway Council  
August 28, 2020

Stafford Lehr

Stafford Lehr, Chair

# PACIFIC FLYWAY COUNCIL

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August 28, 2020

Jeff Yost  
Colorado Parks and Wildlife  
925 Weiss Drive  
Steamboat Springs, CO 80487

Dear Jeff:

The Pacific Flyway Council (Council) would like to recognize and thank you for your contributions to the Pacific Flyway Study Committee (Committee) and conservation and management of Pacific Flyway migratory game bird resources. During your five years with the Committee, your hard work and thoughtful insights have been greatly appreciated, and your comradery has been cherished.

As you may recall, there had been a five-year hiatus in Colorado's representation on the Committee when you stepped in and took on that responsibility. It was very apparent to your colleagues that the Committee's work was a labor of love for you. Your work ethic and enthusiasm enabled the Committee to make substantial accomplishments because of your involvement. In reviewing the work you helped accomplish, we found several significant contributions:

- First and foremost, represented Colorado's interests for the Committee, particularly with regard to important species such as Rocky Mountain Population (RMP) sandhill cranes, Interior band-tailed pigeons, RMP Canada geese, and RMP trumpeter swans.
- Chaired several species subcommittees, addressing management issues and developing hunting season recommendations.
- Primary lead on the most recent Interior band-tailed pigeon Management Plan revision.
- Led Colorado's sandhill crane capture efforts to deploy GSM transmitters, as well as assisted with sandhill crane captures in Wyoming.

Although you will certainly be remembered for your accomplishments, we will most remember you for your friendly personality, quick wit, and dedication to the resource. Council wishes you the best as you retire from Colorado Parks and Wildlife and begin this new chapter in your life.

Sincerely,

Stafford Lehr,  
Chair, Pacific Flyway Council

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## Recommendation 24 — Letter of Appreciation to Martin St. Louis

### Recommendation

The Pacific Flyway Council approves sending the attached letter to Martin (Marty) St. Louis, in appreciation for his 33 years of service as the manager of the Summer Lake Wildlife Area in southcentral Oregon and contributions to the flyway.

### Justification

See the attached letter.

### Adoption

Pacific Flyway Study Committee  
August 26, 2020

Contact: Brandon Reishus

Melanie Weaver, Chair

Pacific Flyway Council  
August 28, 2020

Stafford Lehr, Chair

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# PACIFIC FLYWAY COUNCIL

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August 28, 2020

Martin St.Louis  
P.O. Box 68  
Summer Lake, OR  
97640

Dear Marty:

The Pacific Flyway Council (Council) would like to recognize your valuable contributions to the conservation and management of Pacific Flyway migratory birds and wetlands over the course of your 33-year long career as manager of the Oregon Department of Fish and Wildlife's Summer Lake Wildlife Area. The Pacific Flyway Study Committee and Council, but especially the hunters, birders, and wildlife enthusiasts up and down the Pacific Flyway, have been very fortunate to benefit from your dedication to management of this nearly 19,000-acre oasis in the high desert.

Your numerous contributions to migratory bird conservation and management in the Pacific Flyway are greatly appreciated. Some of your contributions include:

- Helped develop and served as an aerial surveyor for Oregon's Breeding Waterfowl Survey for nearly 30 years and you also helped establish the same surveys in British Columbia.
- Were instrumental in the successful range expansion project for the Rocky Mountain Population of Trumpeter Swans.
- Provided logistical support and assistance with tule white-fronted goose management, from radio telemetry surveys, capture and marking (aka "the goose whisperer"), and collection of fall age ratio data, has been invaluable.
- Invested countless personal and staff hours, and many long nights, capturing waterfowl for banding using night lighting and bait traps, information that is crucial to the implementation and success of the Western Mallard Model.
- Hosted and taught banding workshops at Summer Lake in the 1990s, as efforts to develop the Model ramped up.
- Traveled to (and returned from) Wrangel Island, Russia to assist with banding and neck collaring of the lesser snow geese that use Summer Lake as a migration staging area.
- Integral in the success of the North American Waterfowl Management Plan, as one of the biologists on the ground who can envision what is needed to improve the wetlands you oversee and have the dedication to see the projects through.
- Recognized, rightly so, by Ducks Unlimited in 2020 with the Wetland Conservation Achievement Award for a state/provincial agency employee.
- Mentored numerous current (and some already retired) ODFW staff, as well as countless other biologists and ecologists. This includes two current members of the Study Committee (Brandon Reishus – OR and Will Schultz – WY).

In closing, your commitment to the conservation and management of wetland habitats and resource assessment of the wildlife that depend on them has strengthened our management programs in the Pacific Flyway. The Council wishes you the best in your future endeavors.

Sincerely,

A handwritten signature in blue ink, appearing to read "Stafford Lehr".

Stafford Lehr,  
Chair, Pacific Flyway Council

## **Informational Notes**

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## Informational Note 1 — National Golden Eagle Allocation

In March 2019, the Pacific Flyway Council (Council) adopted the Golden Eagle Allocation Procedure (Allocation) which established a system for annually placing up to six golden eagles with falconers, as allowed by U.S. Fish and Wildlife Service (Service) regulations. The National Flyway Council amended the procedure in December of 2019 to accommodate the Office of Management and Budget's regulation disallowing the Service from possessing personal identification information on falconers for anything other than law enforcement issues. Using this Allocation and its subsequent revision, the Designated State Wildlife Agency (DSWA; currently Utah) assisted the Service with issuing permits in 2019 and 2020 to selected falconers using a draw system. In the fall of 2020, the process is entering its third allocation, and the DSWA has signaled its desire to hand off the DSWA role to the next state. There is no process or precedent for the transfer of this role; the National Flyway Council may be the appropriate forum for this action.

Though the 2020 allocation of permits to qualified eagle falconers went as planned by the DSWA, there were substantial challenges in coordinating take and ensuring the process was clear, fair, and that participants adhered to permit requirements. This resulted in efforts by the DSWA that went far beyond what was anticipated or envisioned as the role of this entity. Major problems, without easy solutions arose and were exacerbated by a lack of: 1) clear communication among parties, 2) one singular point of contact that had access to all relevant information in real time, and 3) legal authority by the DSWA or other entities to ensure take of eagles by falconers was legal. If this process is to be improved, the National Flyway Council or the Service will need to provide additional substantial leadership for the 2021 season and beyond. Below we provide a brief overview of the process, issues that arose, and potential steps that could improve the process.

### Adoption

Pacific Flyway Nongame Technical Committee  
August 26, 2020

Contact: Russell Norvell

  
Neil Clipperton, Chair

## **2019–2020 National Golden Eagle Allocation Summary**

### **2019 Allocation**

The first Golden Eagle allocation took place in the spring of 2019 after the National Flyway Council formally adopted the Allocation in the March 2019 meeting. Using a condensed timeline, the DSWA solicited the names and contact information for eligible and authorized Master eagle falconers wishing to participate in the Allocation drawing from falconry coordinators for each state, territory, and Native American tribe; names of 37 eligible falconers were submitted from 15 states (Fig 1). The DSWA held the drawing May 15th and shared the ranked list of falconers with the Service’s National Raptor Coordinator Brian Millsap as per the Allocation. The top 10 falconers were notified of their rank order by phone, with the remainder contacted by email.

In early May 2019, the Service’s R6 Permits office processed golden eagle trap-and-transfer depredation permits for depredation areas declared on two Wyoming ranches, each for two eagles. This was an unexpected challenge to the Allocation goal of holding a fair and transparent national drawing as Wyoming could not participate in drawing due to state rules (since amended). Instead of the Allocation, some falconers participated in a separate informal drawing held by the North American Falconry Association (NAFA) and International Eagle Austringers Association (IEAA). The Service received a formal complaint about the exclusivity of the Wyoming process from a falconer in the Allocation. He was considering a lawsuit but pulled back after discussions with the Service. Both the National Raptor Coordinator and the DSWA received many calls and informal complaints from falconers about the dual processes. The third relevant trap-and-transfer depredation permit of 2019 was issued May 14<sup>th</sup> to a livestock operator in Utah, for two eagles, and the Allocation was used to distribute these opportunities. The first falconer declined the opportunity, preferring a bird sourced from rehabilitation. The second and third opportunities were taken in order. Both were successful in their attempts to capture an eagle.

In late May 2019, the Allocation committee was notified there was a conflict with the Service’s role in the Allocation as they could not possess applicant falconer’s personally identifiable information for anything other than law enforcement purposes. The Allocation was amended by the National Flyway Council in December 2019 to adjust the language and assign the tasks in the procedure assigned to the Service National Raptor Coordinator (e.g., notifying the top ten falconers in the draw, notifying the first falconer on the list of an opportunity to acquire a golden eagle) to the DSWA. This includes shepherding the Allocation through to the point where the selected falconers were signed up as sub-permittees under the depredation permit holder and submitted a (required) trapping plan to the Service’s Office of Law Enforcement.

### **2020 Allocation Summary**

For the 2020 drawing, the DSWA solicited the names and contact information for authorized Master eagle falconers from each state, territory, and tribal falconry program lead in the summer and fall of 2019 in anticipation of the November 1st application deadline; 48 names were submitted from 21 states (Fig 2). The Allocation was amended in December 2019 to change the role of the DSWA. The DSWA held the drawing January 1st and notified the top 10 falconers of their rank order by phone, with the remainder notified by email. The pandemic began, which cast uncertainty over the process.

In early May 2020, the Service's R6 Permits office processed two preemptive depredation permits for ranches in Wyoming (now participating in the Allocation). A third permit followed later in May. This was a challenge to the Allocation which is premised on current, not prospective, depredation areas declarations. All three were for haze-and-harass and trap-and-relocate only until eagle depredation was confirmed, then each would add a provision for trap-and-transfer for two birds each. These permits were also unusual in that they specified two 45-day spring and fall trapping 'seasons'. All three ranches had eagle depredation confirmed and had the provision for trap-and-transfer activated by the Service by late May. The DSWA contacted the top six falconers in turn to confirm their acceptance or declination of the opportunities, provide them with the contact information for each rancher, the Wyoming falconry program lead, the Wyoming APHIS lead, and the Service's R6 Permits office.

All six eventually accepted. Most of the selected falconers had questions about Allocation during a pandemic, about the Service's intent behind the preemptive and split season depredation permits, and federal eagle trapping rules. The DSWA relayed questions to the appropriate person(s) but did speak about the Allocation itself. There was evidence to suggest these questions and actions were coordinated behind the scenes: all six already knew which ranch had their opportunity, the location and permit dates, and some had already made arrangements with the Permittee to wait until the fall 'season'. Some mentioned the active recruitment by NAFA/IEAA of non-Master eagle falconers seeking eagle trapping experience to come to the ranches and to provide them with some financial support to do so. Three first-person narratives place between 8 and 20 persons actively trapping eagles. One permittee called an Allocation-selected falconer who was not part of the NAFA/IEAA group and asked that he not come as the on-site "falconers had done enough hazing and did not need his help." By the end of the 45-day spring 'season', two birds were captured: one was retained by a selected falconer, the other was taken by a non-Allocation authorized falconer to a local rehabilitation facility where it died. The retained bird reportedly was not trapped by the falconer or his authorized agent. All this was recently (August 2020) learned from forwarded emails and interviews of persons involved, and from the sole post-trapping report from one rancher written by the NAFA/IEAA falconer group.

## **Items and issues for discussion and potential recommendations**

1. Time-sensitive issues.
  - a. The Service needs to decide if four, or five birds remain in the 2020 Allocation as two birds were taken, but none by the selected permitted falconers or their authorized agent per Allocation and federal rule. One was captured and taken by an as-yet-unknown falconer to a local rehabber where it died. One Allocation falconer was given a bird in their hotel room whose provenance was unknown. This bird was retained. All five remaining Allocation-selected falconers are planning on returning for the fall season (see next and below).
  - b. For the split-season permits currently issued, the Service needs to clarify if depredation areas declared in the spring persists until the fall period absent a fall depredation event in the same year, or if a new Form 37 confirmation depredation event is needed to trigger the fall permit period (fall trapping 'season'). It is unclear how a fall harvest season removes birds responsible for spring depredation for landowners. This should be clarified and justified before a split season occurs again. Split-season depredation permits are a challenge for the Allocation which was not designed for open-ended processes. If each season is considered a separate depredation event by the Service, the Service will have to decide if each 'season' constitutes a separate eagle take opportunity. If so, the

- c. initial six falconers in 2020 will have exercised their opportunity already and the DSWA will need to contact 4-5 more. This will be very unpopular with the falconers.
- 2. Communication gaps.
  - a. There are numerous opportunities for miscommunication when a complicated process has no identified - and authorized - leadership. The states do not have authority over the depredation area declaration / permit issuance / enforcement processes; the Service does not exert authority over falconry processes or their enforcement. States view the Allocation as flyway assistance to the Service by sponsoring the draw. The Service has indicated this is a National Flyway solution to holding a single fair drawing to distribute the state's authorized falconry take. No one agency has singular authority to run the allocation and permitting processes. The DSWA only has the authority to facilitate communication. Per 2020 Allocation, the DSWA seeks to put state and federal agencies, landowners, and falconers in contact after the drawing and after notification of the issuance of a depredation permit; this includes the DSWA, the selected falconer(s), the selected falconer's home state falconry program coordinator(s), the 'donor' states' falconry program coordinator(s), the permitted landowner/livestock operator(s), the state Wildlife Services biologist(s), and the Service's Offices of Permits and Law Enforcement contact(s) for the affected Region(s). Even without bad actors, the missed and miscommunications, failure to connect and failure to follow through, all present opportunities for misadventure when no one with authority is overseeing the process.
  - b. Falconers and landowners want a simpler process and are confused by the sheer number of people / agencies to contact, rules to interpret, and policies involved. A single point of contact would greatly benefit all involved, agencies included. This is not the appropriate role for the DSWA.
  - c. Cooperative development of a single Standard Operating Procedure (SOP) would mitigate confusion for all parties. To be most useful it should be in place prior to the 2021 drawing (Jan 1, 2021), and ideally before the 2021 application deadline (Nov 1, 2020).
- 3. Depredation permit authorities.
  - a. Service clarification of the value and purpose of preemptive depredation permits is warranted. Pre-emptive depredation permits based on historical depredation deprive other landowner/livestock operators of seeking relief from eagle depredation via trap-and-transfer and uses past depredation events to trigger a current depredation area designation. This understanding runs counter to assumptions upon which the Allocation are based.
  - b. The Service needs to clarify, perhaps in the proposed SOP, who is authorized to trap eagles for the trap-and-relocate depredation permit options. According to communications between the DSWA and the Service's Permits Branch, depredation permit stipulations appear to supersede falconry regulations by allowing take by non-Master-eagle authorized falconers as sub-permittees of the landowner/livestock operator. Donor states may also need to exercise their authority to ensure only appropriately experienced and permitted falconers are trapping eagles.

Fig 1. Histogram of 2019 Golden Eagle Allocation Applicants. A total of 37 applicants from 15 states participated. Each was assigned a random number between 1:1000 in the drawing. Rank order (binned) is along the x-axis, number of falconers from each participating state along the y-axis.

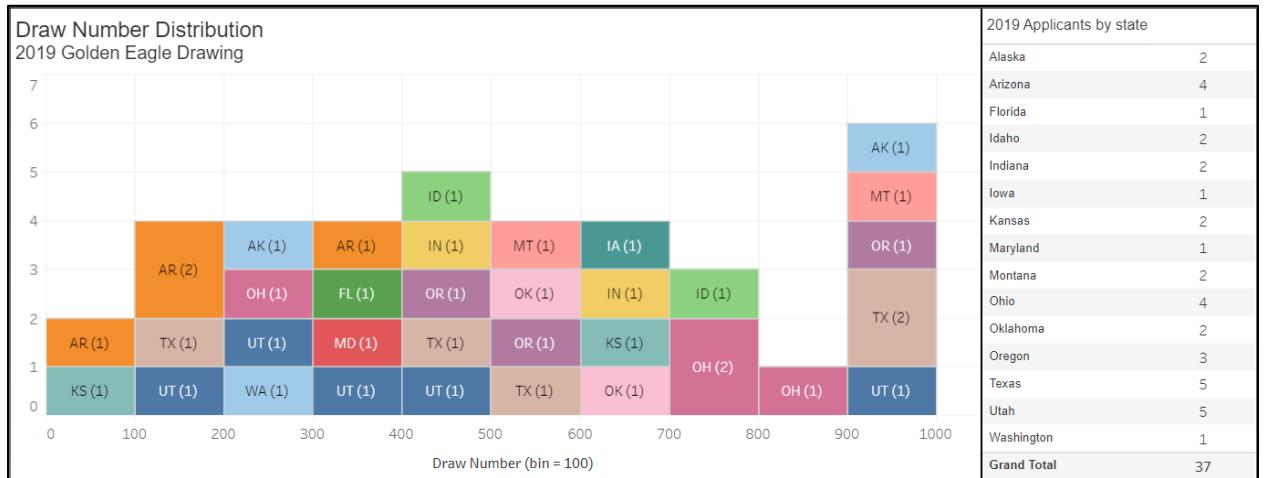
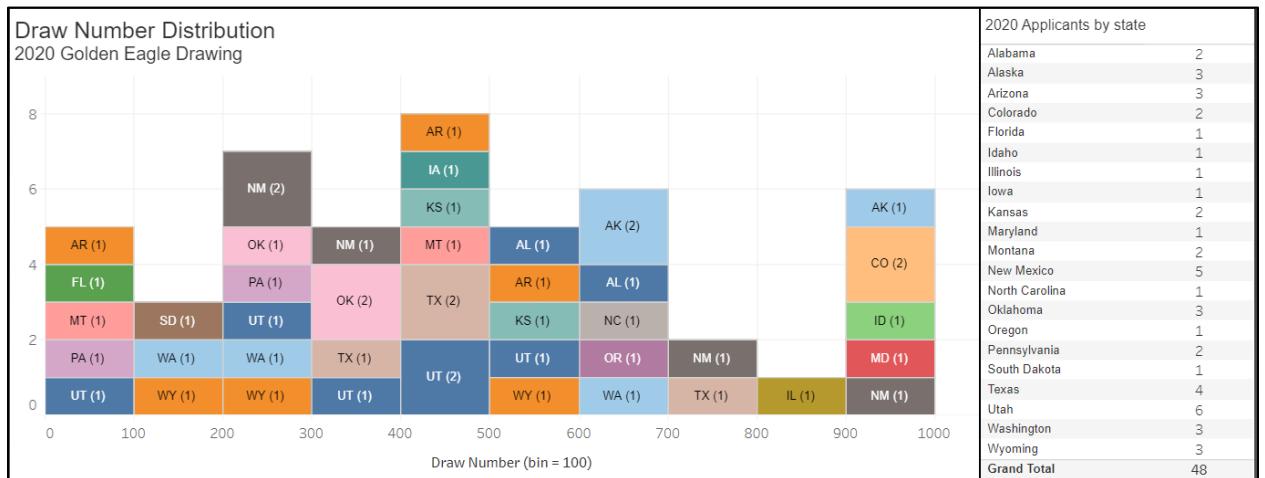


Fig 2. Histogram of 2020 Golden Eagle Allocation Applicants. A total of 48 applicants from 21 states participated. Each was assigned a random number between 1:1000 in the drawing. Rank order (binned) is along the x-axis, number of falconers from each participating state along the y-axis.



# PACIFIC FLYWAY COUNCIL

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## Informational Note 2 — Raven Core Team Update

In September 2018, the Pacific Flyway Council approved and adopted *Recommendation 21 – Pacific Flyway Council’s Representative to the Raven Conflict Work Group*. The recommendation was to nominate Nevada’s Nongame Technical Committee representative (currently Joe Barnes) to represent the Pacific Flyway on the U.S. Fish and Service’s (Service) Raven Core Team.

Common raven (*Corvus corax*; hereafter raven) is a native migratory bird protected under the Migratory Bird Treaty Act (MBTA). Raven populations have increased substantially in the western United States and parts of Alaska since the 1970s, largely resulting from anthropogenic changes to the landscape, such as increased availability and access to food, water, and nesting substrates. Ravens prey upon and negatively affect imperiled species, such as the Mohave desert tortoise (*Gopherus agassizii*) and in some parts of the greater sage-grouse (*Centrocercus urophasianus*) range. Their nests on power lines and associated infrastructure cause outages, with consequences to human health and safety. Additionally, ravens can cause damage to agriculture and ranching operations.

The Service’s Migratory Bird Program determined that increased conflicts with ravens, primarily in the western United States, warrants the consideration of a comprehensive strategy to manage ravens through their Species Conflict Framework (Figure 1.). A Core Team has been formed of Service staff and advisory members comprising other federal agencies (U.S. Department of Agriculture, Department of Defense, Bureau of Land Management, the U.S. Geological Survey) and state flyway representatives for the Pacific and Central flyways. The goal of the Core Team is to establish an appropriate sovereign/stakeholder engagement process, develop and evaluate management options, conduct a biological assessment if necessary, implement a management strategy, and evaluate the effectiveness of the management strategy.

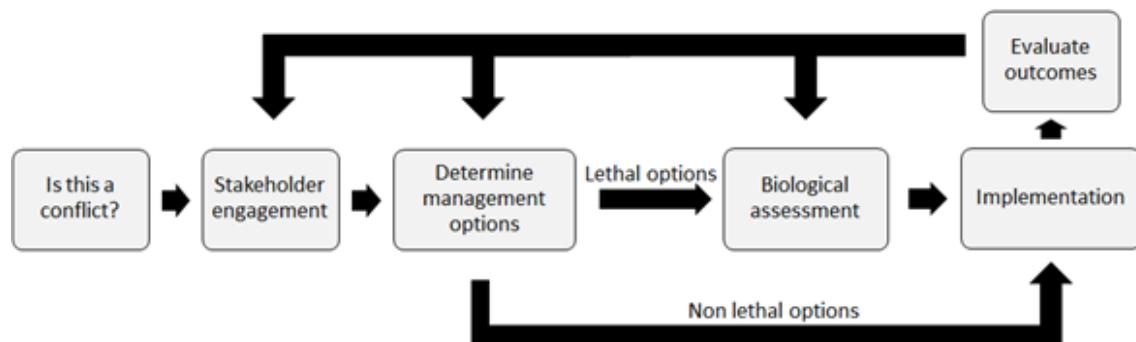


Figure 1. Conceptual framework for addressing conflicts with migratory bird species.

## *Core Team Activity since February 2020*

The Core Team has been meeting regularly to produce a technical document. The technical document describes raven natural history and population status, conflicts with wildlife and other resources, implications of high raven densities, nonlethal and lethal management options, management under various regulatory mechanisms, information gaps, monitoring recommendations, and methods of communication. This document guides development of recommendations that result from this process and will help reveal missing information that might inform the Service as it uses the Species Conflict Framework to address raven conflicts in the western United States. Completion of the technical document is expected in fall 2020.

The Service hosted three webinars for the public and three for Tribes-only that explained the Species Conflict Framework, summarized what the Core Team has learned, and explained how information shared via the online information collection tool could be used to further inform the Service's effort to address raven conflicts. The public webinars were held on February 20, March 3, and March 5, and Tribes-only were held on February 28, March 4, and March 18. The Service received comments from 73 independent stakeholders through this process. Comments included examples of raven impacts on a variety of resources, data on ravens, data on depredation impacts, cultural value of ravens, scientific literature, and general information. Multiple conflicts were identified: impacts to wildlife (e.g., greater sage-grouse and Mojave desert tortoise) and agriculture (e.g., newborn livestock and fruit/nut crops), effects on human health and safety (e.g., aviation, disease, and fecal contamination), and damage to property (e.g., utilities, infrastructure and equipment). There was a theme of stating the need to increase the amount of lethal take, under a variety of authorities from depredation permits, to various orders, to hunting, and removal of ravens from protection under MBTA. The technical document acknowledges all the input received from stakeholders. The input was used to help develop the technical document.

The majority of conflicts identified by stakeholders occur in the western United States, but possible emerging conflicts were identified in the east. As a result, the geographic focus of the technical document has expanded to the entire United States. Management actions likely will remain focused in the western states, but may be expanded to other regions as needed.

Step three of the Framework is to determine management options. The recommendation proposed by the Core Team is to adopt a three-tiered strategy for addressing identified raven conflicts. As applicable, the three tiers would be designed to:

1. reduce anthropogenic subsidies or conditions that influence raven occurrence,
2. improve affected species habitats, and
3. apply nonlethal and lethal actions to reduce raven effects.

A subset of the Core Team is developing a separate document that will address lethal options,. This document, expected in fall of 2020, will be presented to the Service's Migratory Bird Leadership outlining pros and cons of existing and potential future regulatory mechanisms to authorize raven take, (e.g., Depredation Permits, Depredation Order, Conservation Order).

As the next step in the Framework, the Service's Assessment and Decision Support Branch is in the initial phases of a biological assessment to determine potential take limits for any authorized take of ravens. To implement management that includes additional lethal authorization would need review by the Service through the NEPA process.

**Adoption**

Pacific Flyway Nongame Technical Committee

August 26, 2020

Contact: Joe Barnes



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Neil Clipperton, Chair

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## Informational Note 3 — Allocation of Captive Reared Trumpeter Swans to Approved Release Sites

In February 2020, the Pacific Flyway Study Committee (Study Committee) recommended allocation of captive reared trumpeter swans for release at approved restoration sites (in priority order shown below). The actual number of allocated cygnets depended upon hatching success during spring 2020.

As recommended by The Pacific Flyway Council (Council), the state leads met via conference call on July 1<sup>st</sup>, 2020 to discuss an equitable allocation of available cygnets following guidelines set in the Management Plan for Rocky Mountain Population (RMP) trumpeter swans.

Wyoming Wetlands Society (WWS) is one of the main sources of RMP approved trumpeter swan cygnets. WWS produced 23 cygnets this year. One died in August 2020 leaving 22 for allocation. The recommended sites to receive birds (in priority order) and the recommended number of cygnets from WWS to be allocated to each project is as follows:

Blackfoot River Valley, Montana - 4  
Summer Lake Wildlife Area, Oregon - 2 ( $\leq 20\%$  of available allocation)  
Middle Madison River, Montana - 5  
Yellowstone National Park (YNP) - 5  
Teton Basin, Idaho – 6  
Mud Lake, Idaho - 0

WWS also had two yearlings that were provided to the Blackfoot project spring 2020. Blackfoot also received one yearling from the Montana Waterfowl Foundation (MWF). Study Committee members and project leads were consulted on these releases.

The Trumpeter Swan Society (TTSS) manages two broods of cygnets. One brood of three from the Sunriver nature center is untested and of unknown origin (RMP and/or Pacific Coast (PCP)); per the Management Plan, these birds can only be released in Oregon. The second is a brood of six cygnets from the pinioned Aspen lake golf course pair in Oregon. These are assumed to be of RMP origin based on earlier offspring genetics. Feathers from 2019 cygnets will be additionally tested this month. Assuming the genetic samples are compatible with genetics from the RMP, and pending Council approval, three of these cygnets will go to the Teton Basin project in Idaho, and three will be released in Oregon (if not compatible with RMP genetics, these birds will be released in Oregon).

The MWF, who have provided RMP origin cygnets for the Flathead restoration in Montana for almost 20 years, have one remaining pair which hatched five cygnets 2020. These birds have been allocated to the Middle Madison project, and pending genetic compatibility and Council approval, will be released as yearlings in spring 2021.

Collectively, a total of 36 birds will be released in Montana (14); Idaho (9); Wyoming / YNP (5); Oregon (8).

**Adoption**

Pacific Flyway Study Committee  
August 26, 2020

Contact: Claire Gower

  
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Melanie Weaver, Chair

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# PACIFIC FLYWAY COUNCIL

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## Informational Note 4 — Nongame Technical Committee 2021 Work Plan

The Pacific Flyway Nongame Technical Committee (NTC) updated its 2021 work plan to reflect new and completed efforts. Notable changes include: 1) the removal of Short-eared Owl Data Entry Portal Refinement, Convene Conservation Partners Meeting, DCCO Service/USACE Monitoring Coordination, and Colonial Waterbird Data Entry Protocol Development, as these items have been completed, 2) removal of representation on the Eagle Technical Assistance Team, as this group is no longer active, and 3) the addition of representation for the Peregrine Falcon Status Assessment and on the Waterbird Conservation Council. NCN Process Implementation has also been removed from the work plan, as the NTC has determined that this is not a viable funding mechanism for projects of interest to the Pacific Flyway. The updated work plan is attached.

### Adoption

Pacific Flyway Nongame Technical Committee  
August 26, 2020

Contact: Colleen Moulton

  
Neil Clipperton, Chair

Nongame Technical Committee Work Plan																					
Task	Status	2021				2022				2023				2024				2025			
		Q1	Q2	Q3	Q4																
<b>Regulatory Needs</b>																					
Golden Eagle Allocation Process Refinement	Potential																				
Peregrine Falcon Take Allocation	Annual	■				■				■				■			■				
Other Regulatory Input	Annual																				
<b>Data Management</b>																					
Colonial Waterbird Data Entry Protocol Testing	In progress			■		■															
<b>Monitoring Plan Development</b>																					
<b>Monitoring and Reporting</b>																					
DCCO Survey Implementation/Reporting	In progress																				
AWPE Survey Implementation/Reporting	In progress																				
AWPE Population Viability Analysis	Potential																				
YBCU Survey Implementation/Reporting	Potential																				
Flyway Short-eared Owl Survey Implementation	In progress	■																			
<b>Representation</b>																					
Human Dimensions Working Group	In progress																				
Central Flyway Liaison	Annual																				
Conservation Partners Liaison	Annual																				
Habitat Committee	Potential			■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
Partners in Flight Western Working Group	Annual	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
AKN Steering Committee	Annual																				
Waterbird Conservation Council	Not started																				
USFWS Raven Core Team	In progress																				
Peregrine Falcon Status Assessment	In progress																				
AFWA Bird-Fish Conflict Working Group	In progress																				
<b>Coordination</b>																					
Coordination and Communication with AMBCC	Annual			■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
Revise Work Plan	Annual			■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
Review and Refine Priorities	In progress																				
Southern Wings Fund Allocation	In progress																				
<b>Other</b>																					
Pursue funding for assessment of migratory pathways and stopovers	Potential																				
Implement wetland connectivity assessment	In progress																				

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## Informational Note 5 — Rocket Charge Purchase Procedures

### Background

Since the early 1990s, the source of the propellant (M-6) used in making rocket net charges was donated by the Department of Defense (DOD) to the U.S. Fish and Wildlife (Service). The rocket net charges could only be produced by the contractor Winn-Star, under agreement with the Service. The DOD M-6 propellant from the DOD was projected to be depleted just prior to the 2018 season so a search for an alternative propellant ensued. Winn-Starr determined that M-6 propellant was still available from another contractor and a five-year supply could be purchased for rocket netting programs. The rocket net working group determined that a 60:40 ratio of State/Federal funding was needed to fund the five-year supply (based on previous years acquisition records). The Pacific Flyway paid \$19,500 while the Service, U. S. Geological Survey, and the U. S. Department of Agriculture-APHIS each paid \$17,333 each.

### Request from Service

As a result of the new contractor providing the propellant, the Service no longer needed to establish an MOU with agencies for the purchase of rocket charges from Winn-Star. As such, the Service and Winn-Star would like to ensure that the rocket charge purchases are associated with the agencies that covered the costs. In the Pacific Flyway, those agencies and associated NGO's include:

Arizona Department of Game and Fish – Johnathan O'Dell

California Department of Fish and Wildlife (and California Waterfowl Association) – Melanie Weaver

Idaho Fish and Game – Jeff Knetter

Oregon Department of Fish and Wildlife – Brandon Reishus

Washington Department of Fish and Wildlife – Kyle Spragens

Further, if other agencies/persons/institutions not on this list, contact Winn-Star for purchase of propellant, the state contacts identified should be consulted regarding the purchase.

### Adoption

Contact: Melanie Weaver

Pacific Flyway Study Committee

August 26, 2020

Melanie Weaver, Chair

## **Subcommittee Reports**

## **Interior Band-tailed Pigeon Subcommittee**

Dan Collins, U.S. Fish and Wildlife Service

**Population Status.** For the Interior band-tailed pigeons, the trend in the median annual count since 1968 decreased 2.5% per year (CI = -4.9 to -0.5). Trends for Interior pigeons during the most recent 10- and 5-year periods were not significant. Caution should be used in interpreting results, particularly for the Interior region, because sample sizes (routes) and pigeon counts per route are low, variances are high, and coverage of habitat by BBS routes is poor (Seamans 2020).

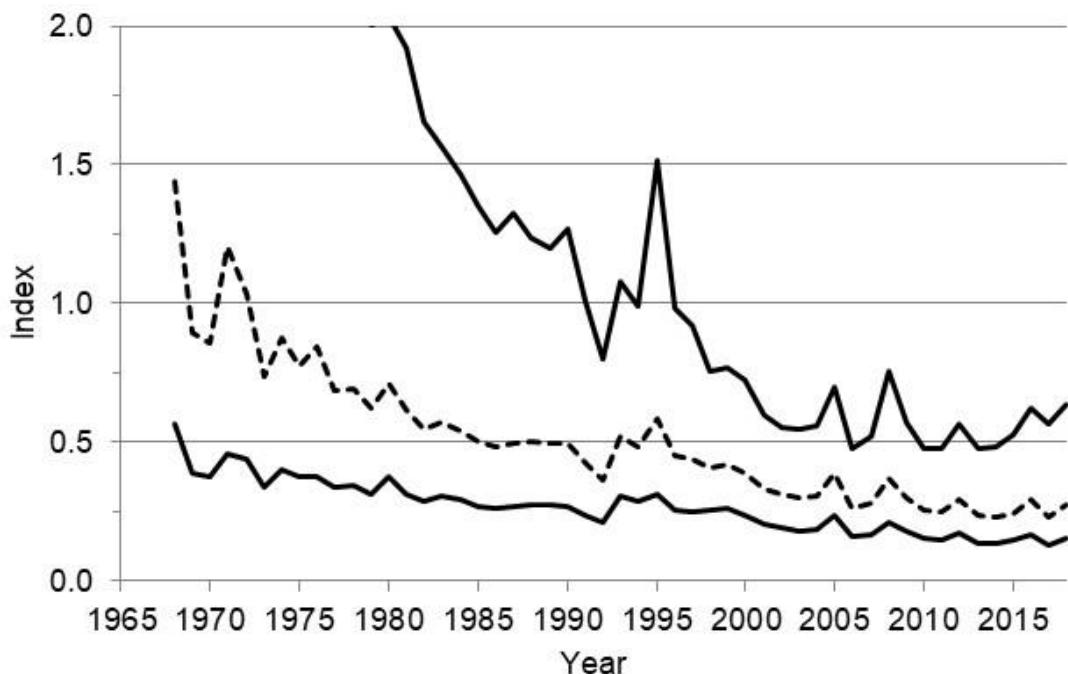


Figure 1. Abundance indices (dashed lines) and 95% credible intervals (solid lines) for the Interior population of band-tailed pigeons based on results from the North American Breeding Bird Survey, 1968–2019.

**Harvest Information.** For the Interior band-tailed pigeon, the number of hunters who obtained a special permit was 380, 866, and 275 in Colorado, New Mexico, and Utah, respectively. All hunters who obtained a special permit were surveyed. The permit was free except in Colorado, where the cost was \$5. For Interior band-tailed pigeons during 2019, total harvest, active hunters, and total hunter days afield were 600 (50 – 1,100) pigeons, 600 hunters, and 2,100 (600–3,600) days afield, respectively (Seamans 2020).

**Management Activity.** Nothing to report

**Research Activity.** A survival study paper for New Mexico and Arizona birds is in progress by Dan Collins, Guthrie Zimmerman and Bill Kendall.

Soon to be published:

Braun, C. E., M. A. Schroesder, J. E. Kautz. 2020. Identification of band-tailed pigeon flock areas in Colorado, 1969–1981. Colorado Parks and Wildlife Technical Publication No. XX.

Recommendations. The subcommittee recommends no change in the season framework for Interior band-tailed pigeons.

#### Literature Cited

Seamans, M. E. 2020. Band-tailed pigeon population status, 2020. U.S. Department of the Interior, Fish and Wildlife Service, Division of Migratory Bird Management, Washington, D.C.

#### **Western Canada Goose Subcommittee**

Will Schultz, Wyoming Game and Fish Department

Population Status. Population status data were not collected in 2020 due to the COVID-19 pandemic. However, the 2019 breeding population index (WBPHS estimates from strata 76–77 in Alberta and standardized surveys in British Columbia, Washington, Oregon, and California) for Pacific Population (PP) Canada geese was 346,992, a 1% decrease from the 2018 index of 350,684. The three-year average (2017–2019) was 330,725; up 13% from the previous three-year average of 291,974 (2016–2018). The most recent three-year average represents the highest count on record for the time series. Also, model predictions of population abundance (Joshua Dooley, 2020, Goose and Swan Indices Out-year Model Predictions for 2020, U.S. Fish and Wildlife Service (Service) Division of Migratory Bird Management, Branch of Assessment and Decision Support, June 22, 2020) all indicate a stable or growing population in 2020. There is no population level management objective in the PP management plan. However, there are objective ranges for breeding geese, pairs, or nests at the management unit (population segment) level based on a three-year average. These total about 90,590–147,150 geese. The most recent three-year average (330,725, 2017–2019) and predicted 2020 index of abundance are both well above the upper range of the population objective level.

The breeding population index (WBPHS estimates from portions of strata 26–29 in Alberta and strata 41–42 in Montana) for Rocky Mountain Population (RMP) Canada geese in 2019 was 175,652, a 30% decrease from the 2018 index of 252,695. The three-year average (2017–2019) was 205,338 down 11% from the previous three-year average of 230,662 (2016–2018). The RMP management plan objective is a breeding population index of 117,000 geese. The most recent three-year average represents the second highest count on record for the time series. Also, model predictions (Dooley, 2020) of population abundance all indicate a stable or growing population in 2020. The most recent three-year average (205,338, 2017–2019) and predicted 2020 index of abundance are both well above the population objective.

Harvest Information. Estimates of Canada goose harvest for 2019–2020 are not available at this time. The 2018–2019 season totals from the Harvest Information Program were: Arizona 816; California 83,139; Colorado 7,219; Idaho 42,049; Montana 14,768; Nevada 2,475; New Mexico 1,857; Oregon 9,373; Utah 15,165; Washington 68,165; and Wyoming 1,176; British Columbia's harvest was not reported. These estimates were for all Canada geese harvested and are not segregated by population or subspecies.

Management Activity. In June of 2020, U.S. Department of Agriculture -Wildlife Services (USDA) in Idaho translocated 62 Canada geese from Twin Falls to Magic Reservoir. In the Panhandle Region, USDA moved 127 Canada geese from Sandpoint to the Lower Coeur d'Alene WMA. In Oregon, USDA translocated 144 goslings from parks in Bend and Black Butte Ranch

to the Summer Lake Wildlife Area. Seventy adults were also captured but they were not moved. All birds were banded under Oregon Department of Fish and Wildlife's (ODFW) permit.

**Research Activity.** ODFW banded 145 Canada geese at their wildlife areas as part of normal operations during 2020. Utah Division of Wildlife Resources reported banding approximately 1,000 Canada geese in the summer of 2020 as part of their annual banding operations.

**Recommendations.** The subcommittee adopted one recommendation:  
No changes in the Pacific Flyway general framework as it pertains specifically to western Canada geese.

### **Western Management Unit Mourning and White-winged Doves Subcommittee**

Johnathan O'Dell, Arizona Game & Fish Department

**Population Status.** The predicted, 2020 mourning dove population for the WMU is 42.85 million (95% CI =23.17–77.49 and 70% CI =31.67–57.82), which exceeds the critical threshold of the population for regulatory alternatives. Thus, the “Standard” season framework (60 days and 15 bird daily bag limit) can be recommended.

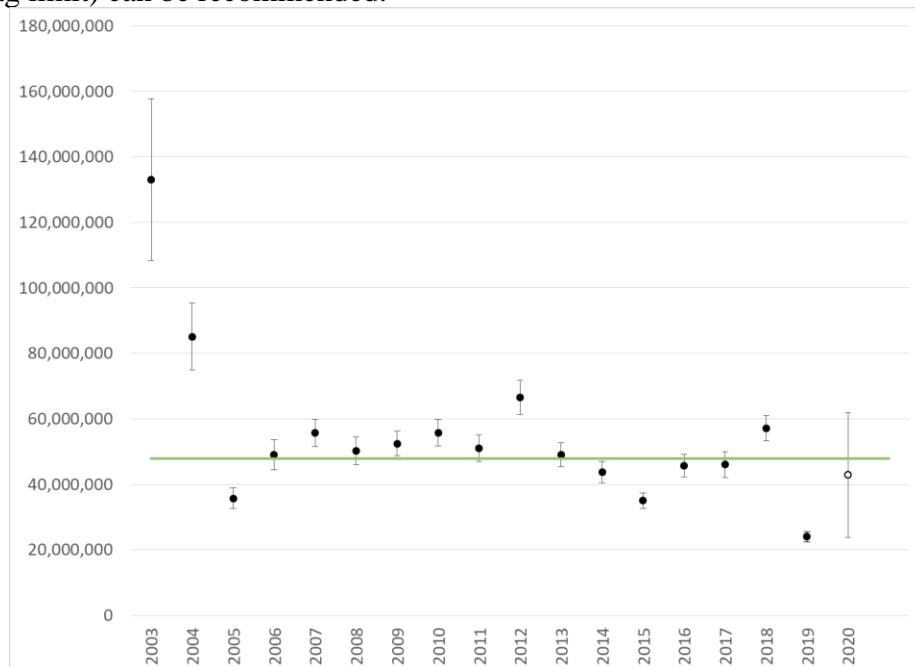


Figure 1. Observed (2003–2019) and predicted (2020) mourning dove abundance in the Western Management Unit. Error bars are 95% credible intervals. The first two years were not used to calculate the long-term average (green line). Observed values are from Lincoln-Peterson models. (Seamans, 2020)

The western white-winged dove population is monitored in two ways: 1) the Breeding Bird Survey (BBS), which is representative of the population as a whole across their range in Arizona, California, Nevada, and Utah, and 2) the Arizona Call Count Index (CCI), which is focused on historical colony nesting areas adjacent to agricultural areas. Colony nesting areas contribute more significantly to overall harvest, especially in years when the index is high. The long-term BBS trend (1966–2019) for white-winged doves in the Pacific Flyway is -0.18 (-1.16 to 0.73),

and the 10-year average trend (2009–2019) is -0.99 (-3.22 to 0.91). Historical data from the Arizona CCI indicated a stable to slightly decreasing trend in the colony nesting, but during the most recent five years (2016–2020) numbers have significantly increased. Increases in abundance are believed to be due to increases in durum wheat production in the spring and summer in southern Arizona and Southern California.

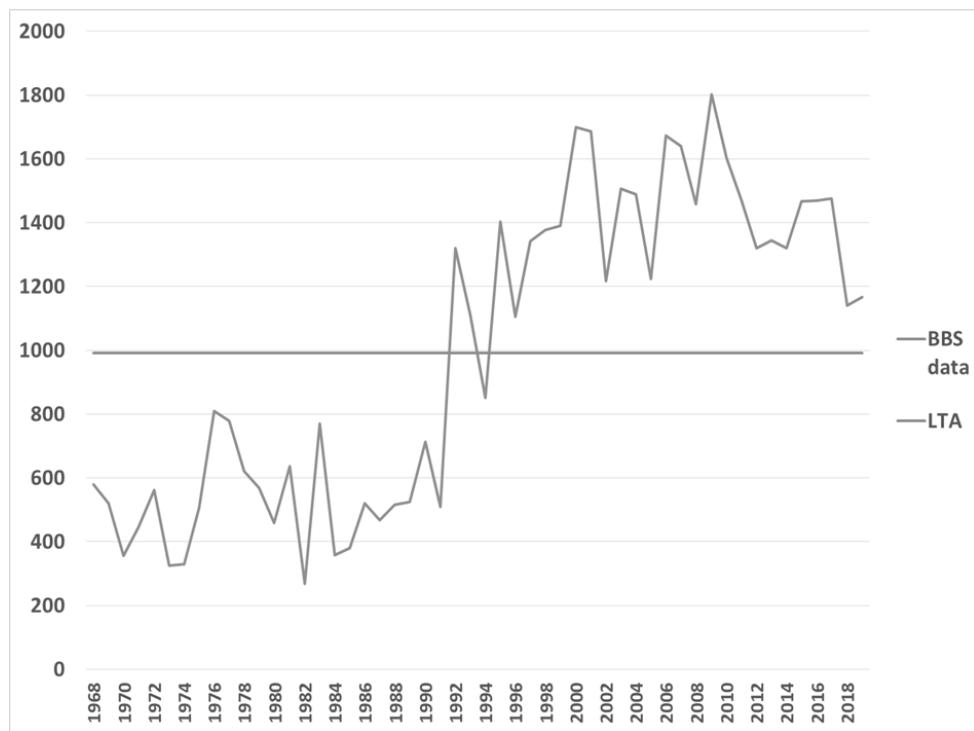


Figure 2. BBS data for white-winged doves in Arizona, California, Nevada, and Utah. (Paredjeck et al, 2020)

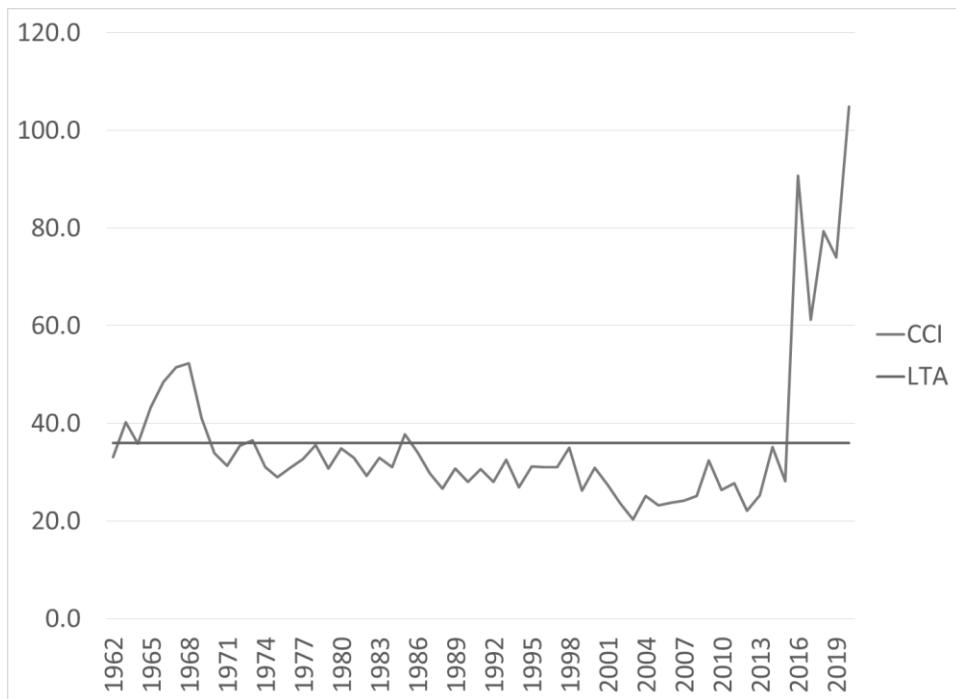


Figure 3. Arizona's Call Count Index data for white-winged doves.

Harvest Information. The 2019 WMU Mourning dove harvest estimate was 1,060,200, down 27.3% from 2018. The 2019 white-winged dove harvest estimate was 92,380, a 16.7% decrease from 2018.

Management Activity. All WMU states continue to band mourning doves annually to inform the National Harvest Strategy. Due to the timing of this meeting, final numbers of birds banded in 2020 were not available for inclusion in this report but are typically captured in the Banding Subcommittee report during the spring meeting.

California and Arizona continue to band white-wings doves incidental to mourning doves during the annual effort. While this data is not currently used for management, it establishes baseline data that may help inform harvest strategy for white-winged doves in the future.

Research Activity. This year is the second of three years of the reward banding study integrated into annual banding efforts used to inform mourning dove management. Preliminary information from year one in the WMU shows reporting rates are well within the range of what was expected, and comparatively similar to what other Management units have experienced.

A mourning dove Integrated Population Model (IPM), using Central Flyway data, is being developed by Dr. Dave Koons from Colorado State University. A preview of this model was shared with members of the National Dove Task Force during their June meeting. The IPM could potentially replace the existing model used to inform the National Dove Harvest Strategy.

No new or current research activity on white-winged doves was reported.

Recommendations. The subcommittee recommends the “Standard” regulatory alternative as prescribed by the mourning dove harvest strategy for doves in the Western Management Unit is adopted.

#### Literature Cited

Pardieck, K.L., Ziolkowski Jr., D.J., Lutmerding, M., Aponte, V.I., and Hudson, M-A.R., 2020, North American Breeding Bird Survey Dataset 1966 – 2019: U.S. Geological Survey data release, <https://doi.org/10.5066/P9J6QUF6>.

Seamans, M. E. 2020. Mourning dove population status, 2020. U.S. Department of the Interior, Fish and Wildlife Service, Division of Migratory Bird Management, Laurel, Maryland.

### **Pacific Coast and Central Valley Population Sandhill Crane Subcommittee**

Melanie Weaver, California Department of Fish and Wildlife

Population Status. The Pacific Coast and Central Valley population of sandhill cranes is monitored using a winter aerial transect survey in California. The 2020 estimate was 41,788 cranes; 67% above the 1983 Management Plan objective of 25,000 cranes wintering in California. There was a report of a nesting pair of cranes at Richfield NWR in Washington.

Harvest Information. Alaska is the only state in the Pacific Flyway that harvests Pacific Coast sandhill cranes. The most recent estimate of Alaska harvest was 140 cranes in the 2019–20 season (HIP).

Management Activity. Pending workflow, Washington is scheduled to conduct the state's periodic status review this year.

Research Activity. Gary Ivey reported working on a habitat loss over time analysis based on crane telemetry locations.

Recommendations. The subcommittee recommends no change in the Alaska season frameworks for Pacific Coast population of sandhill cranes.

The subcommittee provided the newly developed Status Review (replacing the 1983 plan) to Council in mid-July 2020 for consideration of adoption at the August 2020 Council meeting.

### **Lower Colorado River Valley Sandhill Cranes Subcommittee**

Jeff Knetter, Idaho Department of Fish and Game

Population Status. There were 2,941 birds counted during the annual survey of Lower Colorado River Valley (LCRV) sandhill cranes. This was nearly identical to the 2019 count of 2,922, and 17% above the long-term average of 2,513. The recruitment rate was 7.28%, which is higher than the long-term average of 5.83%.

Harvest Information. No harvest of LCRV sandhill cranes occurred during the 2019–2020 hunting season.

Management Activity. No management activities reported.

Research Activity. Dan Collins (Service) reported banding continues outside of the traditional LCRV sandhill crane range, and these birds continue to use traditional LCRV wintering areas or move into traditional LCRV breeding ranges. He also reported the Service is currently wrapping up a resource selection function analysis of sandhill crane wintering grounds. A paper should be in review within the next couple of months.

Blair Stringham (UT) reported eight cranes were marked with GSM/GPS transmitters in central Utah (5 near Bicknell and 3 near Price) during summer 2020.

Recommendations. There were no recommendations from the subcommittee.

### **Pacific Brant Subcommittee**

Kyle Spragens, Washington Department of Fish and Wildlife

Population Status. The management index for the Pacific population of brant is the three-year average of the total count from the Pacific Flyway Winter Brant Survey (WBS), the sum of wintering brant counted along the Pacific Coast from Mexico to Alaska (Pacific Flyway Council

2018). The 2020 WBS indicated 142,556 brant, resulting in a three-year average of 145,388 brant (2018–2020).

The 2019 fall staging population index for brant at the Izembek Complex was 157,087 brant, 1% below the most recent 10-year average of 159,278 birds (2010–2019; Wilson 2020).

The 2020 Aerial Photographic Survey of Brant Colonies, the Yukon-Kuskokwim Delta Coastal Zone Survey, and the Arctic Coastal Plain Survey were canceled due to the COVID-19 pandemic.

Harvest Information. The 2019 Harvest Information Program estimates were: California 1,200; Oregon 0; Washington 200 (mandatory harvest report indicated 246); Alaska 2,800; Pacific Flyway (including Alaska) total 4,200. Additionally, British Columbia reported harvest of 144 Pacific brant (including five Western High Arctic brant), and the Alaska Migratory Bird Co-Management Council Harvest Assessment Program reported a 2018 statewide subsistence harvest estimate of 8,868 (CIP 57%) brant.

Management Activity. Banding activities were cancelled in 2020 due to the COVID-19 pandemic, including long-term sites on the Yukon-Kuskokwim Delta (Tutakoke River Colony) and the Alaska North Slope (including: Teshekpuk Lake Special Area, Colville River Delta, etc.).

The North Slope Borough and ABR, Inc. cancelled 2020 field activities due to the COVID-19 pandemic.

Yukon Delta National Wildlife Refuge and U.S. Geological Survey-Alaska Science Center (USGS-ASC) biologists, in concert with Alaska Native co-management councils, visited three communities on the Yukon-Kuskokwim Delta during October 2019 to engage residents about bird banding and the reporting of encounters to the USGS website ([reportband.gov](http://reportband.gov)). With recent assistance from Alaska Native Science and Engineering Students (ANSEP), these efforts have led to the creation of important talking points and outreach material, with the intent to incorporate into future outreach programs.

Washington Department of Fish and Wildlife continued to collect hunter bag checks to determine Western High Arctic composition in Clallam, Skagit, and Whatcom counties.

Research Activity. USGS-ASC and Izembek National Wildlife Refuge have published model-based estimates from 1963–2019 fall age ratio surveys, and have posted to their website: [https://www.usgs.gov/centers/asc/science/pacific-brant-age-ratios?qt-science\\_center\\_objects=0#qt-science\\_center\\_objects](https://www.usgs.gov/centers/asc/science/pacific-brant-age-ratios?qt-science_center_objects=0#qt-science_center_objects).

Additional recent publications from USGS-ASC:

Flint, P.L., Patil, V., Shults, B., and Thompson, S.J., 2020, Prioritizing habitats based on abundance and distribution of molting waterfowl in the Teshekpuk Lake Special Area of the National Petroleum Reserve, Alaska: U.S. Geological Survey Open-File Report 2020–1034, 16 p., <https://doi.org/10.3133/ofr20201034>.

Menning, D. M., D. H. Ward, S. Wyllie-Echeverria, G. K. Sage, M. C. Gravley, H. A. Gravley, S. L. Talbot. 2020. Are migratory waterfowl vectors of seagrass pathogens? *Ecology and Evolution*, doi.10.1002/ece3.6039.

Recommendations. The subcommittee forwarded a recommendation to Study Committee that the 2021–22 brant season frameworks be determined based on the harvest strategy in the Council’s management plan for the Pacific population of brant pending results of the 2021 Winter Brant Survey (WBS). If results of the 2021 WBS are not available, results of the most recent WBS should be used.

## Pacific Coast Population Trumpeter Swan Subcommittee

Kyle Spragens, Washington Department of Fish and Wildlife

Population Status. The North American trumpeter swan survey, conducted by cooperators throughout Canada and the northern United States approximately every five years since 1968 to assess abundance, productivity, and distribution of breeding trumpeter swans was discontinued ahead of the summer 2020 scheduled survey period, though complications from the COVID-19 pandemic travel restrictions would have impacted the survey regardless. Therefore, the most recent survey (2015) to draw inference related to swan abundance for the Pacific Coast Population (PCP) was 31,642 (1,432 SE); an 18% increase from the 2010 estimate of 26,790 (1,060 SE). In 2015, cygnets accounted for 32% of PCP swans; higher than the 22% observed in 2010 and the long-term (1968–2010) average of 25%.

During 2019–20, Washington’s Winter Swan Survey recorded a total of 13,328 trumpeter swans, plus an additional 3,729 unclassified swans. These are considered minimum counts. No trumpeter swan counts were available from the Lower Columbia River region.

Harvest Information. The Pacific Coast Population of trumpeter swans is not subject to sport or subsistence harvest.

Management Activity. Washington Department of Fish and Wildlife (WDFW) reported that during the 2019–2020 winter, 334 trumpeter swan mortalities were recorded. Of these 334 birds, a minimum of 184 were caused by lead poisoning, with 46 individuals collected as feather piles and additional 24 birds where no determination could be made. WDFW, in partnership with Puget Sound Energy, Snohomish Public Utilities District, Northwest Swan Conservation Association, Whatcom Humane Society, and Canadian Wildlife Service will continue response and monitoring of this chronic issue in northwestern Washington.

Interest was expressed for feathers collected from these activities to contribute to the joint U.S. Fish and Wildlife Service/U.S. Geological Survey project.

The subcommittee notes that the management plan will need modification pending the decision of how to monitor the population in the absence of summer survey data and should be an item for the winter work meeting.

Research Activity. None reported.

Recommendations. The subcommittee did not propose any recommendations for the Pacific Coast Population of trumpeter swans.

## **Minima Cackling Goose Subcommittee**

David Safine, U.S. Fish and Wildlife Service (Alaska Region)

Population Status. Due to the cancelation of the 2020 Yukon-Kuskokwim Delta Coastal Zone Survey (YKDCZS), the most recent indicated total bird index available for minima cackling geese is the 2019 index. The management index for the minima cackling goose population is the three-year average projected fall population size which is calculated by multiplying the indicated total bird index from the YKDCZS by an index ratio of 3.42. The index ratio is estimated as the ratio between the indicated total bird index from the YKDCZS and population estimates derived from mark-resight data collected in 1989–2003 and 2011–2013. The 2019 minima cackling goose projected fall population is 205,262 (95% CI: 181,371–229,154). The management index (three-year average; 2017–2019) is 235,137 birds, 6% below the population objective of 250,000. The annual population growth rate of the fall population index calculated over the most recent 10 years (2010–2019) was -4% (95% CI: -20%–12%) and 4% (95% CI: -4%–13%) over the long-term (1985–2019).

If the three-year average population index is greater than 10% above (275,000) or 10% below (225,000) the objective, regulatory actions should be implemented to regain the objective (Pacific Flyway Council 2016). When the population is within 10% of the objective, adjustments to regulations can be made to maintain the population within 10% of the objective. The most recent (2017–2019) three-year average of the management index is within 10% of the objective. Because 2020 data is lacking, alternative metrics were investigated to examine population status including a two-year average and three predicted 2020 indices (state-space, theta logistic, and auto regressive; Dooley 2020). Two of the five potential indices were within 10% of the objective, and three of the indices were >10% below the objective. The subcommittee decided to continue using the most recent three-year average (2017–2019) to set regulations for the 2021–2022 hunting season but indicated the high value of YKDCZS data in 2021.

Harvest Information. There is no reliable method to differentiate the various subspecies of Canada/cackling geese from the Service’s parts collection survey, and therefore, there is no way to generate an estimate of total minima cackling goose harvest in the Pacific Flyway. However, various state surveys/check stations provide some information about harvest.

In 2015–16, the Oregon Department of Fish and Wildlife initiated a random telephone harvest survey of hunters authorized to hunt geese in northwest Oregon. Oregon reported an estimated harvest of 21,401 minima cackling geese or 68% of the total goose harvest in the Northwest Oregon Permit Zone in 2019–2020 based on hunter self-classification of geese. Washington reported an estimated harvest of 2,331 (69.5%) minima cackling geese, of a total harvest estimate of 3,354 combined Canada and cackling geese during the 2019–20 season, based on their state Mandatory Harvest Report Card and bag checks conducted by biological staff in the southwest Washington region. California reported a harvest of 96 minima cackling geese on state-operated public hunting areas. The Canadian Wildlife Service’s National Harvest Survey estimated a small Canada goose harvest of 2,639 for 2018–2019 in British Columbia. The Alaska Migratory Bird Co-Management Council Harvest Assessment Program reported 2018 harvest on the Yukon-Kuskokwim Delta Region during the spring/summer hunt in Alaska of 19,523 (CIP 57%) cackling/Canada geese, and 7,794 (CIP 80%) eggs.

Management Activity. The Yukon Delta National Wildlife Refuge canceled their banding project in 2020.

Service Columbia-Pacific Region reported 7 depredation permits were issued authorizing take of cackling geese in 2019–2020, and a lethal take of 30 birds was reported.

**Research Activity.** Joshua Dooley reported on Arctic Goose Joint Venture Project #134 (Evaluation and improvement of U.S. goose harvest estimates and Lincoln estimator). The final year of data collection was completed at the 2019–20 wingbees. In total across all 4 Flyways, 28,714 dark and light goose Parts Collection Survey (PCS) samples were received and processed (14,073 in year 1; 14,641 in year 2). Staff collected and shipped 3,380 samples (2,059 in year 1; 1,321 in year 2) to USDA-APHIS in Fort Collins, CO to be available for genetic testing. Currently genetic testing is underway for 202 additional adult dark goose samples to add to the original sample of 124 (n=326) and results are anticipated in early fall 2020. Based on these results, Phase II (juvenile dark) and Phase III (light geese) genetic testing will begin in fall/winter 2020–21. Preliminary analyses have started on the final PCS data and will combine with the genetic results to derive goose species' harvest estimates and recommendations for future Wingbee protocols. For the Lincoln estimate evaluation, a preliminary analysis was conducted comparing heterogeneity in harvest rates among all midcontinent Arctic goose populations. Mississippi Flyway midcontinent cackling goose data was compiled to evaluate the potential of combining with Central Flyway and Canadian data to derive management indices and initiate a simulation study to evaluate harvest regulation decisions using Lincoln estimates and prescribed thresholds.

**Recommendations.** The subcommittee recommends no change to general goose frameworks except to decrease the bag limit for Canada/cackling geese in Oregon's Northwest Permit Zone to 4 per day.

The subcommittee recommends no change in the Alaska season frameworks for Canada/cackling geese.

## **Emperor Goose Subcommittee**

Jason Schamber, Alaska Department of Fish and Game

**Population Status.** The management index for emperor geese is based on the indicated total bird index (index) from the Yukon-Kuskokwim Delta Coastal Zone Survey (Coastal Zone) in the previous year. The Coastal Zone survey was canceled in 2020 due to the COVID-19 pandemic, resulting in the lack of a 2020 index to inform regulatory decisions for the 2021 season.

In 2019, the Coastal Zone index (26,585; 95% CL=24,161–29,008 birds) dropped below the 28,000-bird threshold that triggers consideration of a restrictive quota. For the 2020 fall-winter hunting season, the 1000-bird quota to the State of Alaska was reduced to 500 birds.

**Harvest Information.** The 2019–20 fall-winter hunt was administered by the Alaska Department of Fish and Game (ADFG) using a registration permit system across seven hunt areas with a statewide harvest quota of 1,000 birds. The hunt was open to both Alaska residents and non-residents. Registration permits were issued to 439 hunters, and 147 reported harvesting an emperor goose.

The Alaska Migratory Bird Co-Management Council (AMBCC) Harvest Assessment Program estimated a 2018 statewide (five regions) total subsistence harvest of 9,718 (CIP: 95%) birds and 2,815 eggs (CIP: 116%).

Management Activity. The 2020 spring-summer subsistence hunt began 2 April and will close on 31 August. The 2020–2021 fall-winter hunt will begin on 1 September in four of seven hunt areas and will begin in October in the remaining hunt areas with a reduced statewide quota of 500 total birds. The ADFG, in consultation with the AMBCC and the U.S. Fish and Wildlife Service (Service) reallocated the 500-bird quota across the seven hunt areas.

The harvest strategy in the Plan does not include guidance on making regulatory decisions in the absence of previous year's survey data; thus, the emperor goose subcommittee is responsible for considering all the available information and recommending a course of action. The Pacific Flyway Council and AMBCC emperor goose subcommittees convened on 2 June 2020, to consider information that may inform population status in the absence of 2020 survey data and recommend harvest regulations for the 2021 hunts of emperor geese. We discussed a number of possible approaches that could be used to infer emperor goose population status in 2020 including: the most recent observed Coastal Zone index (2019) or a model-based projection of the current year (2020) Coastal Zone index (Osnas 2020). There was no general agreement on an approach among the attendees of the meeting. Nonetheless, the consensus was that both of these approaches were in general agreement, indicating the 2020 population status likely remains between the population thresholds requiring consideration of conservation measures (between 23,000 and 28,000 birds) with low probability that abundance was below the closure threshold. Thus, the subcommittee recommended the hunt remain open with a continuation of a restrictive quota (500 birds) for the 2021–2022 season.

The AMBCC and Pacific Flyway subcommittees met in August 2020 to begin the review of the last three years of information from the spring-summer and fall-winter hunts and discuss possible revisions to elements of the AMBCC and Council management plans that include population monitoring, the population objective and the harvest strategy. Any changes will be considered as amendments to the plans. The subcommittees plan to reconvene in late 2020 or early 2021 to continue discussions of possible revisions to the management plans.

Osnas, E. 2020. A simple state space model framework to predict harvest management survey observations in 2020. USFWS, publ. analyses: <https://github.com/USFWS/State Space-Prediction-2020>.

Research Activity. In January 2020, ADFG captured and implanted nine juvenile emperor geese with satellite transmitters in Kodiak, Alaska. The transmitters provide location and survival data every fourth day and have an anticipated battery life of up to two years.

ADFG canceled a planned capture trip to the Seward Peninsula to instrument adult female emperor geese with satellite transmitters due to the COVID-19 pandemic.

Bryan Daniels (Service–Yukon Delta NWR) reported canceling field work related to an ongoing project to estimate annual survival of nesting adult females at Kigigak Island, and a graduate field project tracking nest success and habitat use of emperor geese, due to the COVID-19 pandemic. Bryan reported that he was able to collect vegetation samples for the nest success project in 2020.

**Publications:**

Lewis, T.L., T.J. DiMarzio, and J.L. Schamber. *In press.* Distribution and population size of emperor geese during the breeding season on the Seward Peninsula, Alaska. Arctic.

**Recommendations.** The subcommittee recommends no change in the Alaska Season Framework regulations for emperor geese.

**Rocky Mountain Sandhill Crane Subcommittee**

Jeff Yost, Colorado Parks and Wildlife

**Population Status.** The September 2019 survey of the Rocky Mountain Population (RMP) of sandhill cranes (cranes) counted 21,290 cranes, a 3.34% decrease from 2018 (21,801 cranes). The most recent three-year average (2017–2019) is 20,894 cranes. This average is at the upper end of the population objective range of 17,000–21,000 cranes described in the Pacific Flyway Council (Council) RMP Sandhill Crane Management Plan.

The 2020 fall staging survey is scheduled to be flown the week of September 21<sup>st</sup> 2020.

**Harvest Information.** State harvest estimates for the 2019 crane season indicate Arizona harvested 38 (from an allocated 118), Idaho harvested 166 (from an allocated 220), Montana harvested 179 (from an allocated 317), New Mexico (NM) harvested 530 (from an allocated 564), Utah harvested 130 (from an allocated 184), and Wyoming harvested 141 (from an allocated 169). The reported harvest does not include crippling loss. The 2019 total harvest estimate was 1,110 which was 68 % of the total harvest allocation (total allocation of 1,628).

**Management Activity.** Arizona (AZ) reported 27,108 cranes counted in the Southeastern winter survey with a mix of RMP and Mid-continent Population cranes. Last fall was the first year of three (2019–2021) for Arizona Mandatory Check Station New Zone (Unit 29) per RMP Plan. Results from the check station found zero cranes harvested in Unit 29 (RMP = 0, MCP = 0).

Colorado is planting crops for cranes on State Wildlife Areas (SWA's). Began major renovations of moist soil units on two SWA's that are used by RMP cranes for nesting, colt rearing, and feeding. Work consists of rebuilding dikes, recontoured the slopes and improving water delivery systems including new piping and water control structures.

Montana captured one bird and instrumented it with a GPS/GSM leg transmitter in the Big Timber area (west of Billings) and attempted to capture in the Bighole (east of the Idaho border), and the Shields river valley north of Livingston, but no success. This was conducted as part of the work led by Dan Collins (Service).

Montana is submitting a recommendation to Council proposing a new RMP sandhill crane hunt district in north-central Montana for the 2021 season. This is already part of the survey area with almost 20 years of data already in place. This is a joint recommendation with the Central Flyway, so it has been circulated by Jim Hansen (CF-Montana)

Mason Cline (NM) reported normal crop production for crane winter food on WMAs. In its first year going from experimental to operational the Estancia Valley (EV) crane hunt seemed to go fine. It was the first year using bill cards rather than a check station for data collection. For

2019, 70 birds were harvested total and 10 of those were classified as greater according to the bill cards. In the past, using check station data, typically 75–100 birds went through the station and one or two would measure out as greater. Mason wouldn't be surprised if the number of greater harvested in 2019 was overestimated in the EV hunt by close to an order of magnitude. It seems that hunters err on the side of taking bill measurements that are too long when using the bill cards. Arizona is seeing an increasing number of Canadian population cranes in their harvest, which have larger bills than lessers, this may be the case in NM and why the bill card measurements are coming out as greater.

Utah collared eight cranes in the central part of Utah this year (near Bicknell and Price). Utah is proposing a change to the RMP crane hunt zones for 2021. The change would open crane hunting in Duchesne County by combining it with an existing hunt zone in Uintah County. Historical and recent survey data suggests that harvest will have little impact on the number of cranes that use this area. Hunter success ranged from 64.3% to 89.3% over the last five years in the Uintah County hunt zone, and it's expected that harvest will not fluctuate much from previous years with the inclusion of Duchesne County. Overall, harvest is expected to remain well within the state's allocation as the number of hunters issued permits for this new hunting district would remain below 100 total permits.

Wyoming Department of Game and Fish, with much appreciated assistance from Colorado Parks and Wildlife Personnel, deployed two GSM/GPS transmitters in south-central Wyoming (one near Baggs and one near Saratoga).

Research Activity. Dan Collins (Service) reported during the 2019–2020 field season in NM captured and banded 209 cranes. All received size 9 USGS bands, 18 of 209 received alpha-numeric auxiliary markers, and 44 of 209 received GSM Units with alpha-numeric codes. Trapping occurred at Bosque del Apache NWR, Bernardo Waterfowl Management Area as well as the Belen Unit of the Ladd S. Gordon WMA complex. The GSM units deployed are part of a collaboration to determine "A Spatially Explicit Assessment of Sandhill Crane Exposure to Potential Transmission Line Collision Risk" that is currently in review with Journal of Wildlife Management. For the upcoming 2020–2021 field season work will continue to mark cranes as described above with potentially 10–15 new GSM units to be deployed on the Belen and Casa Colorado units to refine the exposure model.

Jeff Knetter reported Idaho is wrapping up a PR-funded research project in conjunction with the Service, Intermountain West Joint Venture, and the University of Montana. The project objective was to complete analyses across the Idaho breeding range of the RMP greater sandhill cranes (*hereafter*; RMP cranes) to identify key stressors driving distribution and abundance trends of birds on private and public lands by linking regional population data to patterns of rural land use change and annual wetland condition over time and space. Final analyses were completed to identify key landscapes and habitats important to maintaining migratory connectivity between important breeding grounds in Idaho and wintering areas to the south. Of approximately a dozen sites identified within the state, Malad Valley was the most important to maintaining migratory connectivity. Long-term monitoring found significant declines in wetland habitats heavily used by sandhill cranes in one third of Idaho landscapes used by sandhill cranes during migration. A complete summary of these results will be available in a manuscript that is currently under review - *Water scarcity drives ecological bottlenecks in continental migration networks supporting greater sandhill cranes - Donnelly et al.*

Dave Olson (Service Region 6) provided an update on a project that will investigate how changing water regimes, and consequently, wetland food and water resources will impact the carrying capacity of cranes in the San Luis Valley entitled, *San Luis Valley RMP Crane Food Study*. PhD student Rachel Vanausdall is working with Bill Kendall at Colorado State University on this project.

So far Rachel has completed five rounds of “roadside surveys” from February 16 to March 29. At their peak 17,567 Greaters were counted during the week of March 13. Most (69%) observations were of cranes in barley fields, but a fair number were also observed in alfalfa (8%), pastures (6%), and potato fields (7%). The rest were in a mix of other agriculture, wetlands, and grasslands. Approximately 150 individual cranes were observed to get time budgets, which will eventually be used in the bioenergetics model. Grain samples were collected from 13 grower fields and the three Monte Vista NWR fields but have not been analyzed in the lab yet.

The Service Migratory Bird Program and Science Application program in Region 2 along with Phil Thorpe and Patrick Donnelly are continuing the work on a predictive modeling effort to inform when the Fall RMP survey should take place and more effectively determine the survey window to obtain good counts.

Several documents are in review but not published at this time including:

- “A Spatially Explicit Assessment of Sandhill Crane Exposure to Potential Transmission Line Collision Risk” that is currently in review with Journal of Wildlife Management.
- “*Water scarcity drives ecological bottlenecks in continental migration networks supporting greater sandhill cranes - Donnelly et al.*”, manuscript currently under review.

Recommendations. The subcommittee adopted the following recommendations:

- The subcommittee recommends no change in the season framework for RMP sandhill cranes.
- The subcommittee recommends allowable harvest be determined on the formula described in the Pacific and Central Flyway Management Plan for RMP Sandhill Cranes pending results of the 2020 fall abundance and recruitment surveys.
- The subcommittee recommends the addition of a new RMP sandhill crane hunt district in Cascade and Teton counties in northcentral Montana.
- The subcommittee recommends expanding the existing Uintah County Zone to include Duchesne County in northeast Utah.

## **Pacific Coast Band-tailed Pigeon Subcommittee**

Brandon Reishus, Oregon Department of Fish and Wildlife

Population Status. Pacific Coast band-tailed pigeon population indices are monitored by the mineral site survey (MSS) that was implemented in 2004. Results from the 2020 assessment of the MSS suggested no significant trend in the median annual count of Pacific Coast band-tailed pigeons seen at mineral sites from 2004–2020, and no significant trend in the last five years. However, the trend in abundance during the previous 10 years was positive (2.3%). Note, the 2020 MSS was not conducted in British Columbia due to the COVID-19 pandemic

The U.S. Geological Survey coordinated, all-bird Breeding Bird Survey (BBS) can also be used to inform Pacific Coast band-tailed pigeon abundance. The BBS was not conducted in 2020 due to the COVID-19 pandemic.

**Harvest Information.** Harvest and hunter participation are estimated from the Harvest Information Program. Preliminary estimates from the 2019 season indicated total harvest, active hunters, and total hunter days afield for Pacific Coast band-tailed pigeons were 9,700 (95% CI = 4,200 – 15,200) pigeons, 3,200 hunters, and 10,700 (2,300–19,100) days afield, respectively. Harvest composition during 2019 was 18% hatching year birds based on a total sample of 115 pigeons.

**Management Activity.** Washington had intended to investigate the presence of mineral sites in the Olympic Peninsula region in this past season using marked birds, but complications related to the COVID-19 pandemic did not allow the work to occur. Washington hopes the work can be conducted next summer.

**Research Activity.** Nothing to report.

**Recommendations.** The subcommittee recommended no change in the season framework for Pacific Coast band-tailed pigeons.

## **White-fronted Goose Subcommittee**

Jason Schamber, Alaska Department of Fish and Game

**Population Status.** The management index for Pacific Flyway population greater white-fronted geese is the three-year average of the fall projected population; the sum of indicated total bird (ITB) indices from the Yukon-Kuskokwim Delta Coastal Zone Survey and Waterfowl Breeding Population and Habitat Survey, expanded by a constant ( $[ITB \times 2.5498] + 71,339$ ) to approximate fall population size. Both surveys were canceled in 2020 due to the COVID-19 pandemic; therefore, no update to the projected fall population size or the management index is available this year. The 2019 Pacific white-fronted goose projected fall population was 479,289 and the management index was 601,650; 101% above the current population objective of 300,000.

The 2019 tule greater white-fronted goose estimate in California was 16,448 (95% CL: 6,785–26,111); a substantial increase from the 2018 index (6,993), and 64% above the 10,000-bird management plan objective.

The Alaska component of the midcontinent greater white-fronted goose population breeds in portions of interior and northwest Alaska, and on the Arctic Coastal Plain. The interior and northwest Alaska regions are indexed by the ITB count from the Waterfowl Breeding Population and Habitat Survey. The Arctic Coastal Plain region is indexed by the ITB from the Arctic Coastal Plain Survey. Both surveys were canceled in 2020 due to the COVID-19 pandemic. The 2019 ITB index from interior and northwest Alaska was 30,921; 32% below the most recent 10-year (2010–2019) average of 45,707 birds. The Management Plan for Midcontinent Greater White-fronted Geese identifies the fall staging survey in Prairie Canada (Alberta and Saskatchewan) as the primary tool to assess

population status. The 2019 fall aerial survey index in Canada was 1,266,902; well above the 2018 index of 774,097. The three-year (2017–2019) average is 937,536; slightly above the previous three-year average of 848,613 and well above the population objective of 650,000 birds.

**Harvest Information.** California reported that in 2019–20, 1,827 white-fronted geese were harvested on public hunt areas. Of these, 1,316 (72%) were measured for subspecies discrimination using established bill measurement criteria. A total of 57 Tule geese were killed on public hunting areas, up 33% from the 43 killed in 2018–19.

Oregon reported estimated (telephone survey of permit holders) white-fronted goose harvest during 2019–20 in the Northwest Permit zone was 286, nearly identical to the 2018–19 estimate. At Summer Lake Wildlife Area (SLWA), hunters reported shooting 161 white-fronted geese. Staff were able to examine and measure 70 birds, 43.5% of the harvest; 26 were adults and 44 were juveniles. Measurements suggest 42.3% of adult white-fronted geese taken at SLWA were tules, which would indicate 25 adult tule geese were taken in 2019–20. Measurement criteria has not been developed to separate juvenile tule geese from Pacific white-fronted geese, though culmen measurements from juvenile geese during their first fall-winter period likely differs very little from adults. Therefore, using the same calculations as adults; of the 44 juveniles measured, only two were identified as tule geese (4.5%), both of which were harvested during the September youth waterfowl hunt. These are the only two regions of Oregon where harvest information is collected and where white-fronted geese are common enough to show up in the harvest. However, the majority of white-fronted goose harvest in Oregon occurs in the Klamath Basin during fall, and throughout southcentral and southeast Oregon during late-winter goose seasons. The Harvest Information Program is the only method to assess white-fronted goose harvest in those places and times.

The most recent three-year average (2017–2019) harvest rate estimate for midcontinent white-fronted geese was  $0.053 \pm 0.006$  (SE; 95% CL: 0.040–0.065), below the harvest rate threshold of 6% identified in the Management Plan.

**Management Activity.** In 2019, the California Department of Fish and Wildlife (CDFW) and Oregon Department of Fish and Wildlife trapped 68 tule geese and deployed 34 VHF radios at SLWA. A complete report for the 2019–20 Tule Project follows this subcommittee report. In 2020, 40 radio collars were purchased by CDFW but marking attempts in September 2020 are canceled due to the COVID-19 pandemic. Marking may occur in spring or fall 2021 at SLWA.

Banding of midcontinent greater white-fronted geese at the Innoko National Wildlife Refuge did not take place in 2020 due to the COVID-19 pandemic.

The midcontinent greater white-fronted goose subcommittee and other invitees met in January 2020 and agreed annual Lincoln estimates will replace the fall survey index as part of the management index.

**Research Activity.** Data from GPS-GSM collars deployed by the U.S. Geological Survey is being analyzed to examine movements of tule geese in the Sacramento Valley in relation to use of the Special Management Area.

Publication in review:

*Yparraguirre, D.R., T.A. Sanders, M.A. Weaver, and D.A. Skalos. 2020. Abundance of Tule*

Recommendations. The subcommittee adopted two recommendations.

- Recommend no change to Alaska season frameworks for white-fronted geese.
- Recommend no changes in the goose season frameworks for white-fronted geese in the Pacific Flyway.

**Project Update  
Tule Greater White-fronted Geese  
August 2020**

Dan Skalos and Melanie Weaver, California Department of Fish and Wildlife

**Capture and marking**

In September 2019, 68 Tule geese were captured and 34 were marked with VHF radio collars at Summer Lake Wildlife Management Area (SLWA), Oregon by California Department of Fish and Wildlife (CDFW) and Oregon Department of Fish and Wildlife (ODFW) staff.

**Telemetry**

The initial search list included 33 collars from previous years including cohorts from: 2016 = 9, 2017 = 11 and 2018 = 13. Four individuals from the 2019 cohort were shot or found dead at SLWA in late September or early October, leaving 30 VHF radios available for winter. One individual was marked at Delevan National Wildlife Refuge (NWR). Searches for all 64 radio-collared birds were conducted from the fall through spring via ground and aerial telemetry in the Summer Lake Basin, Warner Valley, Klamath Basin, Fall River Valley, Sacramento Valley and the Suisun Marsh. Of the 33 old radios (i.e., pre 2019) available, 24 were detected at least once between 16 September 2019 and 25 March 2020. A total of 706 telemetry detections were made over this period; birds from 2015 comprised 3% of detections, 2016 were 9%, 2017 were 7%, 2018 were 10% and 2019 were 71%.

**Radio-marked geese availability**

Year Marked	Total Marked (Sept only)	Available for Winter	Available for AK (survived hunt season)	Detected AK	Detected Fall #2
2003	48	47	38	33	34
2004	26	23	17	14	12
2005	25	25	25	23	23
2006	51	44	39	31	33
2007	32	32	26	17	21
2008	24	24	20	13	9
2009	30	30	26	24	18
2010	32	31	30	25	22
2011	17	16	14	14	13
2012	21	21	20	15	11
2013	26	26	17	14	12
2014	30	30	23	17	20
2015	25	23	21	21	17
2016	22	22	20	16	18
2017	18	18	16	9	11
2018	20	18	15	11	8
2019	34	30	30	23	NA

**Winter distribution**

Radio-marked geese used the traditional areas in the Sacramento Valley including the Sacramento NWR Complex, rice fields, private duck clubs and Suisun Marsh. A total of

594 telemetry detections were made in the Sacramento Valley; 50% of which were at Delevan NWR, 29% at Colusa NWR, 10% at Sacramento NWR, 5% at Grizzly Island Wildlife Area, 3% in the West Sac Valley but off refuge, 2% in the Lurline Sink and less than 1% west of the Sacramento River (1 detection). Telemetry searches in the Fall River Valley, Klamath Basin, Summer Lake Basin and Warner Valley occurred only in early February as COVID restrictions hampered efforts thereafter. A total of 6 detections were made on Lower Klamath National Wildlife Refuge, 2 on the Lower Chewaucan Marsh and 1 in Warner Valley.

#### ***Migration timing and departure of geese***

**Fall**—A total of 3 radios were detected at SLWA on 16 September 2019 with an additional 14 detected through the 23<sup>rd</sup>. In the Sacramento Valley, 4 radio-marked birds were detected on 24 September 2019, 3 of which were marked in 2019 at SLWA. Nine radio-marked birds remained at SLWA on the last survey which occurred on 8 October 2019. Each were detected in the Sacramento Valley between 21 October and 5 November.

**Spring**—Eight individuals were first heard at SLWA in spring migration on 17 February 2020, which increased to 12 individuals by 19 February.

#### ***Radio-marked detections after hunt season (10 March) and Alaska.***

Considering detections made through 25 March and radio life, 59 radios were considered available in Alaska for summer 2020 telemetry by Alaska Department of Fish and Game and U.S. Fish and Wildlife Service. Alaska Department of Fish and Game conducted one aerial telemetry flight in the Cook Inlet and the U.S. Fish and Wildlife Service conducted one telemetry flight at Yukon Delta NWR. Thirty-eight birds were detected in Alaska: 2016 = 6, 2017 = 4, 2018 = 5, 2019 = 23.

#### ***Known mortalities***

Fifteen recoveries were reported as shot or found dead between July 2019 and July 2020, including 3 band-only recoveries. Most were recovered in the Sacramento Valley (73%), followed by SLWA (13%), Northeastern Cal (7%), Fall River (7%) and Alaska.

#### ***All known mortalities of radio-marked and leg band only Tule white-fronted geese, 1 July 2019 to 1 July 2020.***

Location	Youth Hunt	Hunting Season Mortalities	Other Mortality	Total Mortalities
Alaska	0	1	0	1
Summer Lake, OR	0	2		2
Northeastern, CA	0	1	0	1
Sacramento Valley, CA	1	10	0	11

#### ***Check Station measurement summary***

Since 1999 CDFW check station staff have measured bills of white-fronted geese harvested on Sacramento, Delevan and Colusa NWR's and Grizzly Island Wildlife Area. In 2019–20, 1,827 white-fronted geese were harvested on these areas. Of these, 1,316 (72%) bills were measured for subspecies discrimination using established bill measurement criteria (Orthmeyer et al. 1995). A total of 57 Tule geese were killed on

these public hunting areas, up 33% from the 43 killed in 2018–19. Since check station measurements began the average number of Tule geese harvested on refuges in the Sacramento Valley is 51 with a low of 12 (2005–06) high of 91 (2015–16).

### **Population estimates**

Four observers conducted ground surveys during two sampling periods for developing an indirect estimate of population size between mid-November and mid-December 2019. Population estimates are derived using the mean ratio of all flock observations multiplied by the number of marks available in the population. The following estimates are published in the forthcoming peer reviewed manuscript: Yparraguirre, D. R., Sanders, T. A., Weaver, M. A., and D. A. Skalos. 2020. Abundance of Tule geese *Anser albifrons elegans* in the Pacific Flyway 2003 – 2019. *Wildfowl* Vol. 70 xx – xx.

### **Tule white-fronted goose population estimates (N), confidence intervals (L95, U95) and coefficient of variation (CV) from mark-resight study 2003-current.**

Season	N	L95	U95	CV
2003	17,536	10,863	24,209	0.19
2004	9,115	3,848	14,381	0.29
2005	15,071	2,968	27,175	0.41
2006	33,342	11,997	54,686	0.33
2007	16,639	9,726	23,552	0.21
2008	11,038	5,818	16,258	0.24
2009	13,425	7,452	19,399	0.23
2010	17,002	7,990	26,015	0.27
2011	11,934	7,497	16,370	0.19
2012	16,265	6,924	25,606	0.29
2013	10,975	4,536	17,414	0.30
2014	8,940	4,287	13,593	0.27
2015	9,667	5,943	13,391	0.20
2016	18,445	8,436	28,453	0.28
2017	17,123	8,994	25,252	0.24
2018	6,992	3,939	10,045	0.22
2019	16,448	6,785	26,111	0.30

### **Trapping and marking plans for 2020**

Forty radio collars were purchased by CDFW however marking attempts in September 2020 have been cancelled due to COVID restrictions. Marking attempts may occur in spring 2021 or fall 2021 at SLWA.

### **Telemetry and mark:resight surveys**

Searches will continue in 2020–21 for radio-collared birds in the Summer Lake Basin (ODFW), Klamath Basin (USFWS), Sacramento Valley (CDFW), the Suisun Marsh (CDFW). Two sampling periods are planned to obtain ratios of marked to unmarked

birds during mid-November and mid-December.

**Acknowledgements**

The assistance from many individuals from agencies throughout the Flyway is sincerely appreciated.

Alaska

Bryan Daniels (USFWS), Dennis Marks (USFWS), Michael Guttery (ADFG), Jason Schamber (ADFG), Bill Wiederkehr (ADFG)

Oregon

Brandon Reishus (ODFW), Jared Sisemore (ODFW), Marty St Louis (ODFW), Kelly Walton (ODFW)

California

John Beckstrand (USFWS), Mike Breiling (CDFW), Mike Carpenter (USFWS), Jennifer Isola (USFWS), Andrea Mott (USGS), Gavin Woelfel (CDFW)

Washington

Steve Olson (USFWS), Todd Sanders (USFWS)

**Citations:**

Orthmeyer D. L., Takekawa J. Y., Ely C. R., Wege M. L., & Newton W. E. 1995. Morphological differences in Pacific Coast populations of greater white-fronted geese. *Condor*, 97, 123–132.

Sanders, T.A. & Trost, R.E. 2013. Use of capture recapture models with mark-resight data to estimate Aleutian Cackling Geese. *Journal of Wildlife Management* 77: 1459–1471.

## Aleutian Cackling Goose Subcommittee

Brandon Reishus, Oregon Dept of Fish & Wildlife

Population Status. Based on indirect estimates from mark-resight data, the 2020 population estimate (late-winter) was 118,388 (SE = 12,698, 95% CI = 93,500–143,277), and the most recent three-year average is 163,087. The annual index represents a 41% decrease from the 2019 estimate, though the three-year average is well above the population objective of 60,000.

Harvest Information. There is no efficient method for indexing Aleutian goose harvest in the Pacific Flyway, thus, reported harvest from individual states is considered a minimum.

Melanie Weaver (CA) reported a harvest of 36 geese based on data from check stations at public hunt areas. This does not include Humboldt Bay National Wildlife Refuge harvest.

Kyle Spragens (WA) reported harvest of 35 Aleutian geese based on field checks and mandatory reporting of Southwest Permit Zone Goose harvest in southwest Washington.

Management Activity. Annually, a sample of geese is marked with plastic neck collars in California as part of a mark-resight program to estimate population abundance. Melanie Weaver (CA) reported that 254 geese were marked in California during October 2019. At this time, California Department of Fish and Wildlife intends to continue collaring geese during late October or early November 2020 in the San Joaquin Valley, with a goal of deploying 400 collars. Resight efforts are anticipated to continue during January–March 2021 in California and Oregon.

Research Activity. None reported.

Recommendations. The subcommittee recommends no change to the Alaska Season Framework or the Pacific Flyway Goose season framework related to Aleutian cackling geese.

## Eastern Tundra Swans Subcommittee

Jason Schamber, Alaska Department of Fish and Game

Population Status. The management index for the Eastern Population (EP) of tundra swans is the three-year average of the annual combined Mid-winter Waterfowl Survey in the Atlantic (AF) and Mississippi (MF) flyways. In 2019, a total of 78,586 swans was counted during the combined Mid-winter Survey; well below the count of 111,614 swans reported in 2018. The three-year average mid-winter index was 94,340; 18% above the Management Plan population objective of 80,000 swans, but 14% below the 110,000-swan threshold that allows for 12,000 permits to be issued across EP tundra swan hunt states for the 2021–22 season.

Tundra swans breeding east of Point Hope and across the Alaska Arctic Coastal Plain (ACP) belong to the EP, as they winter principally in the Atlantic Flyway from New Jersey to South Carolina. Since 1986, tundra swans nesting on the ACP have been monitored via a breeding pair survey. The 2020 ACP survey was canceled due to the COVID-19 pandemic. The 2019 total bird index from the ACP survey was 21,807 (95% CI: 17,530–26,084); 33% above the most recent 10-year (2010–2019) average of 16,361 birds (95% CI = 15,286–17,436).

Harvest Information. There is not a permitted fall-winter harvest of EP tundra swans in Alaska.

Subsistence harvest estimates of birds and eggs in Alaska are derived from a survey of five regions that comprise 90% of the total statewide subsistence harvest. The estimate for swans does not discriminate between tundra and trumpeter swans. The estimate of statewide subsistence harvest of swans in Alaska was 3,377 (CIP: 55%) in 2018.

Management Activity. The AF and MF Study Committees will maintain the 25% reduction in allowable permits for the 2021–22 season, in response to the management index staying below the 110,000-swan threshold.

A general swan season option for all EP swan hunting states was recently included in the Federal Register. Any state may opt for this season or remain with their current tundra swan season. Both NC and VA indicated they would maintain their tundra swan seasons at this time, while DE indicated they are considering the general swan season but may wait until their experimental season becomes operational. The Central Flyway portion of Montana is interested in adopting the general swan season but likely will not implement it until the 2021–22 hunting season. North and South Dakota are not interested in changing to a general swan season at this time.

Research Activity. No research activities reported.

Recommendations. There is no recommendation for eastern tundra swans

### **Dusky Canada Goose Subcommittee**

David Safine, U.S. Fish and Wildlife Service (Alaska Region)

Population Status. Due to the cancelation of the 2020 Copper River Delta Breeding Pair Survey and the Middleton Island Nest Survey, the most recent total breeding ground index available for dusky Canada geese is the 2019 index. The 2019 total breeding ground index of 17,727 (95% CI=12,834–22,619) was the second highest ever (Marks and Wilson 2019). The most recent three-year (2017–2019) average population index of 14,408 was 44% above the 10,000-bird threshold to maintain management Action Level 1, per the Pacific Flyway Council management plan (2015).

Harvest Information. Washington Department of Fish and Wildlife reported 12 violations of dusky Canada geese taken in Goose Management Area 2, 10 from Ridgefield NWR and two from Pacific and Grays Harbor counties in Washington.

Management Activity. The nest plot survey (May), production survey (July), and banding (July) on the Copper River Delta were canceled in 2020. Erin Cooper (U.S. Forest Service) reported the U.S. Forest Service is planning to conduct nest plot surveys on the Copper River Delta in May 2021.

Nick Docken (U.S. Forest Service) reported that nest success was monitored at nest islands using nest cameras on the Copper River Delta in 2020, and preliminary results indicated nest success was high (~65%), and observations from across the Delta in June indicated abundance of broods was also high relative to the last five years.

Brandon Reishus (OR) and Kyle Spragens (WA) reported collar reading efforts will be maintained at similar levels of effort as in previous years.

The 2020 dusky Canada Goose Mark-resight Data Assessment to estimate apparent annual survival rates and number of geese with a neck collar, reported annual survival probabilities varied among 3 periods: 1997–2000 was 0.646 (SE = 0.013, 95% CI = 0.620–0.672), 2001–2015 was 0.809 (SE = 0.005, 95% CI = 0.799–0.818), and 2016–2019 was 0.724 (SE = 0.013, 95% CI = 0.699–0.748; Sanders and Olson 2020). The estimated number of marked birds in the population during October 2019 was 611 (SE = 21.8, 95% CI = 576–662; Sanders and Olson 2020).

**Research Activity.** Erin Cooper reported on the joint project between U.S. Forest Service, Chugach National Forest and U.S. Geological Survey – Alaska Science Center to assess the effect of cottonwood and spruce removal on bald eagles to improve dusky Canada goose nest survival. Preliminary results indicated a positive effect on nest success, formal analyses are in progress, and a final report is expected in winter 2020.

**Recommendation.** The subcommittee recommended no changes to the management strategies for dusky Canada geese.

## **Western Tundra Swans Subcommittee**

Russell Woolstenhulme, Nevada Department of Wildlife

**Population Status.** The status of Western Population (WP) tundra swans is measured using a three-year average of the breeding ground index (Pacific Flyway Council 2017), derived from the combined total bird indices from both the Waterfowl Breeding Population and Habitat Survey (Stratum 8 [Bristol Bay], Stratum 9 [interior Yukon-Kuskokwim Delta], Stratum 10 [Seward Peninsula], and Stratum 11 [Kotzebue Sound]) and the Yukon-Kuskokwim Delta Coastal Zone Survey (Pacific Flyway Council 2017).

No breeding surveys were conducted during spring 2020 because of restrictions in place due to the COVID-19 pandemic. The most recent survey (2019) breeding ground index was 101,102 (95% CI: 77,881–124,323). The management index was 127,556 swans; 113% above the population objective of 60,000 swans. The 10-year (2010–2019) average annual growth rate of the breeding ground index was -1% (95% CI: -11%–10%).

During winter 2019–2020, the following states counted tundra swans: California 73,303; Nevada 7,640 (partial survey due to weather); Oregon, including adjacent areas of southwest Washington, 2,175; Utah 3,298; and Washington 409 (no survey was conducted by Washington Department of Fish and Wildlife in the Lower Columbia River). Additionally, Oregon counted 10,026 unidentified swans, though the vast majority are known to be tundra swans.

**Harvest Information.** Hunting of WP tundra swans is regulated by state-issued permits, which allow for reliable estimates of hunter activity and harvest. Allocation and number of permits within the Pacific Flyway in 2019–2020 were as follows: Alaska–1,300; Nevada–650; Utah–increased their permits from 2,000 to 2,750; and Montana–500. Permit numbers for Nevada, Utah, Montana, and Alaska will be the same in 2020–2021. However, Idaho will be issuing up to 50 permits.

During the 2019–2020 season harvest rates were reported as follows: Utah reported a harvest of 1,186 swans which included 20 trumpeter swans. Utah met their trumpeter swan quota and closed their season two days early. Nevada harvested 228 swans, three of which were trumpeter swans. Montana had a harvest estimate of 148 swans which included seven trumpeter swans.

Western Alaska had an estimated 66 tundra swans harvested by permit. The estimated harvest was two swans in Unit 17 (Bristol Bay), 12 swans in Unit 18 (Y-K Delta), 49 swans in Units 22 (Seward Peninsula), and three swans in Unit 23 (Kotzebue Sound).

Subsistence harvest estimates of birds and eggs in Alaska are derived from a survey of five regions that comprise 90% of the total statewide subsistence harvest. Sampling effort was designed to obtain moderately precise statewide total harvest estimates of the 10 most commonly harvested species. Swans are not among the most commonly harvested species; therefore, precision of the estimate is coarse. Further, the estimate for swans does not discriminate between tundra and trumpeter swans. The most recent year of information (2018) yielded a statewide subsistence harvest estimate of 3,377 swans in Alaska (CIP:  $\pm 55\%$ ).

**Management Activity.** This will be the inaugural year of a swan season in Idaho. The hunt area includes the four northwestern counties (Benewah, Bonner, Boundary, and Kootenai) of Idaho. All or portions of game management units 1, 2, 3, 4, 4A, 5, and 6 are contained within these counties.

The Idaho swan hunt will be 44 consecutive days (Oct. 19 – Dec 1, 2020) with a total of 50 permits. Swan hunting will only be allowed by special state-issued permits.

Harvested swans must be checked in at designated locations and a voluntary swan identification course is available online.

**Research Activity.** No Research Activities Reported

**Recommendations.** The subcommittee adopted two recommendations that include:

- No change in the general frameworks for swan hunting.
- No change in Alaska season frameworks for tundra swans.

## **Lesser, Vancouver Canada Goose and Taverner's Cackling Goose Subcommittee**

Brandon Reishus, Oregon Dept of Fish & Wildlife

**Population Status.** The statewide population index for Taverner's cackling geese in Alaska is the sum of Canada/cackling goose indices from three annual aerial breeding population surveys: the Arctic Coastal Plain (ACP) Survey, the Yukon-Kuskokwim Delta Coastal Zone Survey, and the Waterfowl Breeding Population and Habitat Survey (WBPBS; Strata 9,10, and 11). Due to the COVID-19 pandemic, these surveys were not conducted in 2020. In 2019, the indicated total bird index was 58,924 (95% CI = 48,729–69,119). The 2019 index was 29% above the most recent 10-year (2010–2019) average (45,592, 95% CI = 41,964–49,220). The posterior mean of the average annual growth rate ( $\bar{r}$ ) was 1% (95% CI = -16% to 17%) during the most recent 10-year period (2010–2019).

The Alaska-Yukon population index for Lesser Canada geese is the sum of stratum-specific indices from the WPHS (Strata 1, 2, 3, 4, and 12). An undetermined but small proportion of Canada geese on the ACP are also believed to be Lesser Canada geese but they are not included in the Alaska-Yukon index. Due to the COVID-19 pandemic these surveys were not conducted in 2020. In 2019, the indicated total bird index was 13,066 (95% CI = 0–26,871). The 2019 index was 166% above the most recent 10-year (2010–2019) average (4,908, 95% CI = 3,269–6,547). The high estimate in 2019 was due in part to an unusually large number of flocked birds being observed. The posterior mean of the average annual growth rate ( $\bar{r}$ ) was -9% (95% CI = -25% to 7%) during the most recent 10-year period (2010–2019) and 1% (95% CI = -6% to 8%) over the history of the survey (1964–2019).

**Harvest Information.** Oregon reported an estimated harvest of 2,849 Lesser Canada geese and Taverner's cackling geese from the Northwest Permit Zone (self-classified and reported by hunters during the 2019–2020 season). Washington reported a statewide harvest of 14,283 small Canada geese and cackling geese, combined. In the Southwest Washington Permit Zone, total reported harvest, estimated from the Mandatory Harvest Report Card and bag checks conducted by biological staff, was 67 Lesser Canada geese and 397 Taverner's cackling geese

**Management Activity.** None reported

**Research Activity.** Chris Latty (Arctic National Wildlife Refuge) planned a third field season of the research project to determine wintering areas, migration routes, and habitat use of nesting Cackling geese from the eastern Arctic Coastal Plain, but only limited field activities occurred in 2020 due to the COVID-19 pandemic. No GPS-GSM neck collars were deployed in 2020, but a scouting trip occurred near Prudhoe Bay, where approximately 20 nests were found, and potential capture locations were identified for 2021. From 2019 neck collar deployments at the Canning River Delta, two birds reported wintering locations (both from Albuquerque, NM), and one of the two birds provided data through late winter/early spring when it moved north to Monte vista, CO, the same location that a bird from 2018 moved after leaving Albuquerque. Other cackling geese were marked on the Canning River Delta in 2018 and 2019, but unfortunately many of the transmitters failed to provide data. The few that did indicated cackling geese from this area may be associated with the western Central Flyway. In the future, there are plans to mark additional geese nesting in the Canning River Delta and farther to the west (Prudhoe Bay) to determine wintering affiliation. The project is a collaborative effort between the Arctic NWR, Oregon Department of Fish and Wildlife, Alaska Department of Fish and Game, and Service Alaska Region.

**Recommendations.** The subcommittee recommends no change to the Alaska Season Framework or the Pacific Flyway Goose season framework related to Lesser Canada geese or Taverner's cackling Geese.

## **White Goose Subcommittee**

Jeff Yost, Colorado Parks and Wildlife

**Population Status.** Pacific Flyway winter white goose surveys resulted in an estimate of 1,671,795 white geese wintering in California, Washington, and Oregon during winter 2019–20. This is an 18.25% increase from 2018 (LTA 1,011,768; three-year average 1,480,254).

Brandon Reishus (OR) reported the December 2019 white goose survey counted 185,249 wintering in Oregon and adjacent areas of Washington (87% in the Columbia Basin and 13% at Sauvie Island). Wintering white geese (almost all snow geese) have been increasing rapidly in the region during the past five years.

Brandon Reishus also reported fall staging snow goose numbers at Summer Lake Wildlife Area continue to be much lower than historical counts. The peak weekly index in fall 2019 (ground count) was 8,604 white geese, nearly double the five-year average (4,463). However, the higher numbers were not maintained with the next highest weekly count being 1,016. Counts in the late 1950s exceeded 400,000.

Kyle Spragens (WA) reported Washington was unable to get a complete count of the Skagit-Fraser flock due to logistic complications around Vancouver International Airport, therefore the most recent three-year average = 100,054±054 (2017–2019), with an adult (white birds) three-year average = 76,522 (2017–2019). However, incomplete photo surveys were sampled for age-ratio indicating a minimum 35% juvenile to adult ratio. Winter counts for the Columbia Basin are included in Oregon's report.

David Safine (Service) reported currently, lesser snow geese are counted by Service staff on two aerial surveys in Alaska each year: the Arctic Coastal Plain Survey and the Teshekpuk Lake Molting Goose Survey. Due to the cancelation of the 2020 Arctic Coastal Plain Survey, the most recent total bird index available for snow geese is the 2019 index (see Safine 2019). The 2020 Teshekpuk Lake Molting Goose Survey was canceled, and the most recent count available for snow geese is the 2019 index. The 2019 Teshekpuk Lake snow goose count from the traditional molt survey area was 7,215 adults and 3,804 goslings (Shults et al. 2020), 7% below the most recent 10-year average of 7,730 birds (2010–2019; calculated from results presented in Shults et al. 2020). The average annual growth rate of adult snow geese molting near Teshekpuk Lake calculated over the most recent 10 years (2010–2019) was 2% (95% CI = -5% to 9%) and 13% (95% CI = 11% to 15%) over the history of the survey (1976–2019; estimates based on results presented in Shults et al. 2020).

Vasiliy Baranyuk provided preliminary numbers from snow goose monitoring on Wrangel Island this summer. Breeding conditions for snow geese were excellent on Wrangel Island with Vasiliy estimating the 2020 spring population at 685,120. This number consisted of 428,000 breeding adults (from nest surveys), 153,000 yearlings, and approximately 104,000 non-breeding adults. The Tundra River colony (9140 ha.) contained 214,100 nests with 47% of all nests having four eggs, indicating very good breeding conditions in 2020. The nesting success was 91.0%. Considering the number of goslings in broods, about 730,856 goslings left the colony after hatch. This data is provided as a result of the Service funding and Service-Council contract for this work, and cooperation with Vasiliy, Russian Goose Group, and Wrangel Island Reserve.

**Harvest Information.** Washington reported a preliminary harvest through mandatory reporting in Goose Management Area 1 (Skagit-Delta Region) of 6,398 (5,674–7,486 95%CI).

Oregon reported 253 snow and one Ross's goose were harvested at Summer Lake Wildlife Area and 329 snow geese harvested at Sauvie Island Wildlife Area. These are the only two ODFW managed public hunting areas with huntable concentrations of white geese in Oregon. Additionally, the telephone survey of Northwest Permit Zone hunters (which Sauvie Island Wildlife Area is a part of) indicated an estimated harvest of 1,505 snow geese, up 209% from the previous season.

Idaho reported late winter harvest data for the 2019–20 seasons were not available but harvest is generally around 10,000 white geese.

California reported 5,482 white geese were harvested on public hunt areas only.

Nevada reported that no harvest survey questionnaire was conducted, and therefore, no data were available.

Alaska reported 7,471 (CI 56%) white geese were harvested during the subsistence hunt in 2018.

British Columbia reported Fraser River Delta Snow Goose Harvest 2019–2020: 2574 Snow Geese.

Management Activity. Vasiliy Baranyuk banded 1,000 geese on Wrangel Island in 2020 per our agreement.

Eric Reed (CWS) reported they couldn't band this summer but did send the following indirect reports: Locals report a very late spring on Banks Island, with 90% snow cover until the second week of June. They say production appears to be good and only non-breeders are flying now (mid-August). Based on his experience, this appears to be a very late season. Normally, production is poor in very late years. They plan on resuming banding in 2021.

This led to discussion on what to do about Banks Island collar funding money in 2020.

Suggestions included, but were not limited to:

1. Pacific Flyway proceeds as usual with a payment in FY 20, and the carry-over is used to fund operations in 2023 (to complete the 8 years of the program as currently planned).
2. No Flyway funding for FY 20 and resume funding for banding in 2021 and 2022.
3. Defer FY 20 funding to FY 21 and fulfill obligations to the full extent of the current agreement (i.e. 3 more years of banding, \$100,000 contribution overall from PF).

Caroline Brady (CWA) provided a summary of white geese marked with GSM transmitters by CWA for the USGS Dixon office. They marked 37 snow geese and 17 Ross geese.

Jason Schamber (AK) reported The North Slope Borough and Alaska Biological Resources, Inc. canceled banding at the Ikpikpuk River colony in summer 2020 due to coronavirus. The U.S. Geological Survey-Alaska Science Center (USGS-ASC) canceled banding on the Colville River Delta in summer 2020 due to coronavirus.

Research Activity. Ongoing - The USGS-ASC is developing an integrated population model of North Slope breeding snow geese informed by nest monitoring, mark-recapture data, and aerial brood surveys.

Recommendations. The subcommittee adopted the following recommendations:

The subcommittee recommends no change to the Alaska Season Framework or the Pacific Flyway light goose frameworks except:

- Increase the bag limit for light geese in Oregon to 20 per day, statewide and during the entire season framework.
- Increase the bag limit for light geese in Washington on or before the last Sunday in January to 10 per day and 20 per day thereafter.

## **Rocky Mountain Population Trumpeter Swans Subcommittee**

Blair Stringham, Utah Division of Wildlife Resources

Population Status. The most recent survey of the U.S. breeding segment the Rocky Mountain Population (RMP) of trumpeter swans was conducted during September (fall) 2019. The survey includes data from the tri-state region (Idaho, Montana, and Wyoming) and restoration flocks (Flathead Valley, Montana, Nevada, and Oregon). Fall survey data were used to monitor total number of white birds and cygnets fledged in relation to flyway management plan objectives.

Observers counted 906 swans (760 white birds and 146 cygnets) in 2019, a 13.4% decrease from the 2018 count of 1,043 (826 white birds and 217 cygnets). Plan objectives are 718 adults and subadults (white birds counted during the fall survey). The number of white birds has more than doubled over the last 20 years, from 347 in 1999.

The number of white birds in the Greater Yellowstone Area (542) decreased from the 2018 count of 600. The total number of cygnets decreased from 147 in 2018 to 76 in 2019.

The number of birds counted during the 2019 survey included: Idaho, 100 white birds and 14 cygnets; Montana Greater Yellowstone (Centennial Valley, Red Rock Lakes National Wildlife Refuge, Madison Valley), 280 white birds and 33 cygnets; Oregon (Malheur National Wildlife Refuge and southcentral Oregon) 36 white birds and four cygnets; Wyoming, 162 white birds and 29 cygnets; Nevada, five white birds and zero cygnets; and Flathead Valley, Montana, 177 white birds and 66 cygnets.

Washington reported Turnbull NWR had seven white birds (three pairs) this summer, and one successful nesting attempt that resulted in two cygnets.

The 2020 survey is scheduled to for the week of September 21,2020.

The 2020 North American trumpeter swan survey was discontinued this year.

Harvest Information. For the 2019–20 season, Utah reported a harvest of 1,188 tundra swans and 20 trumpeter swans; there was 95% species identification compliance. Nevada harvested 228 swans including three trumpeter swans. Montana reported 148 swans including seven trumpeter swans. Montana had over 80% compliance rates for bill card measurements.

Idaho will be holding their first swan hunt in north Idaho during Fall 2020. The hunt will take place in Benewah, Bonner, Boundary, and Kootenai counties from October 19 – December 1. Fifty tags were issued for this hunt and sold out in one minute, 35 seconds. Mandatory check and report are required of those hunters who harvest a swan. A swan hunting information webpage and orientation course have been created and posted to the Idaho Department of Fish and Game website.

Management Activity. Blackfoot Valley project in Montana released three yearlings in the spring 2020 (two from Wyoming Wetlands Society and one from the Montana Waterfowl Foundation). Releases of cygnets are planned for Blackfoot Valley and Middle Madison (MT), Teton Basin (ID), and YNP this September.

Oregon released nine yearlings this past spring, all of which were birds from TTSS's central Oregon captive pairs. They conducted an aerial survey to document nesting/brood rearing pairs

and summer white bird distribution in the region during late June. Two broods, already known from ground observations, were the only observations of successful breeding this spring in the region. In September, they plan to capture and neck band cygnets from two broods that were hatched at Summer Lake this spring. They also plan to conduct the Fall Survey in September, subject to change due to COVID-19 pandemic.

Seven trumpeter swans were illegally shot near Bozeman MT spring 2020; state representatives worked with law enforcement, but no suspects were identified. Samples of these birds were sent to Todd Katzner's lab (USGS) in Boise Idaho for isotope analyses.

The Greater Yellowstone Trumpeter Swan working group met in March 2020 there were approximately 40 people present from the Tri state area representing state, federal, and non-government organizations. A full day conference, facilitated by Dave Olson (Service) and Walter Wehtje (Ricketts Conservation Foundation), was held to discuss past objective and future goals, objectives, and relevancy of the group. All restoration project leads from Idaho, Montana, Oregon and Wyoming (Yellowstone National Park) presented annual reports to the Greater Yellowstone Trumpeter Swan Working Group (GYTSWG) this past winter; consequently, each project was eligible for Wyoming Wetlands Society (WWS) swans in 2020. The GYTSWG meeting is planned for mid-winter 2021 and will be chaired by Idaho. Priorities for restoration work, low cygnet availability for allocation, and Flyway management plan goals and objectives associated to restoration efforts and trumpeter swan releases will be discussed.

Washington received a BBL notification of a band that looks similar to Idaho coded tarsal band but no metal band. It is still unknown where the bird came from and when or who banded it.

Idaho is interested in releasing The Trumpeter Swan Society (TTSS) managed swans that are currently at Aspen Lake Golf Course, Oregon. Further genetic work is needed to determine if these birds are from RMP origins, and if suitable for release in Idaho.

Research Activity. In collaboration with the Wyoming Wetlands Society (Bill Long WWS) and Service (Greg Neudecker), and wildlife staff from Montana Fish, Wildlife, and Parks deployed seven GSM GPS collars on Trumpeter swans in Montana summer 2020; one in Pablo, one at Whitefish, two in Ovando, and two in Ennis. This is a cooperative project with the state of MT to determine migration patterns of the various populations and with the overarching intent to connect the US breeding segment with Canadian breeding birds. Feather samples were collected from all birds and submitted to Todd Katzner (USGS) for isotope analyses.

Utah is working with Wasatch Wigeons (a local conservation group) to collar trumpeter swans wintering in Utah during the winter of 2020. Capture efforts will be focused on northern Utah and Browns Park.

Oregon has three GPS/GSM neck collars they intend to deploy on wintering swans at Summer Lake this winter.

Bear Lake NWR and TTSS collared 6 to 8 trumpeter swans this summer.

Wyoming and WWS caught six swans at Fontenelle Reservoir this summer and three of the swans were fitted with GPS/GSM collars. WWS also GPS/GSM radioed 1 swan at Seedskadee NWR and one in Pinedale for a total of 5 GPS/GSM radios in the Green River expansion area.

Montana will try and recruit more field staff to collect feathers from hunter harvested trumpeters at Freezout this fall for feather isotope work. Other states will begin collecting feathers from potential trumpeter swan harvests this fall.

The Service and USGS are conducting a movement and demography study on swans, with one of the main goals being to assess if harvest is having population level impacts on RMP trumpeter swans. They will be doing feather isotope analysis and funding GSM collars for birds across the RMP range. They are also interested in having USGS house all GSM data for collared swans and can share the data with partners, if they are willing to share their data.

Recommendations. The subcommittee had two recommendations:

- The subcommittee recommends no new changes to the swan hunting framework in the Pacific Flyway.
- The subcommittee recommends inclusion of offspring from the following captive-reared trumpeter swans for release at Council approved sites:
  - 1) The Trumpeter Swan Society's pinioned Aspen Lakes Golf Course pair in Sisters, Oregon,
  - 2) The Montana Waterfowl Foundation's captive pair in Pablo, Montana.

There was one Information Note pertaining to the allocation of cygnets for release into Council approved sites.

**Off-cycle Products**  
(Approved since March 1, 2020)

# PACIFIC FLYWAY COUNCIL

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Nevada • New Mexico • Oregon • Utah • Washington • Wyoming



## Recommendation – Comments on the Proposed Rule and draft EIS “Migratory Bird Permits; Management of Conflicts Associated with Double-Crested Cormorants Throughout the United States”

### Recommendation

The Pacific Flyway Council (Council) approves a letter to the U.S. Fish and Wildlife Service (Service) regarding a proposed rule and draft Environmental Impact Statement to create a new state permit for management of double-crested cormorants (cormorants; *Phalacrocorax auritus*) throughout the United States.

### Justification

From 2003 to 2016, management of cormorants was authorized through depredation orders that addressed take of cormorants at aquaculture facilities in 13 states (50 CFR 21.47) and take of cormorants to protect public resources in 24 states (50 CFR 21.48). These depredation orders were vacated by the United States District Court in May 2016 and the authority for authorizing lethal take of depredating cormorants reverted to the issuance of individual depredation permits. The Service has proposed to establish a new permit for state and tribal wildlife agencies. The proposed rule expands cormorant management activities beyond the scope of current depredation permits by authorizing control of cormorants that impact wild and stocked fisheries.

The Council has provided comments to the Service in three previous letters regarding management of cormorants. Those letters included, among other things, a request for more flexibility for state wildlife agencies to manage cormorant conflicts, a request for the ability to authorize take of cormorants that impact state and federally listed fish populations and other fisheries, and opposition to a depredation order for the Western Population of cormorants.

The Council letter supports the proposed rule to establish a state and tribal permit. The letter also encourages the Service to strengthen monitoring strategies to inform assessment of take under the new authorization, to ensure federal funding to support monitoring activities, and requests further analysis of the proposed maximum allowable take for the Western Population of cormorants.

### Adoption

Pacific Flyway Nongame Technical Committee  
July 20, 2020

Contact: Joe Buchanan

  
Neil Clipperton, Chair

Pacific Flyway Council  
July 20, 2020



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Stafford Lehr, Chair

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# PACIFIC FLYWAY COUNCIL

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Alaska • Arizona • California • Colorado • Idaho • Montana  
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July 20, 2020

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

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

Dear U.S. Fish and Wildlife Service:

The Pacific Flyway Council (Council) is comprised of the fish and wildlife agencies of 11 western states responsible for science-based management and conservation of migratory birds. The Council, in collaboration with federal agencies in the United States, Canada, and Mexico, has responsibilities in setting migratory bird policy and regulations in the United States and contributes to migratory bird management and research throughout western North America. As such, Council has strong interest in laws that protect migratory birds.

With this letter, the Council is submitting comments on the proposed rule and draft Environmental Impact Statement (EIS) “Migratory Bird Permits: Management of Conflicts Associated with Double-Crested Cormorants (*Phalacrocorax auritus*) Throughout the United States.” The Council previously submitted comments on the advance notice of proposed rulemaking in a letter dated March 5, 2020. The proposed rule and preferred alternative in the EIS are consistent with comments made by the Council in that letter:

1. Expressed interest from some states in a permit for state wildlife agencies to manage cormorants that impact species of concern and wild and stocked fisheries
2. Requested the Western Population be treated as a distinct management unit for monitoring and permitting purposes
3. Requested continued monitoring to inform population status and effect of authorized take
4. Opposed a depredation order for aquaculture in the Pacific Flyway

The Council thanks the U.S. Fish and Wildlife Service (Service) for the opportunity to provide further comment on the rulemaking process, and provides feedback here on key questions raised by the proposed rule and EIS.

## **1. Monitoring strategy for take and abundance, including funding**

We recognize the importance of monitoring in a permit-based management program that includes take in ensuring the long-term stability of the double-crested cormorant population. Ongoing monitoring and post-management monitoring will be critical to the success of a new permitting process in balancing cormorant abundance and conflict. We request that the Service ensure that the monitoring strategy is strengthened and tested before any additional changes in policy or increase in take are implemented. The current monitoring strategy in place in the Pacific Flyway was designed to detect a 6% change in population size per year over a 10 year period, and may not be adequate to accurately represent the response of the Western Population to changes in take policy. We recommend that the monitoring strategy be designed to detect much smaller changes in the population, as this would reduce the likelihood of a dramatic population impact and would allow for nuanced application of adaptive management. An enhanced monitoring plan will require careful forethought and resource commitments from the Service and states. Any expectation of monitoring and reporting necessary to support the biologically sensitive implementation of this new permit must be backed with a robust program of federal funding to support the monitoring activity for its duration. It will be difficult for some states to engage in the permit process in the absence of substantial federal support for monitoring and assessment.

## **2. Analysis of maximum allowable take and allocation of take**

We reiterate a request that the Service include the Council in discussions regarding the development of procedures to prioritize and allocate take in this flyway. We have concerns about maintaining the long-term stability of the regional double-crested cormorant population within the context of policy changes related to lethal take. A conservative approach to determining allowable take that includes a robust analysis of the effects of management actions and adjustment is necessary to ensure any increase in allowable take in the Western Population is sustainable.

The Service developed a Potential Take Limit (PTL) model included in the EIS to evaluate maximum allowable take for each of the four populations of double-crested cormorants. The maximum allowable take determined by this model for the Western Population is 8,881 per year, representing an increase of almost four times the currently allowable take of approximately 2,300 individuals annually. The confidence interval for the projected size of the Western Population in the EIS is nearly as large as the point estimate: 51,163 [28,721; 72,690]; given this large confidence interval, states have concerns about increasing maximum allowable take by this magnitude and the potential that this could negatively impact the cormorant population.

The PTL model uses more conservative parameters for the Florida subpopulation compared to the other three populations (i.e., a management factor  $F_0 = 0.5$  was chosen for PTL modeling vs. an  $F_0 = 1.0$  for other populations). Given the smaller size of the Western Population, geographic isolation from the larger Central and Eastern populations, large confidence interval in projected size of the Western Population, and uncertainty of the continuation of long-term population monitoring, we believe that using a more conservative management factor for modeling PTL

similar to that used for the Florida subpopulation is warranted for the Western Population. The Council requests further analysis of the proposed maximum allowable take, and requests involvement in determining appropriate levels of take that are sensitive to population-specific management objectives, conflict, and population biology. As indicated above, we propose an adaptive process for implementing take, assessing its potential impacts on the cormorant population, and adjusting take levels as necessary. Development of this management approach, which would build from the current flyway approach, should be developed in partnership between the Service and the Pacific Flyway Nongame Technical Committee.

**3. Level of interest and participation in use of a new special permit by States and Tribes, and potential issues those entities would need to address**

Several states within the flyway are interested in a new permit with expanded take authorizations (e.g. wild and stocked fish). Some states are concerned about the acknowledged workload that will be transferred from the Service to states and the “more aggressive management” that is anticipated following implementation of a new permit. Included in this is a concern about the cost of flyway monitoring, which because of the flyway approach would likely include states that are not engaged in take activities; establishment of a monitoring program supported by the Service will be essential to addressing this concern. Lastly, some states are concerned that costs of permit management, reporting, and monitoring will detract from other species conservation work at the state or region level, much of which is already difficult to address due to funding limitations.

We appreciate the opportunity to comment on this proposed rule and EIS and welcome any questions regarding our feedback.

Sincerely,



Stafford Lehr, Chair  
Pacific Flyway Council