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 26-28, 2024

Jackson, Wyoming

for the

Pacific Flyway Council

August 30, 2024

Jackson, Wyoming

Fall 2024

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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Lower Colorado River Valley Sandhill Crane
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RECOMMENDATIONS

Recommendation 1 — Pacific Brant Harvest Strategy Revision

Recommendation

The Pacific Flyway Council (Council) adopts the revised population objective and harvest strategy to inform harvest management decisions beginning in the 2025-2026 hunting season.

Justification

This addendum updates the 2018 Management Plan (Plan) for Pacific Brant. The Plan identifies as a priority the need to improve the current management index (Winter Brant Survey; [WBS]) because the survey lacks a measure of precision. To address the shortcomings, the Service has developed a new fall photographic aerial survey (referred to as the Fall Brant Survey; [FBS]) at Izembek Lagoon, Alaska. The Pacific Flyway Pacific Brant Subcommittee approved replacing the WBS with the FBS to inform harvest management decisions at their February 2024 meeting. As such, the population objective and harvest strategy thresholds needed to be rescaled by a factor of 1.99 to fit the relationship between the WBS and FBS. In addition, the original closure and reopening thresholds will be maintained for consistency with other closure thresholds used for Pacific Flyway geese.

The harvest strategy will be revisited as new FBS data becomes available and additional analysis can be conducted to assess the thresholds.

The 2024 addendum to the Pacific brant harvest strategy* is as follows and would replace the harvest strategy, in part, found on page 15 of the plan:

The harvest strategy is intended to maintain a minimum Pacific brant population of 102,000 (black and Western High Arctic [WHA] brant combined) and to allow the population to increase toward the objective of 322,000 while maintaining fall-winter harvest opportunity. Similar to the population objective, harvest guidelines are based on the three-year average number of brant estimated during the fall photographic aerial survey at Izembek Lagoon, Alaska (fall brant survey [FBS]). If the annual FBS is not completed, the most recent 3-yr average will be substituted for the missing year.

A prescriptive harvest strategy is established as follows for fall/winter harvest seasons in Alaska, Washington, Oregon, and California.

Regulation Package	FBS (3-year average)
Closed[1]	<102,000
Restrictive	102,000–243,000
Moderate	243,001–293,000
Liberal	>293,000

Regulation Package	Restrictive	Moderate	Liberal	Framework Dates (All Packages)
AK	51 days 2 daily bag	107 days 2 daily bag	107 days 4 daily bag	September 1 through January 26
OR/CA	16 days 2 daily bag	27 days 2 daily bag	37 days 2 daily bag	Saturday closest to September 24 through December 15
WA	16 days 2 daily bag	27 days 2 daily bag	37 days 2 daily bag	Saturday closest to September 24 through last Sunday in January

[1]*If the population declines to a level which prescribes a closed brant season, a restrictive hunting season may not resume until the 3-year average population index surpasses 112,000 brant.*

*There is no change to the additional harvest guidelines for WHA Brant in Washington.

Adoption Contact: Melanie Weaver

Pacific Flyway Study Committee
August 28, 2024

Sean Yancey, Chair

Pacific Flyway Council
August 30, 2024

Doug Brimeyer, Chair

Recommendation 2 — Mourning Dove Harvest Strategy Technical Update

Recommendation

The Pacific Flyway Council (Council) recommends that the U.S. Fish and Wildlife Service update the current mourning dove harvest strategy by replacing the current discrete logistic model with the Integrated Population Model now available for the Western Management Unit (WMU).

Justification

The current Mourning Dove Harvest Strategy was endorsed by the Flyway Councils and Service Regulations Committee in 2013, with implementation beginning in 2014, and revised in 2017. The purpose of this strategy is to inform annual mourning dove harvest management decision in the three Management Units (Eastern, Central, and Western), with objectives to conserve mourning dove populations in the three management units and minimize annual regulatory change. Regulatory alternatives (packages) are prescribed for each Management Unit based on critical abundance thresholds. These thresholds represent a percentage of the population size expected when at maximum productivity (one half of carrying capacity or maximum sustained yield or MSY).

A discrete logistic model in a Bayesian framework has been used to estimate population parameters (intrinsic rate of growth and carrying capacity) and predict mourning dove abundance in the year subsequent to the extant data time series using an average of the previous three years for all three management units. The procedure involves repeated sampling and results in a distribution of predicted abundance estimates (posterior probability distribution). The distribution is broad when there is more uncertainty and narrow when there is less uncertainty.

The posterior probability distribution is used in a decision-analysis framework for setting harvest regulations relative to threshold abundance values. The harvest strategy requires that 85% of the distribution (confidence in the parameter estimate) be above the critical abundance threshold to prescribe a specific regulatory alternative. This corresponds to a credible interval (CI) of 70% for the parameter estimate (i.e., central 70% of the posterior probability distribution plus one half of the 2 remaining distributions [the upper half]). Thus, if the lower 70% CI for the predicted abundance falls below the critical abundance threshold value, the more restrictive regulatory alternative is prescribed. Using the lower credible interval provides incentive to reduce uncertainty in parameter estimation (spread in the posterior probability distribution) by maintaining and improving monitoring programs. The greater the uncertainty in the parameter estimate, the more frequent a restrictive regulatory alternative may be prescribed because there is less confidence the parameter is above the threshold value.

The decision rules currently differ among Management Units in the abundance values that would recommend a regulatory change, each based on the Unit's approximated maximum sustained yield. They also differ in season length associated with each regulatory package.

The current harvest strategy relies on estimates of abundance using the most recent monitoring data and a logistic model for prediction. The recent development of an Integrated Population Model for the WMU by Dr. David Koons and Dr. David Otis, with the assistance of the National Dove Task Force, represents a significant advancement in population estimation for the WMU. This model allows for parameter estimation that would not otherwise be estimable from any single dataset, reconciles bias among datasets, improves parameter precision, and provides insight into governing mechanisms of population dynamics. The model allows for spatiotemporal variation in vital-rate mechanisms, and accounts for heterogeneity in demographic parameters across states in the WMU. It relies on banding data, Parts Collection Survey, Harvest Information Program estimates, and Breeding Bird Survey datasets.

Although additional changes to harvest strategy objectives and structure are likely in the future, the Pacific Flyway believes this the best model available to estimate dove populations in the WMU.

Adoption Contact: Larisa Harding PhD

Pacific Flyway Study Committee
August 28, 2024

Sean Yancey, Chair

Pacific Flyway Council
August 30, 2024

Doug Brimeyer, Chair

Recommendation 3 — Western White-winged Dove Management Plan (revision)

Recommendation

The Pacific Flyway Council (Council) adopts the 2024 revised Management Plan for the Western White-winged Dove (Plan).

Justification

Western white-winged doves (*Zenaida asiatica mearnsi*) primarily occur in southern states (e.g., Arizona, California) of the Pacific Flyway and have been managed since the early 1990s within the Western Management Unit (WMU) with guidance from a management plan drafted in 1993 and revised in 2004. Western white-winged doves have increased in abundance over the last 30 years, and this revision employs survey data from the national Breeding Bird Survey (BBS) to model population numbers for management of western white-winged doves in the WMU within the Pacific Flyway. The Plan was provided to Council for their review during mid-July.

The Plan establishes four regulatory alternatives, where threshold values for each alternative use the most recent moving 3-year average BBS index value as a percentage of the long-term average index of abundance (i.e., birds/route) modeled from BBS data for white-winged doves in the WMU during 1968–2022. This metric indicates white-winged dove numbers have been relatively stable over the past 50 years in the WMU. Using these data to manage western white-winged doves aligns with management strategies for other columbiform birds in the WMU, specifically mourning doves (*Zenaida macroura*) and Pacific Coast band-tailed pigeons (*Patagioenas fasciata monilis*). The harvest strategy for western white-winged doves is intended to provide hunting opportunities commensurate with population status. The Plan also identifies three primary management issues on which to focus: population status, harvest assessment, and habitat.

Adoption

Pacific Flyway Study Committee
August 28, 2024

Sean Yancey, Chair

Contact: Larisa Harding PhD

Pacific Flyway Council
August 30, 2024

Doug Brimeyer, Chair

Recommendation 4 — Subsistence Season Framework

Recommendation

The Pacific Flyway Council (Council) endorses the Alaska Migratory Bird Co-Management Council's (AMBCC) recommended changes to the regulations for spring-summer subsistence harvest in Alaska (50 CFR § 92):

- The AMBCC recommended closing the spring-summer subsistence hunting season for emperor geese statewide in 2025.
- The AMBCC recommended the spring-summer subsistence harvest of migratory birds and their eggs in the Kodiak Island Roaded Area (KIRA) be continued as operational in the baseline regulations in 50 CFR § 92.31(e) (*Kodiak Archipelago region*), except with the registration permit and harvest reporting requirement removed. The species closures for Aleutian terns, Arctic terns, mew gulls, and emperor geese in the KIRA were retained.

Justification

The AMBCC is comprised of representatives from the U.S. Fish and Wildlife Service (Service), the Alaska Department of Fish and Game, and 10 Alaska Native Regional Management Bodies. Rationale for the proposed regulation changes by the AMBCC are as follows.

Emperor goose hunt:

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.

In 2024, the Coastal Zone index (18,788; 95% CL = 16,589–20,988 birds) was below the 23,000-bird threshold that triggers a closed season. Thus, in agreement with the Plan harvest strategy, the AMBCC recommended the 2025 spring-summer season be closed to hunting emperor geese statewide. Egg gathering statewide is currently closed under regulation.

Below is a suggested amendment to 50 CFR § 92, if the proposed regulation change is accepted:

50 CFR § 92.22 Subsistence migratory bird species.

(a) ***Family Anatidae.***

~~(1) Emperor Goose (*Anser canagicus*) – except no egg gathering is permitted.~~

Kodiak Island Roaded Area hunt:

In 2021, spring-summer subsistence harvesting of migratory birds and eggs was opened in the KIRA by registration permit with a harvest reporting requirement. The KIRA season was authorized as experimental for a 3-year period (2021–2023), after which the season was set to close and the AMBCC would evaluate data from the permit hunt to develop a regulatory proposal for future operational status of the KIRA season. In October 2023, the Service Regulations Committee extended the experimental period by 1 year through the 2024 season to continue hunting opportunity and provide additional time to complete the review and regulatory process for the 2025 season. Following the 2023 subsistence season, the AMBCC evaluated the harvest data from the experimental period to assess future operational status and structure of the KIRA season.

Based on permit report data the AMBCC determined harvest was low during the experimental period; the average harvest of migratory birds and eggs during 2021–2023 was 122 and 100, respectively. For context, the data can be compared to the reported harvest from the last survey of the Kodiak Archipelago region in 2020: residents in communities of a Kodiak subregion (communities that occur on the road system but hunted outside the KIRA, a much larger scale than the KIRA) harvested 3,768 migratory birds and 2,612 eggs during that spring-summer season (Naves and Mengak 2023). Assuming permit registrants in 2021-2023 were residents of the KIRA, and their hunt effort was similar to 2020, migratory birds and eggs harvested during the experimental period represented 3% (122/3,768) of total birds and 4% (100/2,612) of total eggs harvested in the subregion. Notably, the 2020 survey indicated that communities of the Kodiak subregion accounted for 98% of the migratory birds and 74% of the eggs harvested across the Kodiak Archipelago region. Based on this information, the AMBCC concluded that an operational spring-summer hunt in the KIRA is unlikely to significantly increase harvest across the Kodiak Archipelago region.

Participation in the permit hunt was low and slightly increased over the experimental period, evidenced by issued permits: 46 in 2001, 58 in 2002, and 64 in 2003. The AMBCC noted that the increase in participants over the experimental period was minimal, but future participation will be difficult to measure without a permit requirement. However, the AMBCC also recognized that a change in participation may be indirectly monitored through public reports and complaints to tribal organizations, Kodiak City government, local law enforcement, Alaska Department of Fish and Game, and U.S. Fish and Wildlife Service. If significant, the AMBCC may consider future surveys to assess substantial change in participation, and if warranted, propose regulatory changes to the KIRA season. Nonetheless, given the low participation during the experimental season, the AMBCC favored eliminating the permit and harvest reporting requirement, acknowledging that such requirements are not part of customary and traditional hunting practices, may be a barrier to Indigenous participation, and costly to administer (~$18K annually).

For the proposed operational KIRA season, the AMBCC opted to retain the species closures of Aleutian terns, Arctic terns, mew gulls, and emperor geese to protect species of conservation concern. Aleutian tern nesting colonies have declined by >80% in Alaska over the last 20 years, and only a few colonies remain on Kodiak Island, the largest of which are within the KIRA, and implementing protective regulations for these species is a priority of the AMBCC. Further, to offer additional protection for Aleutian terns, the season for Arctic terns and mew gulls will be closed to reduce incidental harvest and colony-level disturbance from targeted harvest, or nests and eggs being confused with those of Aleutian terns. The KIRA also would remain closed to emperor geese out of concern that an open season would provide unrestricted hunter access to a relatively small wintering population of emperor geese that utilize several bays near the road system, potentially increasing harvest vulnerability of a carefully managed

species.

Citation: Naves, Liliana C. and Lara, F. Mengak. 2023. Bird and Egg Harvest on the Aleutian-Pribilof Islands and the Kodiak Archipelago, 2020. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 493, Anchorage.

Below are suggested amendments to 50 CFR § 92 if the proposed regulation change is accepted.

50 CFR § 92.31 Region-specific regulations.

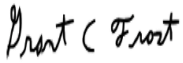
(e) ***Kodiak Archipelago region.*** ~~The Kodiak Island Roaded Area is open to the harvesting of migratory birds and their eggs by registration permit only as administered by the Alaska Department of Fish and Game, Division of Subsistence, in cooperation with the Sun'aq Tribe of Kodiak.~~ No hunting or egg gathering for Arctic terns, Aleutian terns, mew gulls, and emperor geese is allowed in the Kodiak Island Roaded Area. The Kodiak Island Roaded Area consists of that portion of Kodiak Island (including exposed tidelands) south of a line from Termination Point along the north side of Cascade Lake to Anton Larsen Bay and east of a line from Crag Point to the west end of Saltery Cove. Marine waters adjacent to the Kodiak Island Roaded Area within 500 feet from the water's edge are included in the Kodiak Island Roaded Area. The Kodiak Island Roaded Area does not include islands offshore of Kodiak Island. ~~A registration permit is not required to hunt on lands and waters outside the Kodiak Island Roaded Area.~~

Adoption

Pacific Flyway Study Committee — Contact: Jason Schamber
August 28, 2024

Sean Yancey, Chair

Pacific Flyway Nongame Technical Committee — Contact: Julie Hagelin
August 28, 2024



Grant Frost, Chair

Pacific Flyway Council
August 30, 2024

Doug Brimeyer, Chair

Recommendation 5 — Duck and Merganser Season Framework

Recommendation

The Pacific Flyway Council (Council) recommends no change to the duck season framework, except for an increase in the pintail daily bag limit.

Council recommends a 107-day season with a daily bag limit of 7 ducks and mergansers, including no more than 2 female mallards, 3 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, Council and the U.S. Fish and Wildlife Service (Service) adopted the Western Mallard Adaptive Harvest Management (AHM) Protocol 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 Service and their partners were able to perform the Waterfowl Breeding Population and Habitat Survey (WBPHS) and estimate waterfowl breeding populations as well as evaluate breeding habitat conditions in 2024. The Service continues to use current system models to estimate 2020-2021 population sizes which were not observed due to the COVID-19 pandemic. These estimates are based on the most recent information from monitoring programs, including harvest and harvest rate estimates observed during the 2020–2021 hunting seasons. Typical AHM protocols resumed with observations of key state variables and annual updates from monitoring programs; AHM decision frameworks were developed to inform duck hunting regulations based on the observed 2024 breeding population size and the regulatory alternatives selected for the 2024 hunting season.

After several years of extensive collaboration with the Pintail Working Group (PWG), a new interim AHM strategy is being implemented to inform northern pintail harvest regulations for the 2025 hunting season. This updated strategy is based on a new Integrated Population Model (IPM) that was developed by the PWG to better represent pintail population and harvest dynamics.

<u>Duck and Merganser</u>

The optimal regulatory alternative for the 2025 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 2024 hunting season, an observed 2023 breeding population size of

0.94 million mallards - 0.51 million in Alaska and 0.43 million in the southern Pacific Flyway - the optimal choice for the 2025 hunting season is the liberal regulatory alternative.

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

Northern Pintail

In 2010, the Service and Flyway councils adopted an adaptive management framework to inform harvest management decisions for northern pintails. After several years of experience, the Flyway councils expressed an interest in revisiting several key policy and technical issues associated with pintail AHM, including updating pintail data sources and the pintail population models, while also reconsidering the inclusion of a 3-bird daily bag limit. A Pintail Working Group (PWG) was established to oversee this effort and evaluate a number of alternative harvest strategies. As a result, all pintail monitoring datasets have been updated and analyzed with a newly developed IPM within a Bayesian estimation framework. After extensive consultation with each Flyway, the PWG recommended adoption of an interim adaptive harvest management strategy to inform pintail harvest regulations starting with the 2025–2026 hunting season. The new pintail harvest strategy would be implemented on an experimental basis until three seasons of a 3-bird bag limit have been realized while allowing for two years to analyze data and conduct a full evaluation of the interim strategy. Based on the results of a formal review of this evaluation, the adoption of an operational Northern Pintail Harvest Strategy will be considered and negotiated by the Flyways and the USFWS.

For pintail, the optimal regulatory alternative for the 2025 hunting season was calculated using: (1) an objective to maximize long-term cumulative harvest; (2) current regulatory alternatives and the closed-season constraint; and (3) the integrated population model for northern pintails. Assuming that harvest management adhered to this strategy (and that current models accurately reflect population dynamics), pintail breeding-population size would be expected to average 2.01 million with a mean observed harvest of 467,000 birds. Based on an observed 2024 breeding population size of 1.97 million pintails observed at a mean latitude of 57.02 degrees, the optimal regulatory choice for the 2025 hunting season for all four Flyways is the liberal regulatory alternative with a 3-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 2025 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 2024, an observed 2024 breeding population size of 4.07 million scaup, the optimal regulatory choice for

the 2025 hunting season for all four flyways is the restrictive regulatory alternative, with a 2-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 US 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 are 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 using fixed values for demographic variables would likely be sufficient to use as the framework for the DST. Results from the harvest potential 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 2 birds per day when the most recent population estimate is above 480,000. The committee recognizes 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 using the results of the DST to develop canvasback season recommendations.

Based on the 2024 survey results of 566,300 canvasbacks, the regulatory choice defined by the DST for the 2025 hunting season for all four flyways is the liberal regulatory alternative with a 2-bird daily bag limit. It is important to emphasize the DST is intended to be used in the short-term while the Service and the flyways continue to address long-term canvasback objectives.

Redhead

The 2-bird daily bag limit on redheads has primarily been based on concern for canvasbacks. Because redheads look similar to canvasbacks, managers generally agree that any increase in the redhead bag limit likely translates into increased canvasback harvest. Redhead regulations have been tied to canvasback regulations as far back as 1972. A 2-bird daily bag limit for redheads has been in place since at least 1973 in the Pacific Flyway.

Adoption Contact: Jeff Knetter

Pacific Flyway Study Committee
August 28, 2024

Sean Yancey, Chair

Pacific Flyway Council
August 30, 2024

Doug Brimeyer, Chair

Recommendation 6 — Alaska Season Framework

Recommendation

The Pacific Flyway Council (Council) recommends the U.S. Fish and Wildlife Service (Service) revise their Pacific brant harvest strategy (see 85 FR 51854 at 51860, August 21, 2020) based on the Council's revised harvest strategy (see Recommendation 1, Pacific Brant Harvest Strategy Revision) for use beginning with the 2025–2026 hunting season.

Council further recommends no changes to the Alaska season frameworks for the 2025–2026 season, except to close the fall-winter hunt of emperor geese and reduce the bag limit for Canada and cackling geese from 4 to 3 daily in Units 9, 17, and 18.

Council also recommends the 2025–2026 brant season framework for Alaska be determined based on the Council's Pacific brant harvest strategy, pending results of the 2024 Fall Brant Photographic Survey at Izembek Lagoon, Alaska (FBS). If results of the 2024 FBS are not available, the most recent FBS should be used.

Justification

Ducks: The current framework is a 107-day season and daily limits of 7–10 over five regulatory zones. Pacific Flyway duck regulations are based on Western Mallard Adaptive Harvest Management, which is defined by two substocks: (1) birds breeding in Alaska and the Yukon Territory, and (2) birds breeding in California, Oregon, Washington, and British Columbia. The 2024 estimated total breeding population size of western mallards was 0.94 million (SE: 0.06 million); combined totals of the Alaska-Yukon Territory (0.51 million; SE: 0.06 million) and California-Oregon-Washington-British Columbia (0.43 million; SE: 0.03 million). Based on these results, the prescribed regulatory alternative for the 2025–2026 hunting season in the Pacific Flyway is the liberal alternative. Alaska accounted for ~2.7% of the Pacific Flyway duck harvest in 2023.

Canvasbacks: The current bag/possession limit is 2/6 canvasbacks for Alaska. The 2024 breeding population estimate was 566,300 (SE: 52,300), which supports a Liberal 2 season for the 2025–2026 hunting season under the decision support tool. Since 2015, a decision support tool has been used as an interim strategy, and incorporates available information on population size, growth rate, survival, and harvest to derive an optimal harvest policy. The season is closed when the observed population is below 460,000, a 1-bird daily bag limit when between 460,000–480,000 and a 2-bird bag limit when above 480,000. The estimated fall-winter harvest of canvasbacks in Alaska from the Harvest Information Program was 107 in 2023.

Sea Ducks: The current sea duck bag/possession limits are 10/20, singly or in the aggregate, including no more than six each of either harlequin or long-tailed ducks. Lower limits are in place for nonresident hunters and all hunters in certain Game Management Units. Available population status and trends do not indicate adjustments to regulations are necessary. Sea ducks include scoters, mergansers, common and king eiders, harlequin ducks, long-tailed ducks. The season is closed for Steller's and spectacled eiders.

Geese: For goose populations with management strategies, many were above their population objectives (Table 1), or had prescribed regulatory restrictions in place (e.g., reduced limits for brant) for those below objectives. Consequently, no change is recommended in the Alaska frameworks except to close emperor goose hunting and reduce the daily bag limit to 3 birds for the 2025–26 season (see below).

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

	Recent Index		3-year Average Index				
Population	Estimate	Year	Estimate	Years	Mgmt Index	Objective	Obj. Status
Pacific white-fronted geese	422,896	2024	510,884	2022-2024	3-year avg	300,000	above
Midcontinent white-fronted geese	1,337,624	2022	2,280,067	2019-2022	3-year avg & harvest rate	1,200,000	above
Minima cackling geese	126,443	2024	175,055	2022-2024	3-year avg	250,000	below
Lesser Canada geese	2,694	2024	6,918	2019, 22, 24	No index	None	N/A
Taverner's cackling geese	38,293	2024	38,073	2022-2024	No index	None	N/A
Aleutian cackling geese	193,655	2024	205,975	2022–2024	3- year avg	60,000	above
Dusky Canada geese	8,150	2024	10,274	2022-2024	3-year avg	20,000	below
Vancouver Canada geese	No data				No index	None	
Emperor geese	18,788	2024	24,114	2022-2024	Single year	34,000	below
Pacific brant	107,772	2024	128,780	2022-2024	3-year avg	322,000	below
Western Arctic lesser snow geese	1,132,330	2023	1,099,232	2019, 22-23	3-year avg	300,000	above
Wrangel Island lesser snow geese	87,394	2022	93,999	2020-2022	3-year avg	70,000	above

Emperor Geese - The harvest strategy in the Council Management Plan for Emperor Geese (Plan) is based on using the indicated total bird index (index) from the Yukon-Kuskokwim Delta Coastal Zone Survey (Coastal Zone) to assess population status relative to prescribed regulatory thresholds. The harvest strategy in the Plan specifies the fall-winter hunt will be open with an annual quota of 1,000 birds 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 annual quota will be reduced to 500 birds. The 2024 emperor goose index was 18,788 (95% CI = 16,589–20,988), below the 23,000-bird threshold triggering a recommendation to close the 2025–26 fall-winter season.

Canada and cackling Geese - The 2024 management index for minima cackling geese was 126,443 geese and the most recent 3-year average (2022–2024) was 175,055 (Table 1); 30% below the population objective of 250,000. The harvest strategy in the Council's management plan for minima cackling geese specifies that if the 3-year average is 10% below the population objective (i.e., below 225,000), regulatory actions will be implemented to regain the objective. Band recovery data from hunter harvest of minima cackling geese indicates that most (~75%) of the fall-winter harvest occurs in northwest Oregon and southwest Washington, and the next highest in western Alaska. Initial bag limit reductions were enacted in 2022 in Washington, Oregon, and Alaska to reverse this negative trend. However, the population index continued to trend downward, and accordingly, Oregon and Washington have proposed reducing the 2025–2026 bag limit for Canada and cackling geese in relevant regions to 2 per day and shorten the season length from 107 days to 74 days. Therefore, Alaska, proposes to further reduce the bag limit for Canada and cackling geese in the western portion of the state (Units 9, 17, and 18) from 4 per day to 3 per day.

Western Tundra Swans: The current framework authorizes a permit hunt in Units 17, 18, 22, and 23 with no more than three swans allowed 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. In 2024, the breeding ground index was 74,181 (95% CI: 59,768–88,595) and the most recent three-year (2022–2024) average was 82,508 (95% CI: 64,641–100,374) swans; 38% above the management plan objective of 60,000 tundra swans.

Midcontinent Lesser Sandhill Cranes: The current framework is a daily bag of three cranes in Units 11–13 and 18–26. The spring 2024 photo-corrected estimate of abundance for sandhill cranes in the Central Platte River Valley was 420,840. The most recent 3-year average from 2022–2024 was 788,505, which exceeds the established population objective range of 350,000–475,000 cranes. The 2023 estimated fall-winter harvest in Alaska was 1,160 cranes, accounting for <2% of the harvest in the United States.

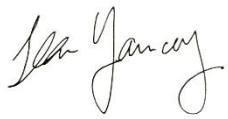
Pacific Population Lesser Sandhill Cranes: The current framework is a daily bag of two cranes in Units 1–10 and 14–17. Alaska is the only state that harvests this population. Currently, there is not a population specific survey that estimates abundance and trends. The 2023 fall-winter harvest estimate of cranes in Units 1–10 and 14–17 was 232 cranes.

Snipe: The current framework is a daily bag limit of 8 birds in all Units. The reported harvest of snipe during the 2023 fall-winter harvest in Alaska was 1,600±113%.

Falconry: The current framework is a daily bag limit of three birds. There are currently 47 registered falconers in Alaska that have a total of 31 falconry birds in possession. Migratory game bird harvest by falconry in Alaska is negligible.

Adoption Contact: Jason Schamber

Pacific Flyway Study Committee
August 28, 2024



Sean Yancey, Chair

Pacific Flyway Council
August 30, 2024

Doug Brimeyer, Chair

Recommendation 7 — Goose Season Framework

Recommendation

The Pacific Flyway Council (Council) recommends the U.S Fish and Wildlife Service (Service) revise their Pacific brant harvest strategy (see 85 FR 51854 at 51860, August 21, 2020) based on the Council's revised harvest strategy (see recommendation 1, Pacific Brant Harvest Strategy Revision) for use beginning with the 2025–2026 hunting season.

Council further recommends no change in the regular season framework for geese in the Pacific Flyway, except to:

- Allow a 3-segment season for white-fronted geese in Oregon's Mid-Columbia Goose Zone;
- Change the framework ending date for Canada and cackling geese in Oregon's Northwest Permit Zone and Washington's Area 2 Inland and Area 2 Coastal (Southwest Permit Zone) from March 10 to February 15;
- Reduce the season length for Canada and cackling geese in Oregon's Northwest Permit Zone and Washington's Area 2 Inland and Area 2 Coastal (Southwest Permit Zone) from 107 days to 74 days;
- Reduce the bag limit for Canada and cackling geese in Oregon's Northwest Permit Zone and Washington's Area 2 Inland and Area 2 Coastal (Southwest Permit Zone) from 3 per day to 2 per day; and
- Reduce the bag limit for Canada and cackling geese in Washington's Area 1 and 3 from 4 per day to 3 per day.

Council also recommends the 2025–2026 brant season framework for California, Oregon, and Washington be determined based on the Council's Pacific brant harvest strategy, pending results of the 2024 Fall Brant Photographic Survey at Izembek Lagoon, Alaska (FBS). If results of the 2024 FBS are not available, the most recent FBS should be used.

Justification

Monitoring activities over the last year indicated many goose populations are at or above objectives (Table 1). However, some populations have been trending downward and warrant framework restrictions,

Table1. Recent status of Pacific Flyway goose populations.

	Current population indices	Current three-year average	Population objective	Status relative to objective
Pacific Flyway western Canada geese	320,271 (2024)	392,534 (2022 - 2024)	200,000	above
Dusky Canada geese	8,150 (2024)	10,274 (2022 - 2024)	20,000	below
Lesser Canada geese	2,694 (2024)	6,918 (2019, 2022, 2024)	None	NA
Minima cackling geese	126,443 (2024)	175,055 (2022 - 2024)	250,000	below
Aleutian cackling geese	193,655 (2024)	205,975 (2022 - 2024)	60,000	above
Taverner's cackling geese	38,293 (2024)	38,073 (2022 - 2024)	None	NA
Pacific brant	245,172 (2023)	239,195 (2019, 2022 - 2023)	322,000	below
Pacific greater white-fronted geese	422,896 (2024)	510,884 (2022 - 2024)	300,000	above
Tule white-fronted geese	9,655 (2023)	11,466 (2021 - 2023)	10,000	above
Wrangel Island snow geese – Skagit-Fraser	87,394 (2022)	93,999 (2020 - 2022)	70,000	above
Western arctic snow geese in California	1,132,330 (2023)	1,099,232 (2019, 2022 – 2023)	300,000	above
Ross's geese (continental population)	1,100,523 (2022)	1,102,645 (2020 - 2022)	150,000	above

The addition of a 3-segment season for white-fronted geese in Oregon's Mid-Columbia Goose Zone will allow additional flexibility to hold white and white-fronted goose seasons (which are held concurrently). Harvest data suggests white-fronted geese are rarely encountered by hunters in this zone and the change is not expected to influence harvest levels.

Changes to the Canada and cackling geese framework bag limit, season length, and season timing in Oregon's Northwest Permit Zone and Washington's Southwest Permit Zone (permit zones) as well as bag limit changes for Canada and cackling in Washington's Areas 1 & 3 are intended to reduce harvest for minima cackling geese and to a lesser extent Taverner's cackling geese. The 3-year management index for minima cackling geese is 175,055, which is 30% below the objective of 250,000. Additionally, the two most recent estimates are 160,630 & 126,443, suggesting the current population size may be well below the 3-year average management index.

The Pacific Flyway Council's management plan for cackling Canada geese (Plan) specifies that when the population is below 225,000, actions should be taken to regain the objective. The index fell below this threshold in 2021 and at that time Council recommended the bag limit be reduced from 4 geese per day to 3 in the permit zones. However, the index has continued to decline and is now at the lowest level since 1994; the year harvest was reopened after a decade of closure.

The Plan does not prescribe specific actions to reduce harvest in response to indices below the threshold of 225,000. However, we believe a one-third harvest reduction in the permit zones, combined with

harvest reductions in other areas of the Flyway, will allow the population to stabilize and increase.

Analysis of harvest timing and bag frequency data in Oregon's Northwest Permit Zone, where two-thirds of the winter ground harvest occurs, suggests reducing the season length by three weeks and the bag limit to 2 geese per day in the permit zones would result in approximately a 34% reduction in harvest in the permit zones, where approximately 80% of the harvest occurs. It is possible additional reductions in harvest occur if a portion of hunters choose not to participate because of the bag limit reduction.

Additionally, harvest of geese late in the season (late February/early March) maybe more detrimental to the subsequent breeding population than harvest that occurs early in the season. Therefore, we recommend the removal of framework exception allowing the season ending date to extend to March 10 (the latest date possible under the Migratory Bird Treaty Act) in the permit zones. As a result, the framework season end date would default to February 15.

Furthermore, a bag limit reduction from 4 to 3 per day is recommended in Washington Areas 1 and 3 because 10% of the estimated minima cackling goose harvest during winter occurs in these areas.

Notification of changes to goose hunting zones in the Pacific Flyway

(Zone changes only require notification of the Flyway Representative)

In Idaho, modify Canada and cackling goose, and brant zones to better align with hunter preferences as described below:

Zone 1: Bonneville, Butte, Clark, Fremont, Jefferson, Madison, and Teton counties;

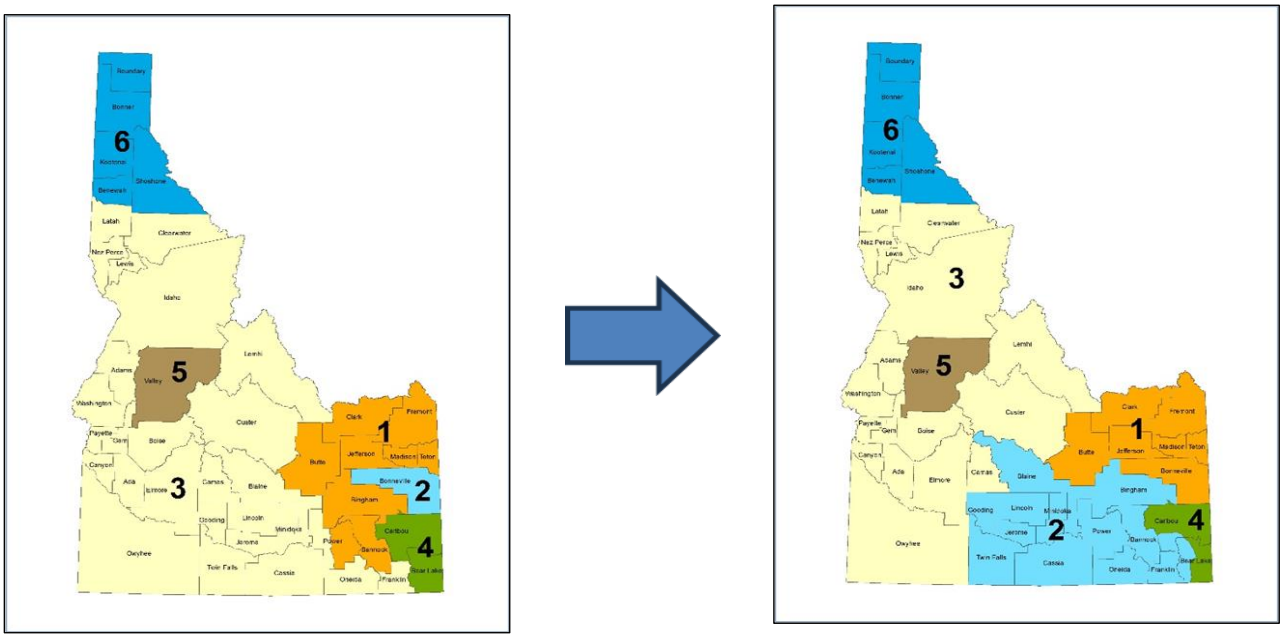
Zone 2: Bannock, Bear Lake County west of Highway 30 to Montpelier, south of Highway 89 to Ovid, and east of Highway 89 to the state line, Bingham County except that portion within the Blackfoot Reservoir drainage, Blaine, Caribou County south of Highway 30, Cassia, Franklin, Gooding, Jerome, Lincoln, Minidoka, Oneida, Power, and Twin Falls counties;

Zone 3: Ada, Adams, Boise, Camas, Canyon, Clearwater, Custer, Elmore, Gooding, Idaho, Latah, Lemhi, Lewis, Nez Perce, Owyhee, Payette, and Washington counties;

Zone 4: Bear Lake County east of Highway 30 to Montpelier, south of Highway 89 to Ovid, and east of Highway 89 to the state line, and Caribou County north of Highway 30;

Zone 5: Valley County;

Zone 6: Benewah, Bonner, Boundary, Kootenai, and Shoshone counties.



In Idaho, modify light goose zones to better align with hunter preferences as described below:

Zone 1: Bannock, Bear Lake, Bingham County east of the west bank of the Snake River, west of the McTucker boat ramp access road, and east of the American Falls Reservoir bluff, Bonneville County east of Interstate 15, Caribou, Clark County east of Interstate 15, Fremont, Jefferson County east of Interstate 15, Madison, Power County below the American Falls Reservoir bluff and within the Fort Hall Indian Reservation, and Teton counties;

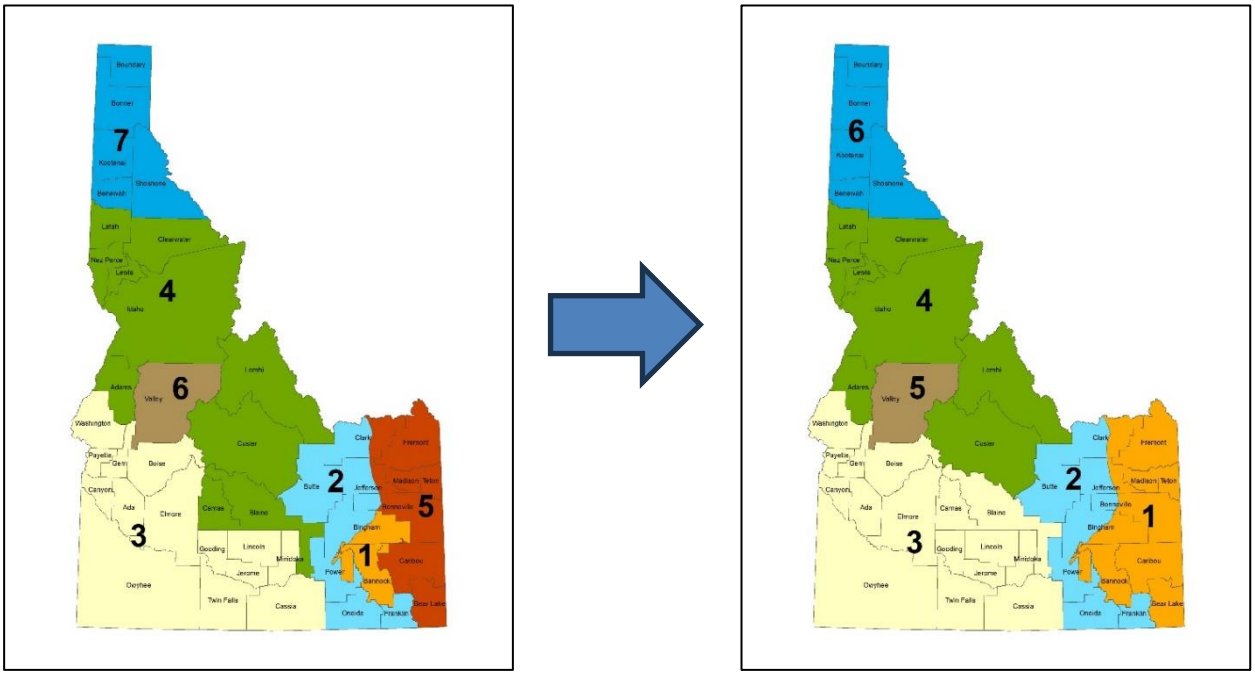
Zone 2: Bingham County west of the west bank of the Snake River, east of the McTucker boat ramp access road, and west of the American Falls Reservoir bluff; Bonneville County west of Interstate 15, Butte, Clark County west of Interstate 15, Franklin, Jefferson County west of Interstate 15, Oneida, and Power County, except below the American Falls Reservoir bluff and those lands and waters within the Fort Hall Indian Reservation;

Zone 3: Ada, Blaine, Boise, Camas, Canyon, Cassia, Elmore, Gem, Gooding, Jerome, Lincoln, Minidoka, Owyhee, Payette, Twin Falls, and Washington counties;

Zone 4: Adams, Clearwater, Custer, Idaho, Latah, Lemhi, Lewis, and Nez Perce counties;

Zone 5: Valley County;

Zone 6: Benewah, Bonner, Boundary, Kootenai, and Shoshone counties.



In Idaho, modify white-fronted goose zones to better align with hunter preferences as described below:

Zone 1: Bannock, Bear Lake, Bingham, Bonneville, Butte, Caribou, Clark, Fremont, Jefferson, Madison, Power County east of State Highway 37 and State Highway 39, and Teton counties.

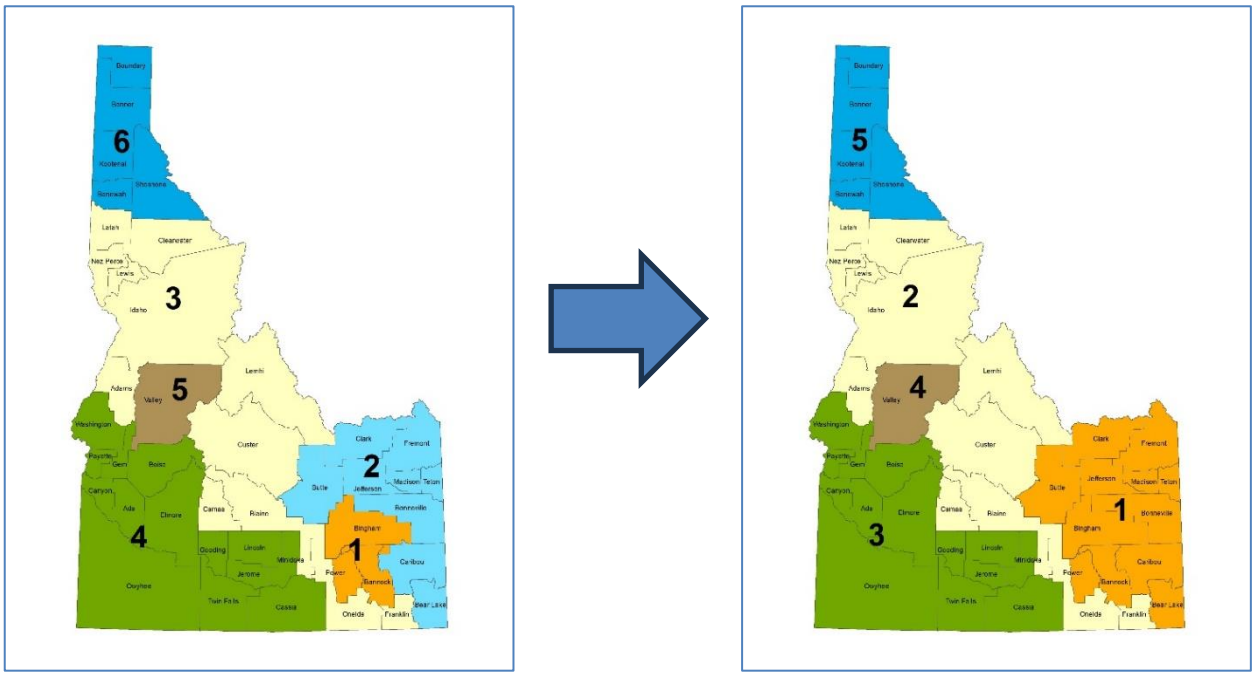
Zone 2: Adams, Blaine, Camas, Clearwater, Custer, Franklin, Idaho, Latah, Lemhi, Lewis, Nez Perce, and

Oneida counties; and Power County west of State Highway 37 and State Highway 39;

Zone 3: Ada, Boise, Canyon, Cassia, Elmore, Gem, Gooding, Jerome, Lincoln, Minidoka, Owyhee, Payette, Twin Falls, and Washington counties;

Zone 4: Valley County;

Zone 6: Benewah, Bonner, Boundary, Kootenai, and Shoshone counties.



Adoption

Contact: Brandon Reishus

Pacific Flyway Study Committee
August 28, 2024

Sean Yancey, Chair

Pacific Flyway Council
August 30, 2024

Doug Brimeyer, Chair

Recommendation 8 — Dove Season Framework

Recommendation

The Pacific Flyway Council (Council) recommends no change to the season framework for doves in the Western Management Unit (WMU), except to allow up to 15 white-winged doves in Arizona and California's daily bag limit.

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 two 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. The daily bag limit is 15 mourning and white-winged doves in the aggregate.

Justification

A mourning dove harvest strategy was endorsed by the Flyway councils and the Service Regulations Committee in 2013 for the Eastern, Central and Western Management Units with implementation beginning in 2014. The harvest strategy was revised in 2017 and updated in 2024 to replace the discrete logistic model with an Integrated Population Model (IPM).

The decision rules for each management unit share a common assessment framework:

1) An IPM to estimate population parameters and predict population abundance in the year after the extant data time series;
2) Critical abundance thresholds for regulatory changes based on 30% and 50% of approximated maximum sustained yield;
3) 85% confidence that the predicted abundance estimate exceeds the critical threshold that would trigger that regulatory change; and
4) Standard, Restrictive, and Closed regulatory alternatives consistent in daily bag limit across Management Units.

The predicted abundance of mourning doves and respective credible intervals for 2024 in the WMU is 50.70 million (70% CI: 42.39–58.94 million). The predicted abundance is consistent with the "Standard" regulatory package in each management unit.

The Pacific Flyway western white-winged dove management plan, adopted in August 2024, establishes a harvest management objective to maintain hunting regulations that meet overall objectives of the plan and align with the National Mourning Dove Harvest Strategy as part of an aggregate dove bag limit.

Threshold values for each alternative use the most recent moving 3-year average BBS index value as a percentage of the long-term average index of abundance modeled from BBS data for white-winged doves in the WMU during 1968–2022. The most recent index prescribes the 'Standard' alternative.

Adoption Contact: Kyle Spragens

Pacific Flyway Study Committee
August 28, 2024

Sean Yancey, Chair

Pacific Flyway Council
August 30, 2024

Doug Brimeyer, Chair

Recommendation 9 — Coot and Gallinule Season Framework

Recommendation

The Pacific Flyway Council (Council) recommends no change to the season framework for coot and gallinule. 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

The coot and gallinule season framework includes three gallinule species; however, only the common gallinule is likely to be encountered by hunters in the Pacific Flyway, and then only in the southwestern states.

The most current data from the North American Breeding Bird Survey (BBS) indicate 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). Average abundance during the most recent 2 years of data available (2018 and 2019) was 461,115 coots (SE = 90,855, 95% CI = 283,040–639,190; John Sauer, USGS, unpublished analysis).

The most current BBS data for American coot indicate no trend in abundance in the 12 western states during the long-term (1968–2019; annual percent change = -0.46, 95% CI = -2.18–0.76) and recent 10 years (2009–2019; annual percent change = 0.40, 95% CI = -3.79–4.43). The most current BBS data for common gallinule indicate no trend in abundance during 1968–2019 (long-term; annual percent change = -2.79, 95% CI = -5.81–0.22) or 2009–2019 (most recent 10 years; annual percent change = -6.01, 95% CI = -16.25–5.11) in California where most gallinules in the Pacific Flyway occur.

Adoption Contact: Sean Yancey

Pacific Flyway Study Committee
August 28, 2024

Sean Yancey, Chair

Pacific Flyway Council
August 30, 2024

Doug Brimeyer, Chair

Recommendation 10 — Interior Band-tailed Pigeon Season Framework

Recommendation

The Pacific Flyway Council (Council) recommends no change to 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 Interior band-tailed pigeons was 1,366 birds in 2023, up from 608 in 2022. The Breeding Bird Survey estimates that interior band-tailed pigeon numbers have been declining approximately 2.1% per year over 1968–2022, indicative of a low and stable trend. There is 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 (except Arizona) has a permit system required for anyone hunting band-tailed pigeons. This should provide a better sampling frame to increase the accuracy of harvest estimates.

Adoption Contact: Adam Behney

Pacific Flyway Study Committee
August 28, 2024

Sean Yancey, Chair

Pacific Flyway Council
August 30, 2024

Doug Brimeyer, Chair

Recommendation 11 — Pacific Coast Band-tailed Pigeon Season Framework

Recommendation

The Pacific Flyway Council (Council) recommends no change to 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 and January 1, a season length of nine consecutive days, a daily bag limit of 2 birds, and a possession limit of 6 birds. California may select seasons in 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

The prescribed regulatory alternative for California, Nevada, Oregon, and Washington is the restrictive regulatory alternative. This is based on the harvest strategy in Council's management plan for Pacific Coast band-tailed pigeons and the results of the 2024 Mineral Site Survey (MSS). Assessment of the MSS data suggested no significant trend in the median annual count of Pacific Coast band-tailed pigeons observed at mineral sites during the long-term (2004–2024), last ten years (2015–2024) and last five years (2020–2024), indicating no evidence for a change in the abundance of Pacific Coast band-tailed pigeons over those time periods.

Adoption

Contact: Melanie Weaver

Pacific Flyway Study Committee
August 28, 2024

Sean Yancey, Chair

Pacific Flyway Council
August 30, 2024

Doug Brimeyer, Chair

Recommendation 12 — Rail Season Framework

Recommendation

The Pacific Flyway Council (Council) recommends no change to the season framework for sora and Virginia rails.

Council recommends a framework including sora and Virginia rails in the Pacific Flyway portions of Colorado, Montana, New Mexico, and Wyoming with a season length of 70 days and daily bag and possession limits of 25 sora and Virginia rails 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 U.S. states during the long term (1968–2019) and most recent 10 years (2009–2019; John Sauer, USGS, unpublished analysis). For Virginia rail, the estimated annual percent change during the long term was 0.21 (95% credible interval = -1.28–1.13, routes = 117) and short term was 0.27 (95% credible interval = -2.25–3.12, routes = 44) indicating stable abundance during both time periods. For sora, the estimated long-term annual percent change was 1.16 (95% credible interval = 0.10–2.10, routes = 306) and short term was 4.51 (95% credible interval = 1.7–7.83, routes = 175) indicating increasing abundance over both time periods.

Adoption

Contact: Russell Woolstenhulme

Pacific Flyway Study Committee
August 28, 2024

Sean Yancey, Chair

Pacific Flyway Council
August 30, 2024

Doug Brimeyer, Chair

Recommendation 13 — Snipe Season Framework

Recommendation

The Pacific Flyway Council (Council) recommends no change to 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 8, and possession limit of 24. Season length 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 indicated Wilson's snipe abundance was stable in the 12 western U.S. states during the long term (1968–2019) and most recent 10 years (2009–2019; John Sauer, U.S. Geological Survey, unpublished analysis). The estimated annual percent change during the long term was -0.64% (95% credible interval = -1.67–0.21, routes = 642) and short term was -1.21 (95% credible interval = -2.91–0.47, routes = 433) indicating stable abundance during both time periods.

Adoption Contact: Russell Woolstenhulme

Pacific Flyway Study Committee
August 28, 2024

Sean Yancey, Chair

Pacific Flyway Council
August 30, 2024

Doug Brimeyer, Chair

Recommendation 14 — 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. Allowable harvest will be determined by the formula described in the Pacific and Central Flyway Management Plan for the Rocky Mountain Population of Sandhill Cranes pending results of the 2024 fall abundance and recruitment surveys.

Justification

The Pacific and Central Flyway Management Plan for RMP sandhill cranes specifies allocation of allowable crane harvest based on fall surveys if the 3-year average of the fall population index exceeds 15,000. The most recent 3-year average (2021–2023) is 23,287 cranes. The 3-year average fall population index has never fallen below 15,000 in the history of the survey (since 1997).

Adoption

Contact: Larisa Harding PhD

Pacific Flyway Study Committee
August 28, 2024

Sean Yancey, Chair

Pacific Flyway Council
August 30, 2024

Doug Brimeyer, Chair

Recommendation 15 — Swan Season Framework

Recommendation

- The Pacific Flyway Council (Council) recommends no change to the season framework for swans in the Pacific Flyway:

In portions of the Pacific Flyway (i.e., 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 individual states and authorize each permittee to take no more than one swan per season with each permit. Only one permit may be issued per hunter in Idaho, Montana, and Utah. Two permits may be issued per hunter in Nevada. The total number of permits issued may not exceed 50 in Idaho, 500 in Montana, 750 in Nevada, and 2,750 in Utah.

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

Monitoring: Each state must evaluate hunter participation, species-specific swan harvest, and hunter compliance by 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 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% in the respective state. Each state must provide to the U.S. Fish and Wildlife Service (Service), by June 30 following the swan season, a report detailing hunter participation, species specific swan harvest, and hunter compliance in reporting harvest. In Montana, all hunters that harvest a swan must complete and submit a harvest report with bill measurement and color information from the harvested swan within 72 hours of harvest for species determination. In Idaho, Nevada, and Utah, 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 a 3-year average of the breeding ground index, which includes the combined total bird indices from the Waterfowl Breeding Population and Habitat Survey (Strata 8-11) and the Yukon Kuskokwim Delta Coastal Zone Survey (Pacific Flyway Council 2017). The 2024 breeding ground index was 74,181 (95% CI: 59,768–88,595) and the most recent 3-year (2022–2024) average was 82,508 (95% CI: 64,641–100,374) swans, 38% above the management plan objective of 60,000 tundra swans.

Adoption Contact: Jason Jones

Pacific Flyway Study Committee
August 28, 2024

Sean Yancey, Chair

Pacific Flyway Council
August 30, 2024

Doug Brimeyer, Chair

Recommendation 16 — 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 may be selected during September 1–20. The daily bag limit may not exceed 5 Canada and cackling geese, except in Pacific County, Washington, where the daily bag limit may not exceed 15 Canada and cackling geese. Areas open to hunting of Canada and cackling geese in each state must be described, delineated, and designated as such in each state's hunting regulations.

Justification

The objective of the special early Canada and cackling goose season is to control or decrease abundance of resident Canada geese and to provide hunting opportunity. Resident Canada geese in the Pacific Flyway are generally part of the Pacific Flyway Population (PFP) of western Canada geese.

The population index for PFP western Canada geese is based on results of the Waterfowl Breeding Population and Habitat Survey (i.e., strata 76, and portions of strata 26–29 and 41–42) plus state/provincial breeding waterfowl surveys in British Columbia, Washington, Oregon, and California. The most recent (2024) breeding population estimate for PFP geese is 320,271 (SE = 48,171), a 16% decrease from the long-term average (379,340). The current estimate is 96% over objective of maintaining at least 200,000 total birds based on 3-yr mean (392,534).

Adoption Contact: Russell Woolstenhulme

Pacific Flyway Study Committee
August 28, 2024

Sean Yancey, Chair

Pacific Flyway Council
August 30, 2024

Doug Brimeyer, Chair

Recommendation 17 — Special Falconry Season Framework

Recommendation

The Pacific Flyway Council (Council) recommends no change to the special season framework for extended falconry seasons. In accordance with 50 CFR 21.82, falconry is a permitted means to take migratory game birds in any State except for Hawaii. States may select an extended season for taking migratory game birds in accordance with the following:

Outside dates are September 1–March 10. For all hunting methods combined, the combined length of the extended season, regular season, and any special or experimental seasons must not exceed 107 days for any species or group of species in a geographical area. Each extended season may be split into three segments. Falconry daily bag limits for all permitted migratory game birds must not exceed three birds in the aggregate, during extended falconry seasons, any special or experimental seasons, and regular hunting seasons in each State, including those that do not select an extended falconry season. The possession limit is three times the daily bag limit. General hunting regulations, including seasons and hunting hours, apply to falconry. Regular season bag limits do not apply to falconry. The falconry bag limit is not in addition to shooting 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. When waterfowl season frameworks are 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

Contact: Jason Jones

Pacific Flyway Study Committee
August 28, 2024

Sean Yancey, Chair

Pacific Flyway Council
August 30, 2024

Doug Brimeyer, Chair

Recommendation 18 — 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 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, 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) to 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.

Adoption Contact: Kyle Spragens

Pacific Flyway Study Committee
August 28, 2024

Sean Yancey, Chair

Pacific Flyway Council
August 30, 2024

Doug Brimeyer, Chair

Recommendation 19 — Harvest Management Working Group Priorities

Recommendation

The Pacific Flyway Council (Council) endorses the 2025 priority rankings and project leads for technical work as proposed by the Harvest Management Working Group (HMWG) in July 2024 with the following change,

- Council recommends the "Western Mallard Adaptive Harvest Management (AHM) Revision" be removed from the list.

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. Recommendations are then forwarded to the Service Regulations Committee (SRC) for consideration at their fall regulatory meeting.

Council recognizes the DMBM will likely continue to face budget constraints into the future, and that difficult decisions regarding long-term implementation of operational programs may need to be made. Council also recognizes cooperative monitoring programs for North American migratory game birds are vitally important for conservation of these birds.

Proposed Pacific Flyway Council 2025 Harvest Management Working Group Priorities

Priority rankings, project leads identified for technical work:

Highest Priorities (Urgent and Important)

- Reconsideration of North American Duck Harvest Management (Flyway Councils, DMBM)
- Evaluate implications of changes in monitoring frequency on adaptive harvest management performance (Flyway Councils, DMBM, USGS)
- Evaluation of Experimental two-tier license system (Central Flyway, DMBM)
- Scaup AHM revision/Assessment of diving duck harvest capacity (Flyway Councils, DMBM)

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

- Time-dependent optimal solutions to address system change (USGS, DMBM)

Additional Priorities

- Revisiting the Northern Pintail AHM Strategy (Flyway councils, USGS, DMBM)

Council recognizes reconsideration of duck harvest management in the United States is the highest priority for the DMBM and with the reduced capacity under which they are operating, this issue will demand nearly 100% of staff time. Council reiterates their commitment to assist the Service in developing innovative solutions to advance conservation and management of North American duck

populations. However, until such time that agreed upon changes are implemented, Council asserts that all partners continue to conduct the information collection necessary to inform the current harvest management system.

While Council recognizes the DMBM has few resources to devote to other priorities in 2025, we do believe a revision of the Scaup AHM Strategy is warranted. The scaup population, while still relatively abundant, has been at levels in the past several years where the AHM protocols nearly called for a closed season. This strategy was first implemented in 2008 and predictive harvest models were updated in 2013. Given the advancements in population modeling and lessons learned during the revision of the Northern Pintail AHM strategy, we believe the framework exists to revise and improve the scaup strategy. Recognizing the reduced capacity for the DMBM to put forth towards a revision, Council stands ready with the other councils to work towards a revision and hopes the DMBM will be able to participate.

Council recognizes the western mallard AHM revision has been an additional priority for many years. After western mallard AHM was implemented in 2008, there was a desire to incorporate information from other Pacific Flyway areas and this was gradually accomplished with the inclusion of breeding population information from Washington and British Columbia, as well as banding information from Idaho. However, at this time we do not foresee the addition of any further information from Pacific Flyway areas and recommend this priority be removed.

Council agrees with the inclusion of a new additional priority to revisit the northern pintail harvest strategy, now that interim strategy has been implemented. The flyways and DMBM committed to a thorough review of the strategy once three years of experience with a L3 was attained, and Council remains committed to do so.

Adoption Contact: Brandon Reishus & Jason Schamber

Pacific Flyway Study Committee
August 28, 2024

Sean Yancey, Chair

Pacific Flyway Council
August 30, 2024

Doug Brimeyer, Chair

Recommendation 20 — Nongame Technical Committee AFWA Bird-Fish Conflict Working Group Representation

Recommendation

The Pacific Flyway Council (Council) approves the following change to Nongame Technical Committee representation on the AFWA Bird-Fish Conflict Working Group:

- Jessica Stocking (Washington) will replace Emily VanWyk (Oregon).

Justification

The Nongame Technical Committee has assigned representation on the Bird-Fish Conflict Working Group based on interest and expertise. The above assignment for Pacific Flyway representation is a better fit due to Oregon's existing, non-NTC, participation in the group and Washington's increasing involvement in regional bird-fish conflict conversations. As of 2024, this group is not currently active, but travel expenses for representation will be requested from Council when active.

Adoption

Contact: Shannon Skalos

Pacific Flyway Nongame Technical Committee
August 28, 2024

Grant C Frost

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Grant Frost, Chair

Pacific Flyway Council
August 30, 2024

Doug Brimeyer

_____
Doug Brimeyer, Chair

Recommendation 21 — Nongame Technical Committee Conservation Partners Liaison

Recommendation

The Pacific Flyway Council (Council) recommends the following change to Nongame Technical Committee representation as the Conservation Partners Liaison:

- Emily VanWyk (Oregon) will replace Shannon Skalos (California).

Justification

The Nongame Technical Committee has assigned representation to the Conservation Partners Liaison position based on interest and expertise. Travel expenses for representation to Partners in Flight Western Working Group meetings are covered by Council funds.

Adoption Contact: Shannon Skalos

Pacific Flyway Nongame Technical Committee
August 28, 2024

Grant C Frost

_____

Grant Frost, Chair

Pacific Flyway Council
August 30, 2024

Doug Brimeyer

_____

Doug Brimeyer, Chair

Recommendation 22 — Letter of Recognition for Tracey Gotthardt

Recommendation

The Pacific Flyway Council (Council) approves sending the attached letter for Alaska Department of Fish and Game's Threatened, Endangered and Diversity Coordinator Tracey Gotthardt, who served as a member of the Nongame Technical Committee from 2023–2024.

Justification

Please see attached letter.

Adoption Contact: Julie Hagelin
Pacific Flyway Nongame Technical Committee
August 28, 2024

Grant C Frost

_____
Grant Frost, Chair

Pacific Flyway Council
August 30, 2024

Doug Brimeyer

_____
Doug Brimeyer, Chair

PACIFIC FLYWAY COUNCIL

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Nevada · New Mexico · Oregon · Utah · Washington · Wyoming

August 8, 2024

Tracey Gotthardt
U.S. Fish and Wildlife Service
300 Ala Moana Boulevard, Room 3-122
Honolulu, HI 96850

Dear Tracey,

On behalf of the Pacific Flyway Council (Council), I recognize and thank you for your year of service (2023-2024) and contributions to the management of migratory bird populations in the Pacific Flyway as a member of the Nongame Technical Committee (NTC).

You represented Alaska diligently in addition to your full-time duties as the Coordinator of the Statewide Threatened, Endangered and Diversity Program at the Alaska Department of Fish and Game. Your participation occurred at a time when the NTC experienced high turnover, yet as a new member, you helped determine insightful ways to onboard people efficiently and transfer information. You also helped advance discussion about the decline of aerial insectivores, one of the NTC's current priority initiatives. Finally, you did not hesitate to take on the duty of chairing the Raptor subcommittee in 2024 to address key issues, such as the new Golden Eagle Incidental Take rule.

Members described your energy, professionalism and approachability as a model NTC colleague. Your careful consideration of complex topics always demonstrated positivity and was driven from a place of curiosity and an enthusiasm for learning. We appreciate and acknowledge the efforts you invested in the success of the NTC and the Council.

We wish you well in your new endeavors and in all that lies ahead. Thank you again for your service to the NTC.

Sincerely,

Doug Brimeyer

Doug Brimeyer
Chair, Pacific Flyway Council

Recommendation 23 — Letter of Recognition for Jonathan Young

Recommendation

The Pacific Flyway Council (Council) approves sending the attached letter for Nevada Department of Wildlife, Biodiversity Staff Specialist, Jonathan Young, who served as a member of the Nongame Technical Committee from 2023–2024.

Justification

See attached letter.

Adoption Contact: Grant Frost

Pacific Flyway Nongame Technical Committee
August 28, 2024

Grant C Frost

_____
Grant Frost, Chair

Pacific Flyway Council
August 30, 2024

Doug Brimeyer

_____
Doug Brimeyer, Chair

PACIFIC FLYWAY COUNCIL

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

August 28, 2024

Jonathan Young
Nevada Department of Wildlife
Reno, NV 89511

Dear Jon,

On behalf of the Pacific Flyway Council (Council), I recognize and thank you for your year (July, 2023 – April, 2024) of dedicated service and contributions to the management of migratory bird populations in the Pacific Flyway as a member of the Nongame Technical Committee as the Nevada representative.

You represented Nevada diligently in addition to your full-time duties as the Staff Specialist and Coordinator for projects occurring across the state in the Biodiversity Division at the Nevada Department of Wildlife. In your time with the NTC, you participated whole-heartedly and helped advance the group and the discussions to more thoughtful and proactive approaches. You brought your experience and expertise in species management and subcommittee participation, as well as collaborated with other members to make annual surveys a success.

Even though you were a new member, a volant mammal expert, and only able to participate for a short period of time, NTC members appreciated your energy, professionalism, decorum, and openness to both learn and provide feedback for the group - even if you were not sitting at the table in person. We all appreciate your positive attitude and enthusiasm as part of the NTC and Pacific Flyway, and we know that you'll still offer help if asked.

We wish you well in your future endeavors and in all that lies ahead. Thank you again for your service to the Pacific Flyway Nongame Technical Committee.

Sincerely,

Doug Brimeyer

Doug Brimeyer
Chair, Pacific Flyway Council

Recommendation 24 — Ad Hoc Flyway Engagement 2025 Budget

Recommendation

The Pacific Flyway Council (Council) recommends funding a line item of $12,600 in the 2025 budget to support continued actions implemented through the Ad Hoc Flyway Engagement Subcommittee (Subcommittee).

Justification

The Subcommittee has identified priority items for calendar year 2025 at a cost of $12,600. Specific sub items fall within categories approved by Council in March 2024. Funds will specifically support August Council meeting participation by invited international collaborators and a winter meeting symposium. Invited partners will be selected through the application of transparent criteria that will be developed in fall 2024.

Categories of future efforts of the Subcommittee in the Flyway

Translation services

1. Live translation services are needed to support international collaboration and presentations in languages other than English. These services may be necessary to support online and in-person meeting participation by international partners. The cost for services is estimated at $400-$600 for a half day at a specified meeting.
2. To ensure research and gray literature relevant to Pacific Flyway priorities is accessible to Council, it is necessary to acquire technical writing translation services. Funding translation of these documents to English will facilitate availability of this research to other audiences. The Subcommittee will assess and prioritize opportunities to translate Pacific Flyway content including, but not limited to bylaws, into languages other than English to facilitate better communication and partnerships.

Sponsorship of conferences that align with Flyway priorities and attendance at conferences by Flyway members

During the August 2023 meeting, Council requested the Subcommittee support development of skills and interest in migratory bird conservation and management by early career biologists and students whose work is relevant to the Pacific Flyway. Opportunities that may be explored to raise the profile of the Pacific Flyway include the national and regional meetings of the Native American Fish and Wildlife Society, American Ornithological Society, Western Hemisphere Shorebird Group meeting, and others as well as other entities including universities.

Attendance at conferences by Pacific Flyway members can facilitate further connection with partners. For example, the Subcommittee proposes to provide funding for a member to attend the National Native American Fish and Wildlife Society annual meeting and provide a brief presentation on the identity and priorities of the Pacific Flyway. This would serve as a first step connection with tribal partners as a Flyway and support efforts to continue to learn about opportunities for collaboration. Funding will be provided up to $2000.

Sponsorship of travel

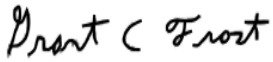
The Subcommittee proposes to continue allocating funds to support travel by invited partners, following the success of presentations provided in August 2023 and August 2024. Sponsorship would fall into two main categories: 1. invited partner presentations and 2. travel award funds that would be available following fair and transparent criteria. The Subcommittee proposes to have a standing agenda item for $2,000 at August meetings where an invited partner provides a presentation on shared priorities. The travel award fund could provide travel grants for students or invited researchers who would not otherwise attend flyway meetings to present their research and provide an opportunity to better understand the Flyway process. Each technical committee would solicit students and researchers that could present research relevant to the Flyway: $4,000 for each technical committee.

Adoption Contact: Emily VanWyk

Pacific Flyway Study Committee
August 28, 2024

Sean Yancey, Chair

Pacific Flyway Nongame Technical Committee
August 28, 2024



Grant Frost, Chair

Pacific Flyway Council
August 30, 2024

Doug Brimeyer, Chair

Recommendation 25 — Nongame Technical Committee Priority Survey Funding

Recommendation

The Pacific Flyway Council (Council) endorses the approval of a budget amendment for a line-item reflecting $10,000 annually for three years. Funding will support timely implementation of high priority Nongame Technical Committee (NTC) avian survey, monitoring, and analysis work as identified by the Council, including piscivorous birds and the four Council-approved Priority Initiatives (aerial insectivores, shorebirds/waterbirds, grassland birds, and landbird migratory pathways).

Justification

Surveys for species that are priorities for the NTC have primarily been funded on a state-by-state basis to date, with each individual state responsible for finding necessary funds. On multiple occasions, limited funding availability or awkward timing has hindered implementation of surveys, including gaps in data collection for high priority efforts like American white pelican that result in broad confidence intervals that are not adequate for informing management actions throughout the Flyway. In survey years, states spend an inordinate amount of time pulling together funds from disparate sources to meet the need, and this strategy is not always successful. Additionally, the time involved in this effort is costly and inefficient.

Council has previously identified this as an inefficiency that hinders the implementation of Council-approved work, and in an August 2023 discussion, Council recommended the NTC assess opportunities to fill this gap and make a recommendation to Council in August 2024 on funding needs that could alleviate this challenge. Council encouraged the NTC to seek Council funding to address immediate priority needs, recognizing that the current high carryover balances provides a unique opportunity to get priority survey work completed on the ground.

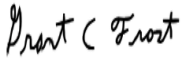
Over time, the NTC has demonstrated a consistent need for funding for surveys, such as pelicans or cormorants and an ability to creatively identify funds and resources that can be leveraged to advance priority work. A stable identified line item in the budget would decrease time invested in securing funding and would allow the NTC to focus time and efforts on getting work completed on the ground. Completing these surveys will improve the ability of the Flyway states to take conservation actions as needed with increased confidence in the understanding of a given species status.

Priority efforts for the NTC include piscivorous bird surveys (e.g. double-crested cormorant, American white pelican, Caspian tern) and survey implementation in line with identified priority initiatives (e.g. aerial insectivores, shorebirds/waterbirds, grassland birds, and landbird movement/migration). Funding would support direct implementation of surveys, data analysis, and development of robust survey methodologies. In 2025 and 2026, funding will primarily be leveraged to accomplish American white pelican surveys. In 2027 funding would be leveraged to support the four identified priority initiatives as approved by Council.

Council recommends the addition of a $10,000 line item to the budget for three fiscal years (2025, 2026, and 2027), after which this line item would be reassessed by Council to determine if it should be extended as a line item.

Adoption Contact: Emily VanWyk

Pacific Flyway Nongame Technical Committee
August 28, 2024



Grant Frost, Chair

Pacific Flyway Council
August 30, 2024

Doug Brimeyer, Chair

Recommendation 26 — 2025 Budget

Recommendation

The Pacific Flyway Council (Council) adopts the attached budget authorizing Council expenditures in calendar year 2025.

Justification

The Nongame Technical Committee and Study 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 2025 budget includes $79,590 in anticipated expenses. Expected income of $208,890 includes $49,500 from member assessments (11 states; $4,500 each), $6,390 from NABCI assessments (9 states, excluding Colorado and Wyoming; $710 each), and an estimated carryover of $153,000 from calendar year 2024.

Changes to the 2025 budget from 2024 include: a new line item for $12,600 to support Flyway Engagement Subcommittee activities; a new line item for $10,000 to provide survey support for priority Nongame Technical Committee initiatives; and removal of several line items for travel support ($6,000) where meetings are now held remotely, or Flyway representation is no longer necessary.

Since 2013, member assessments of $4,500 have provided a base budget. This budget recommendation does not require an increase in the base assessment for 2025.

Adoption

Contact: Jeff Knetter

Pacific Flyway Study Committee
August 28, 2024

Sean Yancey, Chair

Pacific Flyway Nongame Technical Committe

Grant Frost, Chair

Pacific Flyway Council

August 30, 2024

Doug Brimeyer, Chair

Pacific Flyway Council Budget - Calendar Year 2025

Function	Attendance	Notes	Projected Amount
A. Council, SC/NTC, and Regulatory Functions			
National Flyway Council dues		1	$ 2,000
Pacific Flyway Council March			
PFC Secretary (AK)	1 meeting, 1 person		$ 1,200
SC and NTC Chairs (UT)	1 meeting, 2 persons		$ 2,400
AHM Working Group (AK, OR)	1 meeting, 2 persons		$ 2,400
NTC - SRC/AFWA BCC (NTC support; UT)	1 meeting, 1 person		$ 1,200
	Subtotal		$ 9,200
B. North American Waterfowl Management Plan			
NAWMP Science Support Team (WA)	2 meetings, 1 person		$ 2,400
Arctic Goose Joint Venture			
Management Board (TBD)	1 meeting, 1 person		$ 1,200
Technical Committee (ID)	1 meeting, 1 person		$ 1,200
Sea Duck Joint Venture			
Management Board (TBD)	1 meeting, 1 person		$ 1,200
Cont. Technical Team (WA)	1 meeting, 1 person		$ 1,200
	Subtotal		$ 7,200
C. Other Flyway Representation			
Special Projects as Needed	2 meetings, 2 persons		$ 4,800
Mourning Dove Task Force (AZ, NV)	1 meeting, 2 persons		$ 2,400
Human Dimensions Working Group (CO, NV)	1 meeting, 2 persons		$ 2,400
PIF Western Working Group (OR)	2 meetings, 1 person		$ 2,400
AMBCC Representation (TBD)	1 meeting, 1 person		$ 2,500
	Subtotal		$ 14,500
D. Operational Surveys and Projects			
PF Duck BPOP Survey Expansion		2	$ 10,000
PF Supplemental Duck Banding			$ 7,500
Fall RMP Crane Recruitment Survey			$ 1,500
Engagement Subcommittee			$ 12,600
NABCI Coordination Support			$ 6,390
	Subtotal		$ 37,990
E. Administrative Costs			
Misc. expenses including production of minutes, etc.		3	$ 500
PFC Website maintenance			$ 200
	Subtotal		$ 700
F. One-Time or Time-Limited Special Projects			
NTC Survey Support for priority initiatives			$ 10,000
	Subtotal		$ 10,000
BASE BUDGET			
Re-occurring annual costs Sections A-E			$ 69,590
Time limited special project cost, Section F			$ 10,000
		TOTAL	$ 79,590
REVENUE			
Estimated carry-forward from 2024			$ 153,000
Council assessments 2025			$ 49,500
NABCI Assessments - 9 states			$ 6,390
Southern Wings Assessment - voluntary participation			$ -
		TOTAL	$ 208,890

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 2025 NOTES:

1. NFC assessment of all flyways for Secretary travel and other expenses.
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.

INFORMATIONAL NOTES

Informational Note 1 – Allocation of Captive-reared Trumpeter Swans to Approved Release Sites

In February 2024, Council approved allocation of captive-reared trumpeter swans for release at approved restoration sites. The actual number of cygnets available for release depended upon hatching success during spring 2024.

Following guidelines in the Pacific Flyway Management Plan for Rocky Mountain Population (RMP) trumpeter swans, and as recommended by Council, state leads discussed an equitable allocation of available cygnets in early July 2024.

Wyoming Wetlands Society (WWS) is the primary source of captive-reared trumpeter swans of RMP genetic origin for release at approved sites. During 2024, WWS produced 30 RMP origin cygnets for allocation. The recommended allocation of these cygnets to approved release sites, is as follows:

Middle Madison, Montana	8
Teton Basin, Idaho	8
Yellowstone National Park	8
Big Sandy, Wyoming	6

No other swans are available for allocation 2024.

Adoption Contact: Claire Gower
Pacific Flyway Study Committee
August 28, 2024

Sean Yancey, Chair

PACIFIC FLYWAY COUNCIL

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Informational Note 2 — Golden Eagle Allocation Procedure Update

Golden Eagle Allocation Procedure Update

Up to six golden eagles may be removed from the wild for falconry purposes, annually, through an allocation procedure determined by the four flyway councils (Pacific, Central, Mississippi, and Atlantic, 2018, last amended in 2022) and adopted by the National Flyway Council (NFC).

The Allocation specifies the NFC select the Designated State Wildlife Agency (DSWA) that will assist the United States Fish and Wildlife Service (Service) by administering a random drawing of qualified applicants, and communicate the results of that drawing to the Service's point of contact and the respective State Wildlife Agencies where the falconers reside. The Utah Division of Wildlife Resources volunteered to act as the DSWA for the first three years (2019–2021), Wyoming Game and Fish Department has just completed a turn (2022–2024), and the Connecticut Department of Environment and Environmental Protection has volunteered to act as the DSWA (2025–2027). The mechanism of the NFC's selection, however, was not specified in the Allocation.

Per request of the NFC, a committee comprised of one representative from each of the flyway Nongame Technical Committees met in June 2024 to discuss clarifying the procedure by which the NFC will determine which state in turn will be the succeeding DSWA. This committee will meet again in September 2024.

Adoption

Contact: Grant Frost

Pacific Flyway Nongame Technical Committee
August 28, 2024

Grant C Frost

_____

Grant Frost, Chair

Informational Note 3 — Pacific Flyway Nongame Technical Committee 2025 Work Plan

The Pacific Flyway Nongame Technical Committee (NTC) updated its 2025 work plan to reflect status updates and new and completed efforts. Notable changes include:

- adding the "Peregrine Falcon EA Review" to "Not Started" but tentative for late 2024 or 2025,
- updating the "Eagle Take Allocation" to include quarter three in addition to quarter one for each year to match when the annual draw occurs,
- removing "Saline Lakes USGS/USFWS Coordination" as a potential activity,
- updating "MBTA Incidental Take" as tentatively planned for 2025,
- updating the "USFWS Raven Core Team" as "Complete" in 2024,
- adding the "USFWS Raven Working Group" as "In Progress" in 2024 and tentatively planned into the future,
- updating the "USFWS PEFA Analysis Working Group" as "Complete" in 2024, and
- updating the "Conservation Partners Meeting" to "planned" in late 2025.

The "Intermountain West Shorebird Survey" C-SWG proposal was not funded for a second year and we are now pursuing other options for funding and partnership to complete this survey. Double-crested Cormorant surveys were completed in spring and summer of 2024, but this task remains "In Progress" as we are now in the analysis and reporting stage of this survey through early 2025. The updated work plan is attached.

Adoption Contact: Shannon Skalos
Pacific Flyway Nongame Technical Committee
August 28, 2024

Grant C Frost

Grant Frost, Chair

Nongame Technical Committee Work Plan

Task	Status	2024				2025				2026				2027				2028			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Regulatory Needs																					
Peregrine Falcon Take Allocation	Annual																				
Peregrine Falcon EA Review	Not started																				
Eagle Take Allocation	Annual																				
MBTA Incidental Take	In progress																				
Agency Species Protection Rule (ASPR)	In progress																				
Other Regulatory Input	Annual																				
Data Management																					
AKN Colonial Waterbird Data Upload	In progress																				
Monitoring Plan Development																					
Monitoring and Reporting																					
DCCO Survey Implementation/Reporting	In progress																				
AWPE Survey Implementation/Reporting	In progress																				
Intermountain West Shorebird Survey	In progress																				
Representation																					
NAWMP/AFWA Human Dimensions Public Engagment Team	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	In progress																				
USFWS Raven Core Team	Complete																				
USFWS Raven Working Group	In progress																				
AFWA Bird-Fish Conflict Working Group	In progress																				
USFWS PEFA Analysis Working Group	Complete																				
National Cross-Flyway DCCO Monitoring Team	In progress																				
Coordination																					
Southern Wings Mechanism Development	Complete																				
NCN Process Development	Complete																				
Coordination and Communication with AMBCC	Annual																				
Revise Work Plan	Annual																				
Review and Refine Priorities	In progress																				
Southern Wings Fund Allocation	Annual																				
Other																					
Pursue funding for assessment of migratory pathways and stopovers	In progress																				
Implement wetland connectivity assessment	In progress																				
Conservation Partners Meeting	In progress																				

SUBCOMMITTEE REPORTS

Ad Hoc Flyway Engagement Subcommittee

Emily VanWyk, Nongame Technical Committee (NTC) Oregon Department of Fish and Wildlife
Jeff Knetter, Study Committee (SC), Idaho Department of Fish and Game
Shannon Skalos, NTC, California Department of Fish and Wildlife
Russell Norvell, NTC, Utah Division of Wildlife Resources
Allison Begley, NTC, Montana Fish, Wildlife and Parks
Adam Behney, SC, Colorado Parks and Wildlife
Grant Frost, NTC, Wyoming Game and Fish Department
Edwin Juarez, NTC, Arizona Game and Fish Department
Jason Jones, SC, Utah Division of Wildlife Resources
Jason Schamber, SC, Alaska Department of Fish and Game
Jess Brooks, NTC, Nevada Department of Wildlife
Michelle Kemner, NTC, Idaho Department of Fish and Game
Kyle Spragens, SC, Washington Department of Fish and Wildlife
Jess Stocking, NTC, Washington Department of Fish and Wildlife
Michelle McDowell, U.S. Fish and Wildlife Service

In August 2022, the Pacific Flyway Council (Council) supported creation of an Ad Hoc Subcommittee (Subcommittee) to focus on enhancing full flyway engagement. At the request of Council, this Subcommittee developed and presented an Action Plan to Council in March 2023 and agreed to continue to keep Council apprised of progress at each meeting through subcommittee reports and requested presentations. Participation in this Subcommittee continues to grow, with extensive participation from both technical bodies of the Flyway.

During the March 2024 Council meeting, Council requested the Subcommittee, initially identified as the Diversity, Equity, and Inclusion Ad Hoc Subcommittee, select a name that more precisely represented the function of the Subcommittee as it pertains to Council bylaws and allowed for participation by all member states. The Subcommittee discussed the opportunity for a new name and constraints for participation by member states, and suggests the name “Flyway Engagement Subcommittee” to reflect the intent of the Subcommittee. This Subcommittee will continue to implement actions as identified within the Action Plan.

Since the outset, the Subcommittee charge was to learn about resources, partners, and their needs as a means to educate us and build a framework for long-term, iterative engagement, and progress toward identified goals. Additionally, the group focused on clarifying relevancy of this effort to the Flyway process and migratory bird management across borders. Subcommittee work is ongoing, enhanced by targeted efforts to implement actions identified in 2023 that would advance the Flyway mission. The Subcommittee maintains a standing monthly meeting to allow incremental progress on initiatives identified within the Action Plan and ensure timely delivery of opportunities approved by Council as priorities.

During the March 2024 Council meeting, Council approved a budget request from the Subcommittee to support immediate funding opportunities that directly pertained to the mission of Council, including paying for travel to get increased representation, language translation services, and other means to increase engagement. Items funded to date include:

- Travel support for an invited international partner in August 2024.Study Committee and Nongame Technical Committee members worked together to select a partner to invite that can elevate work of the Flyway;
- Translation services in support of a presentation to Council in August 2024; and
- Sponsorship of a competitive Western Hemisphere Shorebird Group travel award for a meeting in New Brunswick in August 2024. There were 102 applicants for the travel award, the majority of which were either Latin American professionals or students.

Following the August meeting, the Subcommittee anticipates continuing to work on efforts identified within the Action Plan and in Subcommittee reports submitted to Council, including expanding outreach, identifying opportunities to provide scholarships or sponsorships for conference attendance, and assessing opportunities to provide funding for partners to implement surveys where funding is a barrier to participation. Progress and upcoming opportunities on sub-topics are expanded on below.

Translation services

Subcommittee members explored options for sourcing translation services to support online and in person participation in meetings by international partners. This opportunity was exercised in support of the August 2024 meeting, and following this meeting the Subcommittee will assess the success of this effort and identify opportunities to improve on the experience if needed.

The Subcommittee will continue to pursue opportunities to support translation services for existing research pertinent to the Flyway. Opportunities include translating Flyway bylaws into Spanish and French so that they are accessible in each official language of the Flyway and to draft an introductory guide in Spanish.

Sponsorship of conferences that align with Flyway priorities

During the August 2023 meeting, Council requested the Subcommittee pursue opportunities to support development of skill and interest in migratory bird conservation and management by early career and student biologists. The Subcommittee will continue to assess opportunities to provide sponsorship for conferences that align with Flyway priorities and enhance full flyway engagement. As a result, Council provided financial support for a competitive travel award for the 2024 Western Hemisphere Shorebird Group. The Council additionally supported the 2024 North American Duck Symposium.

Sponsorship of travel

The Subcommittee proposed to Council in March 2024 the allocation funds to support travel by invited partners following the success of presentations provided in August 2023. In August 2024, funds were used to support travel by a partner selected by a Subcommittee group with representatives from both Flyway technical committees: Juanita Fonseca, Coastal Solutions Fellow and Conservation Specialist from the Western Hemisphere Shorebird Reserve Network in Sinaloa, Mexico. The partner attended the joint meeting of the NTC and SC in Jackson and

provided a presentation to Council in Spanish, which was translated through the Zoom platform to enable participation by participants in English and Spanish.

The Subcommittee identified a need to develop fair and transparent criteria that would support establishment of a travel award fund. The travel award fund could provide travel grants for students, who wouldn't otherwise be able to afford it, to come to Flyway meetings to present their research and see how the Flyway process works. To support this effort, a working group would identify students and researchers that could present research relevant to the Flyway. The Subcommittee will form a smaller work group to identify students and/or researchers that could present relevant topics at the winter meeting.

Financial support for implementation of surveys that are of high priority for Pacific Flyway projects on lands owned or managed by new or non-traditional partners

The Subcommittee will continue to explore opportunities to support partners conducting work considered a Flyway priority. In spring 2024, the NTC assessed how to conduct surveys for American White Pelicans (AWPE) at Anaho Island National Wildlife Refuge, which is a part of the Pyramid Lake Paiute Reservation. This is a high priority site for surveying AWPE for the Flyway, and barriers to survey implementation have prevented data collection in recent years. Local contacts indicated capacity to conduct these surveys did not currently exist, and funding was not currently the primary barrier to participation, so the Subcommittee did not further engage.

The Subcommittee continues to look for opportunities where a small amount of funding from Council could be leveraged to fill gaps in survey coverage for priority projects, including assessing opportunities to conduct surveys in Mexico and Canada and coordinate with Central and South American partners on tracking movement and migration of priority species for the Flyway.

Encourage increased engagement with stakeholders to include Mexican, Native American, and provincial partners.

Outreach continues through avenues including the Sonoran Joint Venture, Alaskan Migratory Bird Co-management Council (AMBCC), Canadian Wildlife Services, and Native American Fish and Wildlife Service. This will help identify whether financial resources are a barrier to participation and direct future opportunities for Council engagement. For example, the Executive Director of the AMBCC (Patty Schwalenberg) has indicated declining budgets have precluded traditional participation in Flyway meetings by Native Caucus representatives, and Council support could help rekindle their engagement with the Flyway.

The Subcommittee has a standing monthly meeting to continue to prioritize identified projects with existing funds and engage in outreach efforts and will provide feedback and guidance to Council on opportunities for further engagement. The Subcommittee will work with each of the Flyway technical bodies to solicit project ideas and prioritize projects to receive funding to ensure work is in line with the mission of the Flyway.

American White Pelican Subcommittee (Amendment)

Allison Begley, Montana Fish, Wildlife and Parks
Russell Norvell, Utah Division of Wildlife Resources
Shannon Skalos, California Department of Fish and Wildlife
Michelle Kemner, Idaho Department of Fish and Game
Michelle McDowell, U.S. Fish and Wildlife Service

2022 Implementation of American White Pelican Monitoring in the Pacific Flyway: Amendment to March 2024 American White Pelican Subcommittee Report for the Pacific Flyway Council.

The American White Pelican Subcommittee Report presented to Council at the March 2024 meeting had incorrect colony survey data for Idaho in 2021 and 2022 (number of breeding individuals was inadvertently doubled). Corrected information is presented below. Further, the colony location and status map was updated to reflect current information (2021-2022 count data).

Survey Goal

The goal of the Pacific Flyway Council's American White Pelican Monitoring Strategy (Strategy) is to establish a coordinated, long-term, flyway-level monitoring effort to estimate the breeding population size, trend, and distribution of the western population. This information is fundamental to support development of effective management recommendations and for guiding and assessing management actions pertaining to American white pelican (pelican) depredation on fish resources.

Survey Data Summary

The Strategy was implemented in 2014, 2017, 2018, 2021 and 2022. Because of the small number of pelican colonies in the west, all known colonies identified in the 2013 Strategy (n=18), plus five colonies subsequently identified, were targeted for monitoring across eight states and British Columbia. Data are reported here for all 23 of these sites (Table 1, Figure 1).

The Pacific Flyway Nongame Technical Committee (NTC) coordinated collection of colony data by state and federal agencies and submitted survey result data to the U.S. Fish and Wildlife Service (Service). The Service compiled available data and produced a breeding population estimate for the western population. Surveys yielded estimates of 42,692 (2014), 46,083 (2017), 50,382 (2018), 34,015 (2021) and 18,968 (2022) breeding individuals (Table 1). Due to the Covid-19 pandemic not all planned work was accomplished in 2021 and therefore this estimate is likely low. Unnamed Island in Padilla Bay was not surveyed. Several colonies were likely surveyed; however, data were not submitted, i.e., Stum Lake, Arod Lake and Puntzi Lake. The sole flight for Anaho Island was early in the season; the survey data are likely an underestimate of breeding pelicans. Limited monitoring took place again in 2022, to allow for analysis of population density-dependence (Information Note 2, PFC Spring 2018). In 2022, several sites were not surveyed due to capacity issues and several other sites have not reported. Both the 2021 and 2022 estimates should be considered conservative estimates of population abundance.

Future Activity

The next scheduled implementation of the monitoring strategy is in 2025 and 2026.

On-going Work (in addition to work previously reported)

1. Annual banding and wing-tagging of juvenile pelicans at the Gunnison Island colony in Utah was suspended in 2021 due to pandemic protocols, but continued at Minidoka National Wildlife Refuge colony, and was initiated at the Blackfoot colony on Chesterfield Reservoir in Idaho. This body of work continues to contribute to:
    a. Annual survivorship analysis.
    b. Documentation of strong connectivity for many Pacific Flyway colonies (e.g., between UT and ID).
    c. Completion of a population viability analysis indicating the Gunnison Island colony is vulnerable to colony collapse due to historically low lake levels.
2. Flyway pelican colony and movement data contributed to two graduate projects and several publications:
    a. Meehan, T.D., et al. 2022. Integrating data types to estimate spatial patterns of avian migration across the Western Hemisphere. Ecological Applications, doi:10.1002/eap.2679
    b. Rushing, C.S., et al. 2021. Integrating tracking and resight data enables unbiased inferences about migratory connectivity and winter range survival from archival tags. Ornithological Applications 123 (2). doi: 10.1093/ornithapp/duab010
    c. Van Tatenhove, A.M., et al. (*In review*). Weather radar as a tool to quantify local airspace-use of a large migratory waterbird
    d. Van Tatenhove, A.M., et al. (*In prep*). Local versus broad-scale population drivers: A Bayesian state-space analysis of long-term American White Pelican colony dynamics
    e. Van Tatenhove, A.M., et al. (*In prep*). Quantifying spatial and temporal population trends of North American pelicans
3. Capturing adult pelicans to mount solar-powered GPS/GSM transmitters (UT: six of 24 planned units deployed as of August 2022) with on-board Motus receivers
4. Pelican telemetry data are now stored and served via a secure Movebank project (https://www.movebank.org/)
5. Established 2 Motus stations at the Great Salt Lake to track juvenile pelican dispersal movements and timing from the Gunnison Island Colony.

<u>Planned work</u>

1. Establishment of up to 18 additional Motus (https://motus.org/) stations in and around the Great Salt Lake in 2022-2024 to track movements and first-year survivorship of up to 300 juvenile pelicans per year from the Gunnison Island Colony using novel leg-mounted Motus tags and adult pelican-mounted GPS/GSM Motus receivers. Field work has been delayed first by pandemic-related delays and then HPAI restrictions.
2. Add 10 additional GPS/GSM transmitters per year through 2024 to describe pelican movements between years and in finer detail (UT).

Table 1. American white pelican colony survey data, western population, 2014-2022.

Colony Name	State	2014 Estimated Breeding Individuals (% annual total)	2017 Estimated Breeding Individuals (% annual total)	2018 Estimated Breeding Individuals (% annual total)	2021 Estimated Breeding Individuals (% annual total)	2022 Estimated Breeding Individuals (% annual total)
Anaho Island NWR	NV	16,224 (38.0)	20,860 (45.3)	19,000 (37.7)	6,677 (20.1)	--
Gunnison Island WMA	UT	9,428 (22.1)	8,342 (18.1)	10,660 (21.2)	8,012 (24.1)	5,852 (30.8)
Minidoka NWR	ID	4,264 (10.0)	2,118 (4.6)	3,676 (7.3)	2,930 (8.8)	2,390 (12.6)
Badger Island, McNary NWR	WA	3,670 (8.6)	3,770 (8.2)	5,616 (11.2)	3,624 (11.0)	3,486 (18.4)
Canyon Ferry WMA	MT	3,432 (8.0)	3,276 (7.1)	3,286 (6.5)	2,850 (8.6)	3,156 (16.6)
Blackfoot Reservoir[a]	ID	2,096 (4.9)	1,232 (2.7)	1,416 (2.8)	0 (0.0)	0 (0.0)
Chesterfield[b]	ID	--	--	--	1,332 (4.0)	0 (0.0)
Molly Lake, Yellowstone NP	WY	614 (1.4)	560 (1.2)	394 (0.8)	964 (3.0)	--
Stum Lake	BC	590 (1.4)	77 (0.2)	88 (0.2)	--	--
Clear Lake NWR	CA	444 (1.0)	868 (1.9)	830 (1.6)	1,366 (4.1)	--
Miller Sand Spit/Rice Island	OR	366 (0.9)	204 (0.4)	796 (1.6)	1,440 (4.3)	992 (5.3)
Upper Klamath NWR	OR	348 (0.8)	466 (1.0)	770 (1.5)	0 (0.0)	--
Island Park Reservoir	ID	326 (0.8)	1,650 (3.6)	0 (0.0)	1,408 (4.2)	700 (3.7)
Arod Lake	MT	234 (0.5)	332 (0.7)	--	--	--
Lower Klamath NWR	CA	0 (0.0)	466 (1.0)	778 (1.5)	190 (0.6)	--
Crump Lake	OR	0 (0.0)	0 (0.0)	0 (0.0)	966 (3.0)	--
Pelican Lake	OR	0 (0.0)	674 (1.5)	1,174 (2.3)	0 (0.0)	--
Ruby Lake NWR	NV	0 (0.0)	0 (0.0)	--	0 (0.0)	--
Neponset Reservoir	UT	--	918 (2.0)	18 (0.04)	1,378 (4.1)	2,392 (12.6)
Puntzi Lake	BC	--	232 (0.5)	592 (1.2)	--	--
Unnamed Island, Padilla	WA	--	36 (0.1)	0 (0.0)	--	--
Fairchild Swamp	CA	--	--	1,128 (2.2)	0 (0.0)	--
Total		**42,692**	**46,081**	**50,366**	**33,137**	**18,968**

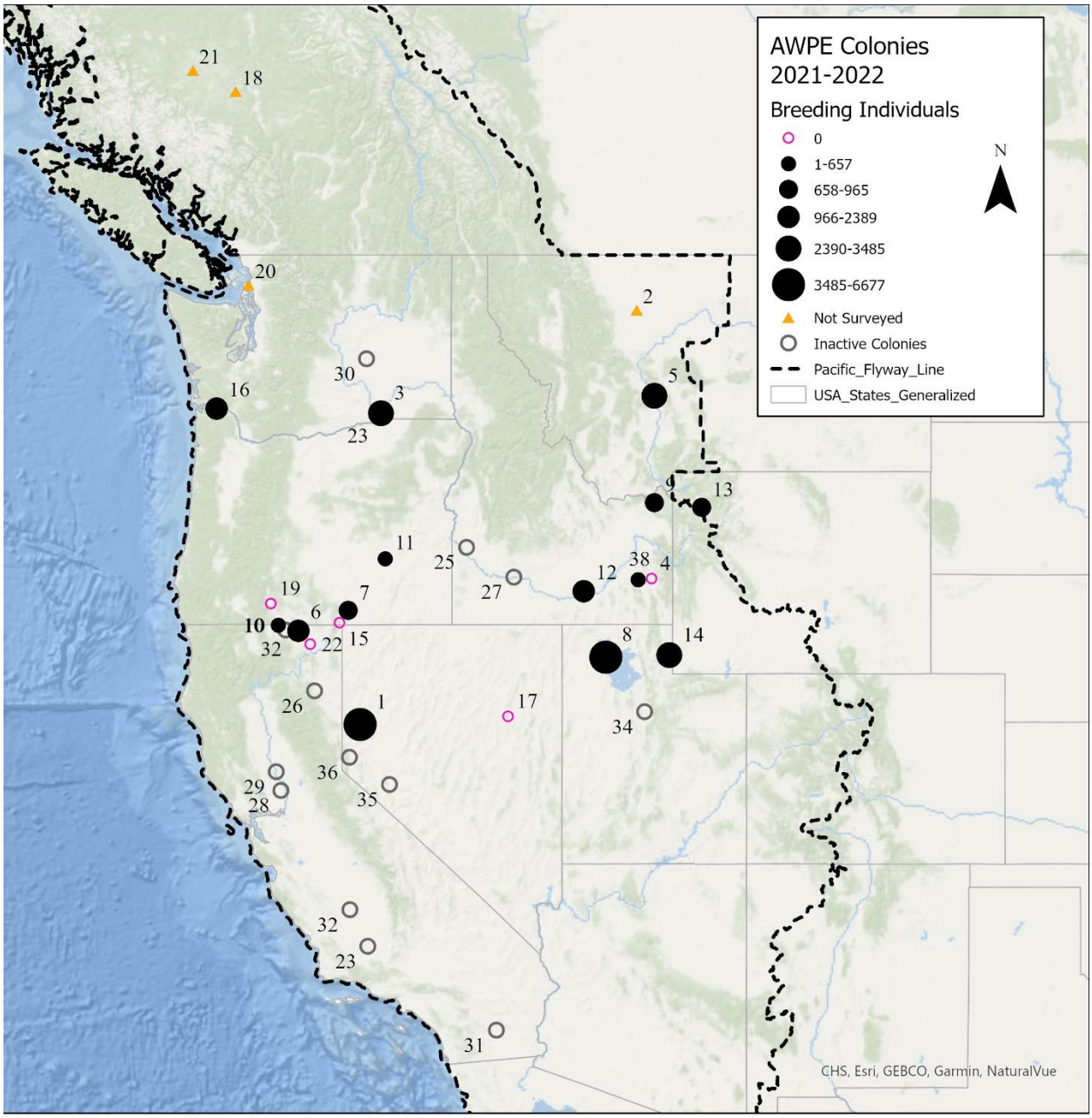
[a]Blackfoot Colony was no longer active as of 2020.

[b]Chesterfield Colony was found in 2020 and suspected to be tied to the Blackfoot Colony.

- denotes no data was available.

0 denotes colony was surveyed, but no breeding individuals were observed.

Figure 1. Western population of American white pelican colony locations, approximate sizes, and current activity in the Pacific Flyway, 2021-2022.



Active Colonies
1. Anaho Island NWR
2. Arod Lake
3. Badger Island
4. Blackfoot Reservoir
5. Canyon Ferry WMA
6. Clear Lake NWR
7. Crump Lake
8. Gunnison Island WMA
9. Island Park Reservoir
10. Lower Klamath NWR
11. Malheur NWR
12. Minidoka NWR
13. Molly Island
14. Neponset Reservoir
15. Pelican Lake
16. Rice Island/Miller Sand Spit
17. Ruby Lake NWR
18. Stum Lake
19. Upper Klamath NWR
20. Padilla Bay
21. Puntzi Lake
22. Fairchild Swamp
38. Chesterfield (Blackfoot)

Inactive Colonies
23. Buena Vista Lake
24. Crescent Island
25. Deer Flat
26. Eagle Lake
27. Glenns Ferry
28. Lone Tree Island
29. Lower Sacramento
30. Moses Lake
31. Salton Sea
32. Tulare Lake
33. Tule Lake
34. Utah Lake
35. Walker Lake
36. Washoe Lake

Western Canada Goose Subcommittee

Claire Gower, Montana Fish, Wildlife, and Parks

Population Status

The population index for the Pacific Flyway population of western Canada geese is the sum of the total indicated Canada geese from surveys in northeast California, eastern Oregon, eastern Washington, and central British Columbia surveys, in addition to the estimated total Canada geese from the Waterfowl Breeding Population and Habitat Survey in strata 76 and portions of strata 26–29, 41, and 42. In 2024, the population index was 320,271 geese; down 17% from 2023 (387,031). The 3-year average was 392,534, well above the minimum population objective of 200,000 birds. Spring abundance surveys counted 34,242 geese in California, 27,875 in Eastern Oregon, and 22,756 in Washington.

Harvest Information

Canada goose harvest estimates for the 2023–2024 season from the Harvest Information Program (HIP) were: Arizona 3,152; California 77,032; Colorado* 9,036; Idaho 18,658; Montana * 25,763; Nevada 2,611; New Mexico *520; Oregon 16,907; Utah 25,713; Washington 25,573; and Wyoming *3,554. Harvest estimates preceded by an asterisk were derived from HIP point counts in the Pacific Flyway portions of these states. Overall, the 2023–2024 harvest estimate for Pacific Flyway Population of Canada geese was 209,570. While the majority of these are western Canada geese, it should be noted that this estimate is for all Canada geese. The subcommittee commented that these HIP estimates appear to deviate considerably from previous years.

Management Activity

The following management activities were reported for 2024:
In northeastern California, 893 Canada geese were banded. In Idaho, 883 Canada geese were banded, statewide. In Utah 2,054 birds were banded in the Wasatch front. In eastern Washington, 417 birds were banded. In Oregon, 356 Canada geese were banded by the USFWS in the Klamath Basin (only operational banding area at this time).

In Idaho, U.S. Department of Agriculture-Wildlife Services conducted four goose roundups and two nest destruction/egg-oiling project; 141 birds were euthanized, and 21 nests were oiled.

In Oregon, ODFW did allow goslings taken by Wildlife Services, under USFWS depredation permits issued to various entities in central Oregon, to be translocated to Summer Lake Wildlife Area instead of being euthanized.

Some states are still detecting low levels of Highly Pathogenic Avian Influenza (HPAI), but no apparent large die offs reported.

Idaho is proposing a goose zone changes for the 2025-2026 season to modify Canada and cackling goose, and brant zones to better align with hunter preferences.

Research Activity

Arizona will be increasing their banding effort next year, marking birds with auxiliary markers and collars to determine if birds are local or not.

Recommendations

The subcommittee adopted two recommendations:

- The subcommittee recommended no changes to the framework to Canada and cackling goose seasons.
- The subcommittee recommended no changes to the framework for special early Canada and cackling goose seasons.

Dusky Canada Goose Subcommittee

Kyle Spragens, Washington Department of Fish and Wildlife

Population Status

The 2024 total breeding ground index for dusky Canada goose (*Branta canadensis occidentalis*) was 8,150, down 15% from last year's estimate. The most recent 3-year (2022–2024) average population management index of 10,274 was 49% below the population objective of 20,000 birds, but above the 7,500-bird threshold for restrictive regulations per the Pacific Flyway Council management plan (2015). The Alaska Department of Fish and Game (ADFG) did note that survey methodology for the Middleton Island portion of the survey differed in 2023 as transect distance sampling was used instead of the typical nest plot survey.

Harvest Information

Washington Department of Fish and Wildlife (WDFW) reported one dusky Canada goose (dusky goose) was confirmed to have been harvested last season, a minimum estimate of harvest in Washington. Oregon Department of Fish and Wildlife (ODFW) reported two dusky geese were reported taken in response to ODFW's postseason email survey. This sample harvest expanded to an estimate of seven dusky geese harvested last season in the Northwest Permit Zone, however, because harvest of dusky geese in this zone is unlawful, estimates from hunter surveys are assumed to be unreliable. Additionally, dusky geese cannot be separated from other populations of Canada geese in the Parts Collection Survey, so there is no way to estimate harvest occurring in Alaska via the Harvest Information Program.

Management Activity

The ADFG conducted a production survey in July on the Copper River Delta, and photo corrected counts indicated 4,091 adult and 1,367 goslings were observed. The 2024 count is intermediate to goslings counts in 2022 (690) and 2023 (1,892).

The ADFG provided more detailed information about the new methodology at the winter work meeting in February 2024. Middleton Island is surveyed on a biennial schedule and the next planned survey will occur in May 2025.

The U.S. Forest Service distributed a report on nest islands use and success. A total of 378 nest islands were monitored in June 2024; 365 were available for use by dusky Canada geese. Dusky Canada goose nests were found on 91 nest islands, and 60 (67%) were successful. Maintenance (i.e., landscaping, anchoring, or both) was performed on 140 islands. No additional nest islands were installed in 2024.

The U.S. Fish and Wildlife Service analyzed available (1996–2024) data from the cooperative state-federal mark-resight survey in the Pacific Flyway for dusky Canada geese to estimate apparent annual survival probabilities and number of geese with a neckband. The best fitting model indicated annual survival probabilities for marked geese varied among 2 periods: 1997–2000 was 0.667 (SE = 0.013, 95% CI = 0.641–0.691), and 2001–2023 was 0.867 (SE = 0.007, 95% CI = 0.853–0.880). There was no evidence that annual survival probabilities decreased annually during 2001–2022 (P = 0.66) or during the periods 2001–2015 (P = 0.88) and 2016–2022 (P = 0.98). The estimated number of marked birds in the population during October 2023 was 732 (SE = 26.0, 95% CI = 688–791).

During the 2023 and 2024 seasons, a group of experienced observers in Oregon made a concerted effort to estimate the ratio of neckband marked to total birds so that total abundance of dusky geese could be estimated. The number of geese examined for the presence of a neckband was 16,119 and the average

number of marked geese per flock was 1.2. The ratio of total to marked geese was 22.6 geese. Based on the ratio of total to marked geese and the estimated number of marked geese in the population, total abundance of dusky Canada geese was estimated to be 16,571 (SE = 1,362, 95% CI = 13,901–19,241).

Research Activity

None reported.

Recommendations

The subcommittee adopted two recommendations:

- The subcommittee recommends no change in the frameworks directed at dusky Canada geese in the Alaska Season Framework, and
- The subcommittee recommends no change in the frameworks directed at dusky Canada geese in the Pacific Flyway.

Minima Cackling Goose Subcommittee

Kyle Spragens, Washington Department of Fish and Wildlife

Population Status

The management index for the minima cackling goose population is the 3-year average projected fall population size which is calculated by multiplying the indicated total bird index from the Yukon-Kuskokwim Delta Coastal Zone Survey (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 2024 minima cackling goose projected fall population is 126,443 (95% CI: 110,310 – 142,576). The management index (three-year average) is 175,055 geese, 30% below the population objective of 250,000.

Per the Pacific Flyway Council management plan, when the population index is more than 10% below (225,000) the objective, regulatory actions should be implemented to regain the objective (Pacific Flyway Council 2016). As an initial recommendation, bag limit was reduced beginning in the 2022-2023 hunting season in the primary areas where this subspecies is harvested, including in portions of Oregon, Washington, and Alaska. Based on the updated status, further reductions in harvest are warranted.

Harvest Information

There is no reliable method to differentiate the various subspecies of cackling geese from the U.S. Fish and Wildlife Service's (USFWS) 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.

Oregon Department of Fish and Wildlife (ODFW) reported an estimated harvest of 16,227 minima cackling geese or 64% of the total goose harvest in the Northwest Oregon Permit Zone in 2023-2024 based on hunter self-classification of geese. Harvest under a bag limit of 4 prior to restrictions resulted in ~21,000-22,000 birds estimated to be harvested annually. Washington Department of Fish and Wildlife (WDFW) reported an estimated harvest of 1,400 minima cackling geese from Southwest WA, based on preliminary analysis of mandatory harvest report cards. California Department of Fish and Wildlife reported a harvest of 160 minima cackling geese on state-operated public hunting areas. The Alaska Migratory Bird Co-Management Council Harvest Assessment Program has no updated harvest data since 2019. There is no minima cackling goose specific estimate for fall-winter harvest in Alaska.

Using data from band recoveries and Parts Collection Survey bag limit frequencies, timing and relative contributions, with a goal of reducing harvest by approximately 50% in the 'permit zones' of Oregon and Washington compared to harvest during a 4 Canada and cackling goose bag limit, the subcommittee expected this reduction in harvest would require reductions to both bag limit and season length. From recent harvest summaries, the three highest harvest regions are the Willamette Valley, OR (~67%), western Washington (22%), followed by western Alaska.

Management Activity

In 2023, the USFWS Yukon Delta National Wildlife Refuge banded 670 cackling geese, with 22 recaptures from previous years, during helicopter drives in July. This banding effort is funded through the Arctic Goose Joint Venture operational banding project through 2026.

ODFW and WDFW reported a noticeable number of mortality reports in the early portion of the fall in the Willamette Valley and Lower Columbia River, likely due to Highly Pathogenic Avian Influenza, but reports tapered off quickly.

Research Activity

None reported.

Recommendations

The subcommittee adopted two recommendations:

- The subcommittee recommends no change in the Alaska Season framework for Canada and cackling geese, except to reduce the bag limit for Canada/cackling geese from 4 to 3 daily in Units 9, 17, and 18, and
- The subcommittee recommends no change to the goose season frameworks for Canada and cackling geese in the Pacific Flyway, except to:
    - Change the framework ending date for Canada/cackling geese in Oregon's Northwest Permit Zone and Washington's Area 2 Inland & Area 2 Coastal (Southwest Permit Zone) from March 10 to February 15 (the standard framework ending date for Canada/cackling geese in the Pacific Flyway), and
    - Restrict the season length for Canada/cackling geese in Oregon's Northwest Permit Zone and Washington's Area 2 Inland & Area 2 Coastal (Southwest Permit Zone) to 74 days from the standard season length for Canada/cackling geese in the Pacific Flyway of 107 days, and
    - Reduce the bag limit for Canada/cackling geese in Oregon's Northwest Permit Zone and Washington's Area 2 Inland & Area 2 Coastal (Southwest Permit Zone) from 3 per day to 2 per day, and

o Reduce the bag limit for Canada/cackling geese in Washington's Area 1 & 3 from 4 per day to 3 per day

Taverner's Cackling Goose and Lesser Canada Goose Subcommittee

Kyle Spragens, Washington Department of Fish and Wildlife

Population Status

The population index for Taverner's cackling geese is the sum of indices from three annual aerial breeding population surveys: the Arctic Coastal Plain (ACP) Survey, the Yukon-Kuskokwim Delta Coastal Zone Survey (YKDCZS), and Strata 9 (YKD Inland), 10 (Seward Peninsula), and 11 (Kotzebue Sound) from the Alaska Waterfowl Breeding Population and Habitat Survey (WBPHS).

In 2024, the indicated total bird index was 38,293 (SE = 4,882, 95% CI = 28,724 – 47,861). The 2024 estimate is 14% below the long-term average of 44,512 geese. No population goal has been established for this population.

The population index for lesser Canada geese is the sum of stratum-specific indices from the WBPHS; Strata 1 (Kenai-Susitna), 2 (Nelchina), 3 (Tanana-Kuskokwim), 4 (Yukon Flats), and 12 (Old Crow Flats). An undetermined but small proportion of Canada and cackling geese on the ACP are also believed to be lesser Canada geese, but they are not included in the population index.

In 2024 the indicated total bird index was 2,694 (SE = 1,649, 95% CI = 0 – 5,926). The 2024 estimate is 64% below the long-term average of 7,488 geese. No population goal has been established for this population.

Harvest Information

For 2023–2024, Washington reported a statewide harvest estimate of 20,961 from the Harvest Information Program; most harvest was comprised of Taverner's cackling geese, but a small proportion (approximately 1,500) were minima cackling geese. A large proportion of this total harvest comes from the Columbia Basin. Currently, there is no reliable methodology to differentiate lesser Canada goose harvest from the total Canada goose harvest in Washington.

Oregon reported an estimated combined harvest of 2,477 lesser Canada geese and Taverner's cackling geese from the Northwest Permit Zone email survey (self-classified and reported by hunters) during the 2023-2024 season. This represents 10% of the total self-classified harvest.

Management Activity

None reported.

Research Activity

Alaska reported continuing captures of lesser Canada and Taverner's cackling geese in 2023 and 2024 in collaboration with other partners including Washington Department of Fish and Wildlife (WDFW) and Oregon Department of Fish and Wildlife (ODFW) as part of research aimed at better understanding the seasonal distributions of these two species. Captured geese were marked with USGS metal leg bands and a sample of birds also received GPS-GSM collars. From September 2023 through July 2024, 639 geese were captured and banded in Alaska at locations including the Anchorage and Fairbanks areas, and the Innoko National Wildlife Refuge. Biologists also captured and banded 57 geese across Washington State and the Willamette Valley of Oregon. A total of 196 captured geese received GPS-GSM collars. Additional marking in Alaska including deployment of GPS-GSM collars is planned for fall 2024.

Multiple marking efforts targeting geese that are associated with Taverner's cackling geese and Lesser Canada geese are occurring in the Pacific and Central flyways. The subcommittee suggested a more in-

depth sharing of updates from these different project partners would be warranted for the upcoming winter meeting.

Recommendations

The subcommittee adopted two recommendations:

- The subcommittee recommends no change in the Alaska Season framework, and
- The subcommittee recommends no change to the goose season frameworks for Canada and cackling geese in the Pacific Flyway.

Aleutian Cackling Goose Subcommittee

Melanie Weaver, California Department of Fish and Game

Population Status

Based on indirect estimates from mark-resight data, the 2024 population estimate was 193,655 geese (SE = 37,944; 95% CI = 119,284–268,025), and the most recent 3-year average (management index) is 205,975 geese. However, there is no evidence that the population has increased in abundance during the last 13 years where the mean abundance was 173,037 birds (Sanders 2024).

Harvest Info

Currently, Aleutian cackling goose tail fans submitted through the Harvest Information Program's parts collection survey cannot be differentiated from other cackling goose tail fans. Therefore, an Aleutian cackling goose specific harvest estimate cannot be calculated from the parts collection survey. The California Department of Fish and Wildlife (CDFW) reported a harvest of 90 Aleutian cackling geese on public hunt areas in 2023–2024. Oregon Department of Fish and Wildlife reported a harvest of 504 Aleutian geese in the Northwest Oregon Permit Zone estimated from hunter self-classification email surveys for the 2023–2024 hunting season. Washington Department of Fish and Wildlife reported zero Aleutian geese were detected in the harvest in 2023–2024

Management Activity

CDFW reported that 52 geese were marked in California during November and December 2023. CDFW intends to continue during late October to early November 2024 in the San Joaquin Valley, with a goal of deploying 400 collars. Resight efforts are anticipated to continue during January-March 2025 in California and Oregon.

The Aleutian Goose Working Group (AGWG) implemented a modified season structure on the North Coast for the 2023/24 season in northern California counties (Humboldt and Del Norte).

Oregon modified closure area which was formally Tillamook Special Management Area however; assuming harvest took place but nothing to report.

Research Activity

Recommendation

The subcommittee recommends no change to the Alaska season framework for Canada and cackling geese.

The subcommittee recommends no change to the Pacific Flyway regular Canada and cackling goose season frameworks.

White-fronted Goose Subcommittee

Brandon Reishus, Oregon Department of Fish and Wildlife

Population Status

Pacific Population – The estimated fall population size for fall 2024 is 422,896 geese and the 3-year average (management index) is 510,884 geese. The management index is 70% above the population goal of 300,000 but counts in recent years suggest the population is declining after peaking at over 700,000 about 10 years ago.

Tule Population – The estimated winter population size for 2023-24 was 9,655 geese and the 3-year average (management index) is 11,466 geese. The management index is 15% above the population goal of 10,000.

Midcontinent Population – The most recent 3-year average (2019, 2021,2022) Lincoln estimate for adult midcontinent white-fronted geese was 2,280,067 ± 284,706 (SE; 95% CL = 1,722,044–2,838,091), with 0% of the estimate distribution below the 1.2 million bird threshold identified in the Management Plan.

Harvest Information

Estimated white-fronted goose harvest in the Pacific Flyway, including Alaska, was 69,397 last season. The Harvest Information Program does not differentiate between tule and Pacific white-fronted geese in the harvest. State monitoring at Summer Lake Wildlife Area, Oregon and public areas in California (Colusa, Delevan, Sacramento NWRs & Grizzly Island Wildlife Area) suggest 35 tules were harvested at Summer Lake and that tule geese comprised 2% of harvest at California public areas last year. Idaho noted their state administered harvest survey estimated 6,500 white-fronted geese were harvested in Idaho last season.

The most recent three-year average (2021–2023) harvest rate estimate for midcontinent white-fronted geese was (0.051 ± 0.004 [SE]; 95% CL: 0.042–0.060) below the harvest rate threshold, with 0% of the estimate distribution above the 7.5% threshold identified in the current version of the Management Plan. Estimated harvest of white-fronted geese in the U.S states of the Central and Mississippi flyways (midcontinent population) was 219,513 last season. Estimates for Alberta and Saskatchewan for 2023-24 were not available.

Management Activity

The subcommittee is currently working towards a revision of the Council management plan for Pacific population white-fronted geese and should be available for Council consideration in March 2025.

California and Oregon plan to continue captures of tule geese in fall 2024 at Summer Lake Wildlife Area and instrument them with VHF radio transmitter and GPS-GSM equipped collars. See the attached project report for details on last year's effort.

The U.S. Fish and Wildlife Service Migratory Bird Management Program (Alaska Region) banded 1,118 midcontinent white-fronted geese at the Innoko National Wildlife Refuge in early July 2024.

USGS Alaska Science Center staff were unable to band white-fronted geese on the Arctic Coastal Plain in 2024 due to logistical issues.

Josh Dooley reported that the Canadian Wildlife Service had helicopter issues at Perry River in mid-July 2024 (where they target white-fronts and cacklers), and therefore, didn't band geese, but diverted their effort to Victoria Island and banded 1,070 midcontinent white-fronted geese. About 600 geese were

classified as Hatch Year (HY), which represents the first significant number of HY geese banded in the Arctic in recent years.

Research Activity

None

Recommendations

The subcommittee adopted two recommendation(s):

- The subcommittee recommends no change to the Alaska Season Framework for white-fronted geese.
- The subcommittee recommends no change to the Pacific Flyway season framework for white-fronted geese, except to allow Oregon to select a 3-segment season in their Mid-Columbia Goose Zone.

Project Update
Tule Greater White-fronted Geese
August 2024

Caroline Brady and Melanie Weaver, California Department of Fish and Wildlife

Capture and marking

In September 2023, 54 Tule geese were captured and 24 were marked with VHF radio collars and 8 were marked with GSM transmitter collars at Summer Lake Wildlife Management Area (WMA), Oregon.

Telemetry

The initial search list included 18 collars from previous years including cohorts from: 2019 = 1, 2021 = 3, and 2022 = 14. Searches for radio-collared birds were conducted from the fall through spring via ground and aerial telemetry in the Summer Lake Basin, Klamath Basin, Sacramento Valley, and the Suisun Marsh. In total, 42 individuals were detected at least once between October 2023 and February 2024; of those, one was an old radio (i.e., marked pre-2020). A total of 290 telemetry detections were made over this period; the single bird marked in 2019 comprised 1% of detections, 2021 was 3%, 2022 was 38%, and those marked in 2023 made up 58% of total detections.

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	21
2020	NA	NA	NA	NA	NA
2021	13	12	11	9	11
2022	21	21	20	11	17
2023	24	23	37	18	NA

Winter distribution

From October 2023 to February 2024, there was a total of 290 telemetry detections made throughout the Sacramento Valley, Suisun Marsh, and Summer Lake Wildlife Area in Oregon; the Klamath Basin was not scanned for geese. Radio-marked geese used traditional areas in the Sacramento Valley (Sacramento Complex NWRs) including rice fields and private duck clubs adjacent to Sacramento, Delevan, and Colusa NWRs as well as the Suisun Marsh. There was a total of 196 telemetry detections made here; 52% of which were at Delevan NWR, 16% at Colusa NWR, 2% at Sacramento NWR, 5% at Grizzly Island Wildlife Area, 25% in the West Sacramento Valley but off refuge, and 2% in the Lurline Sink. Telemetry searches in the Summer Lake Basin and Warner Valley occurred from October to February; geese were only detected at Summer Lake Wildlife Area (n = 94 detections; n = 33 individuals)

Migration timing and departure of geese

Fall — The earliest detection of radio-marked geese at Summer Lake occurred on 16 September 2023, while most previously marked birds (n = 11) arrived between 19 and 23 September 2023. In the Sacramento Valley the first radio-marked bird was detected on 1 October 2023 on Colusa NWR. By 25 October, an additional 17 marked birds were in the Sacramento Valley; 8 marked in 2023, 8 in 2022, and one in 2021. Although the last bird to leave Summer Lake arrived in the Sacramento Valley on 1 February 2024, the majority of birds arrived between 10 October and 7 November 2023.

Spring — The earliest detected arrival to Summer Lake (n = 7) occurred 1 February 2024, which increased to 19 individuals by 22 February 2024.

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

Considering detections made through 30 March and radio life, 37 radios were considered available in Alaska for summer 2024 telemetry by Alaska Department of Fish and Game and U.S. Fish and Wildlife Service. On the 24 and 25 May 2024, the Alaska Department of Fish and Game conducted two aerial telemetry flights in the Susitna Valley, 12 birds were detected (2019 = 1, 2021 = 3, 2022 = 11, 2023 = 15). On 11 July 2024, the U.S. Fish and Wildlife Service conducted one telemetry flight at Yukon Delta NWR, of the 12 birds were detected 7 were marked in 2022 and 5 in 2023. On the 21 and 22 August 2024, the Alaska Department of Fish and Game conducted two aerial telemetry flights in the Susitna Valley and the Palmer-Beluga area, 15 birds were detected (2021 = 1, 2022 = 5, 2023 = 9).

Known mortalities

Eleven recoveries were reported as shot or found dead between 1 July 2023 and 1 July 2024.

Pacific Brant Subcommittee

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

Population Status

The management index for the Pacific population of brant is the 3-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 2024 WBS indicated 107,772 brant, down from 2023, resulting in a 3-year average of 128,780 brant (2022-2024).

The number of brant estimated during the fall photographic aerial survey at Izembek Lagoon, Alaska (fall brant survey [FBS]) in October 2023 was 245,172 (SE 55,503). The 3-year average number of brant estimated during the FBS was 239,195 (2019, 2022, 2023; SE 53,496).

Harvest Information

The 2023 Harvest Information Program estimates were: California 451; Oregon 16; Washington 657; Alaska 2,348; for a Pacific Flyway total (including Alaska) 3,472 brant.

Alaska Department of Fish and Game staff conducted a statewide e-survey of hunters to provide another assessment of brant harvest in Alaska. Available email addresses (~1,400) were obtained for individuals who purchased an Alaska duck stamp and indicated that they planned to hunt brant during the 2023-24 waterfowl hunting season. A survey link, along with text explaining the purpose of the survey were sent to all hunters. Response rate was ~26%. Fall-winter harvest was estimated at 4,401 brant (95% BCI = 3,448–5,662). Total harvest related mortality (harvest + wounding loss) for brant was estimated at 4,636 birds (95% BCI = 3,653 to 5,944).

Washington reported their state led harvest monitoring for brant this past season indicated 281 were harvested. The photographic WBS in Washington is developing image recognition software to automate counts of wintering brant and plans to have this software operational for counts in 2025.

Management Activity

U.S. Fish and Wildlife Service (Service)-Yukon Delta National Wildlife Refuge (YDNWR) staff reported good production for brant on the Yukon-Kuskokwim Delta. The colony photographic survey was conducted in June for the first time since 2019 and results are pending.

Dr. David Koons (Colorado State University) reported brant banding operations within the Yukon-Kuskokwim Delta occurred in July 2024, and were conducted in collaboration with the Service-YDNWR. New bands were deployed on 1,016 brant and 306 individuals were recaptured. Field crews recaptured 76 of roughly 1100 goslings that were outfitted with webtags in 2024. With support from an AGJV operational banding grant, the use of a helicopter on two days allowed the crew to capture and band birds in areas that are typically difficult to access by boat and have not been visited in a decade. 543 new bands were deployed during the helicopter drives and 89 previously marked individuals were recaptured.

The U.S. Geological Survey (USGS)-Alaska Science Center (ASC) recently completed another annual assessment of eelgrass biomass and extent at Izembek Lagoon, Alaska. Reports and data from this and other eelgrass surveys in Alaska can be found here: www.usgs.gov/centers/alaska-science-center/science/eelgrass. USGS-ASC also produced a report on eelgrass cover and biomass at Izembek

Lagoon, Alaska. This report describes the most recent implementation of tier-1 eelgrass monitoring at Izembek Lagoon.

> Douglas, D.C., et al., 2024, Mapping eelgrass cover and biomass at Izembek Lagoon, Alaska, using in-situ field data and Sentinel-2 satellite imagery: bioRxiv, https://doi.org/10.1101/2024.08.07.607047

The USGS-ASC scientists worked with the Service to release model-based brant age ratio estimates from Izembek National Wildlife Refuge through 2023. This information is available at https://doi.org/10.5066/P9QIJIU2 and will be updated annually into the future to provide up-to-date information.

Service–Alaska Region reported on recent results from the FBS through 2023. The report was titled, "Fall Photographic Survey of Pacific Brant at Izembek Lagoon, Alaska: 2024 Update". The brant subcommittee met twice in August 2024 to discuss these results and determine a method to revise the 2018 harvest strategy and population objective given the subcommittee's February 2024 recommendation to use a new monitoring survey (the FBS). The subcommittee recommended the population objective and harvest management thresholds be adjusted using the relationship between the FBS and WBS from 2017-2023 (1.99). However, the subcommittee preferred to retain the closure and reopening thresholds (102,000 and 112,000, respectively) to maintain consistency with other closure thresholds used for Pacific Flyway geese. The subcommittee indicated the management index would be the most recent 3-year average of the brant estimate from the FBS. The subcommittee intends to revisit the 2024 harvest strategy as new FBS data becomes available and additional analysis are conducted to assess the thresholds.

Research Activity

California reported on the brant work that is currently funded by their state duck stamp funds. Those activities are:

1. Collect reference tissue samples of breeding black brant from the Yukon-Kuskokwim Delta and Arctic Coastal Plain.

2. Use double-digest restriction site-associated DNA sequencing (ddRAD-seq) on reference tissue samples to isolate single nucleotide polymorphism (SNPs) on the black brant genome.

3. Collect tissue samples from harvested black brant from Humboldt Bay.

4. Determine breeding location of black brant harvested from Humboldt Bay to generate a set of distinguishable genetic groups of black brant on the west coast.

USGS-ASC reported they continue goose work on the North Slope of Alaska. In 2024 they conducted late summer mark-recapture banding on the National Petroleum Reserve-Alaska, in coordination with the Bureau of Land Management-Arctic Office and USGS Western Ecological Research Center. These studies focus on marking black brant with GPS transmitters for monitoring the response of molting black brant to helicopter disturbance and for informing Bureau of Ocean Energy Management on brant migration corridors in coastal California.

USGS-ASC reported publication of a recent paper on the effects of changing abundance and availability of eelgrass on black brant at a key non-breeding site, Bahía San Quintín, Mexico. They discuss consequences for brant population trends and conservation.

Stillman, et. al., 2024, Predicting the response of a long-distance migrant to changing environmental conditions in winter. Ecology and Evolution, https://doi.org/10.1002/ece3.11619

USGS-ASC reported publication of a paper on the population genetic structure of North American brant. Within North America, brant geese are characterized by two phenotypically distinct subspecies that utilize disjunct breeding and wintering areas in the northern Pacific and Atlantic. This study examined the genetic structure of brant geese populations from each subspecies.

Wilson et al., 2024, Where east meets west: phylogeography of the high Arctic North American brant goose. Ecology and Evolution: https://doi.org/10.1002/ece3.11245

Recommendations

The subcommittee adopted two recommendations:

- The subcommittee recommends the Pacific Flyway Council (Council) adopts an addendum to the 2018 Pacific Brant Management Plan. The 2024 addendum includes a revised population objective and harvest strategy for Pacific Brant using the relationship between the Fall Brant Survey (FBS) and Winter Brant Survey (WBS; 1.99), a closure threshold of 102,000, a reopening threshold of 112,000, and a management index based on the recent 3-year average of the estimated number of brant from the FBS to inform harvest management decisions.
- The subcommittee recommends the U.S. Fish and Wildlife Service revises their Pacific brant harvest strategy (see 85 FR 51854 at 51860, August 21, 2020) following the 2024 brant harvest strategy addendum adopted by the Council, and the 2025–2026 brant season frameworks for Alaska, California, Oregon, and Washington be determined based on the results of the 2024 Fall Brant Survey (FBS). If results of the 2024 FBS are not available, results of the most recent FBS should be used.

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 in the year before the regulation year. The 2024 index was 18,788 (95% CI 16,589–20,988) geese, which is consistent with a closure of the 2025–2026 fall-winter season as specified in the harvest strategy from the Pacific Flyway Council (Council) management plan for emperor geese.

Harvest Information

The 2023–2024 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 500 birds. The hunt was open to both Alaska residents and non-residents. Registration permits were issued to 541 residents and 25 nonresidents. Reported harvest of emperor geese by resident hunters was 146 and by nonresident hunters was 24, for a total reported harvest of 170 geese.

The Alaska Migratory Bird Co-Management Council (AMBCC) Harvest Assessment Program has not been conducted since 2019, so there are no recent estimates of harvest.

Management Activity

The ADFG will have a 500-bird quota for the 2024–2025 fall-winter emperor goose hunting season.

The AMBCC – Executive Committee recommended the 2025 spring-summer subsistence season for hunting emperor geese be closed, consistent with the harvest strategy in the AMBCC Emperor Goose Management Plan.

As the terms of the 2016 emperor goose management plans have expired, the AMBCC and Council subcommittees met several times between November 2023 and April 2024 to continue discussions of revisions to the two management plans. The subcommittees plan to reconvene in fall 2024 to continue the management plan revision process with anticipated completion in spring 2025.

Research Activity

Bryan Daniels (USFWS - Yukon Delta National Wildlife Refuge) reported that nesting effort of all geese appeared high in 2024, and apparent nest success of emperor geese on Kigigak Island was 83%. The field crew recorded 136 band re-sights of emperor geese and captured and banded 48 nesting females to estimate survival, which is calculated to be stable to slightly declining since 2016 (survival from 2017-2024 was 79%).

Tyler Lewis (ADFG) reported continuing a multi-year study tracking movements, habitat use, diet, and survival of emperor geese. This past winter ADFG conducted capture trips to Shemya Island, in the far western Aleutian Islands, and Kodiak Island during January and March 2024, respectively. Emperor Geese were captured at roosting and feeding locations using rocket nets, marked with uniquely coded tarsal bands, and isotope samples were collected. These data are being used by a graduate student at Colorado State University to compare annual survival and overwinter diet between Shemya and Kodiak Islands. In addition, a small number of adult females (n = 6) were implanted with satellite transmitters (PTTs) during winter captures, which are programmed to transmit location and survival data for three to four years. Satellite transmitters (n = 30) were also implanted in adult females on the Yukon Delta breeding grounds in June 2024, increasing the total number of transmitters deployed over the last five

years to 162 adult females and 45 juveniles. Lastly, in 2024 ADFG continued a research project started in summer 2023 to better understand the effects of internal PTTs on the reproductive biology of emperor geese. Specifically, biologists visited nesting sites of PTT-marked adult females to ascertain effects of implanted PTTs on egg morphology, clutch size, and timing of breeding. Biologists found 15 nests of marked birds and preliminary indications suggest a reduction in clutch size and little or no effect on egg morphology.

Liliana Naves (ADFG) reported a new publication that includes two data sources for emperor geese: 1. Updated harvest estimates for emperor geese from 1987–2016 by subsistence region and hunting season; and 2. a graphic representation of 2017–2020 emperor goose harvest data by subsistence region and hunting season. Below is the citation for the publication:

> Naves L.C. and J.L. Schamber. 2024. Harvest of waterfowl and Sandhill Crane in rural Alaska: Geographic and seasonal patterns. PLoS ONE 19(7): e0307135. https://doi.org/10.1371/journal.pone.0307135

Recommendations

The subcommittee adopted one recommendation:

- The subcommittee recommends changing the Alaska Season Frameworks to close the 2025–2026 fall-winter season for emperor geese.

White Goose Subcommittee

Larisa Harding PhD, Arizona Game and Fish Department

Population Status

The Pacific Flyway winter white goose survey was conducted in December 2023. The most recent index of overall abundance was 1,418,375 for the areas surveyed in Washington, Oregon, and California. The current 3-year average across all survey areas is incomplete, but the 3-year average in California is 1,099,232 white geese, up 4% from the previous 3-year average, while numbers in Washington suggest white geese are declining.

Harvest Information

The 2023 Pacific Flyway snow goose harvest estimate from the Harvest Information Program (HIP) was 78,834 (3-year average = 103,487). The 2023 harvest estimate for Ross's goose from HIP was 16,642 (3-year average = 29,078). Concerns about classification of Snow and Ross's geese for HIP estimates suggest HIP estimates may not be accurate, particularly for harvest occurring during February and March in Washington and Oregon.

Idaho also conducts an independent harvest survey every three years, with the last survey in 2024 suggesting more than 40,000 white geese were harvested. This total is greater than amounts reported for Idaho in HIP, again raising concerns about classification of white goose species in HIP wing surveys.

Management Activity

Alaska Biological Research Inc. and the North Slope Borough took a hiatus from white goose and brant surveys on the Arctic Coastal Plain of Alaska in 2024. They have focused instead on refining their Artificial Intelligence processes for interpreting aerial images of nesting and brood-rearing geese. They plan to resume field surveys in the near future, with a new suite of image processing tools at their disposal. These groups are also working with Dr. Benjamin Jones at University of Alaska Fairbanks to investigate changes in snow goose nest distribution on the Ikpikpuk River delta relative to site conditions, such as vegetation, flooding, snow melt, and topography.

Josh Dooley and Mitch Weegman continue to develop an integrated population model for Pacific Flyway light geese (Wrangel Island and Western Arctic lesser snow geese).

Idaho is modifying light goose hunt zones to better align with hunter preferences.

Research Activity

The U.S. Geological Survey (USGS) continues to mark snow and Ross's geese with GSM transmitters in California.

Washington Department of Fish and Wildlife (WDFW) assisted in deployments of GSM neck collars during spring 2024 in the Stillaguamish Delta in the historical winter range of the Wrangel Island population. WDFW has secured funding for an additional 40 GSM neck collars for deployment this upcoming fall-winter. Updates will be shared with the subcommittee at future meetings.

The USGS published the following on Pacific goose migration (including lesser snow geese) and offshore wind turbines in California.

Weiser et al. 2024. Geese migrating over the Pacific Ocean select altitudes coinciding with offshore wind turbine blades. Journal of Applied Ecology. https://doi.org/10.1111/1365-2664.14612

Recommendations

The subcommittee adopted two recommendation(s):

- The subcommittee recommends no change to the regular goose season frameworks for white geese.
- The subcommittee recommends no change to the Alaska season frameworks for white geese.

Rocky Mountain Population Trumpeter Swan Subcommittee

Claire Gower, Montana Fish Wildlife and Parks

Population Status

The U.S. Fish and Wildlife Service (USFWS) reported the most recent survey of the U.S. breeding segment of Rocky Mountain Population (RMP) trumpeter swans was conducted during September 2023. The survey includes data from the tri-state region (Idaho, Montana, and Wyoming) and restoration flocks (Montana [Blackfoot valley], Nevada, and Oregon). Fall survey data are used to monitor the total number of white birds and cygnets fledged in relation to Flyway Management Plan objectives.

Observers counted 938 swans (white birds and cygnets) in the U.S. Breeding Segment for RMP trumpeter swans during fall of 2023, which was similar to the 2022 count of 940.

The number of white birds in the Greater Yellowstone Area (453) was a 4.2% decrease from last year's count of 473. The total number of cygnets increased 78.3% from 83 in 2022 to 148 in 2023.

Cygnet count in Montana increased from seven in 2022 to 67 in 2023 (857%); Wyoming cygnet production increased from 44 to 58 (32% increase) and decreased from 32 to 20 in Idaho (32% decrease).

Twenty-seven white birds were observed at the Summer Lake Wildlife Area (SLWA) and vicinity, and three white birds were observed at Malheur National Wildlife Refuge (NWR). Ruby Lake NWR, Nevada observed no white birds.

Oregon's winter survey was conducted February 22, 2024, at SLWA, where 231 trumpeter swans (198 white, 33 gray birds), 1,315 tundra swans, and 1,109 unclassified swans were observed. On the same day, 112 trumpeter swans (85 white, 27 gray birds), 486 tundra swans and 0 unclassified swans were counted at Malheur NWR.

During Nevada's winter swan count (no species separation), 1,260 swans were observed.

Utah's winter swan survey counted 17,257 tundra swans.

Harvest Information

Harvest estimates from the 2023–2024 swan hunting seasons indicate:

Idaho's expanded harvest was 12 swans (including one trumpeter swans),
Montana's expanded harvest was 136 swans (including 29 trumpeter swans),
Nevada's expanded harvest was 72 swans (including zero trumpeter swans).
Utah's expanded harvest was 1004 swans (including nine trumpeter swans). Last year (2023) Utah's wildlife board took the action of making the harvest of trumpeter swans illegal. Utah's season went the entire length, and nine trumpeter swans were taken and seized by Utah Division of Wildlife (UDWR); the quota is 20. This regulatory action has appeared to influence swan hunters' take of trumpeters and the individuals who took the birds either didn't know which species they had harvested and were informed as they came into a check station, or they self-reported their actions to the UDWR.

Overall, a total of 39 trumpeter swans were harvested during the past season.

Management Activity

The Study Committee has been working with Josh Dooley (USFWS) to develop a metric that would replace the current objective for the Canadian breeding segment in the RMP trumpeter swan plan. The current objective uses data from the North American trumpeter swan survey, which was discontinued in 2020. The subcommittee will continue to develop the new metric winter 2024, with the goal of having a final assessment complete at the February work meeting.

Nevada Wildlife Commission adopted a framework change of increasing Nevada's swan permits to 750, to be implemented for the 2024–2025 hunting season.

Oregon released 25 yearling and subadult swans at SLWA in June 2024. Six were Wyoming Wetlands Society (WWS) allocation to SLWA from 2023, and 19 were 2024 allocation from Zoo Idaho. The Zoo Idaho birds were hatched from various zoos or private captive pairs (TTSS coordinated in central Oregon) in 2021 (3), 2022 (2), 2023 (15). One additional Zoo Idaho bird was held back due to an injury but will be released when recovered. All birds received alpha numeric collars.

Wyoming released five yearlings in July 2024 at the new Council-approved Big Sandy restoration site at Mud Lake in the Pinedale Region. This is part of the 2023 cygnet allocation for the Big Sandy project. All were fitted with GPS/GSM collars. The site is a forested wetland complex at the far southern foothills of the Wind River range.

In February 2024, Council approved the allocation of captive-reared trumpeter swans for release at approved restoration sites. The actual number of cygnets available for release depended upon hatching success during spring 2024. Following guidelines in the Pacific Flyway Management Plan for RMP trumpeter swans, and as recommended by Council, state leads discussed an equitable allocation of available cygnets in early July 2024.

Based on 30 available cygnets from the WWS (at the date of this meeting) the allocation for 2024 cygnets is;
Middle Madison – 8
YNP – 8
Teton Basin – 8
Big Sandy – 6 (to be held over and released as yearlings in summer 2025)

There is no request from ODFW for WWS cygnets this summer.

As part of the restoration work, Idaho deployed GSM/GPS collars on four of the 100-day old female cygnets released in 2023. Of the four females that were marked last year, two have survived and are currently using Golden Lake at Harriman State Park. Idaho plans to mark released swans with GSM transmitters again this year. They purchased seven additional units and plan to deploy up to nine on birds this year.

Montana plans to deploy two GSM transmitters on released cygnets this upcoming fall to garner additional survival and distribution information.

Oregon flew a dedicated breeding TRUS survey in early July in Klamath, Lake, and Crook Counties; they observed 41 white birds (23 of which were just released), four broods (16 total cygnets), and two active nests. The remaining two of the recently released birds were not found during survey but were later detected from the ground. Turnbull NWR in Washington counted four pairs and four cygnets in spring 2024.

The Greater Yellowstone Trumpeter Swan Working Group (GYSWG) met in person April 2024; they plan to meet annually and develop more population and management applicable goals. One goal pertinent to the Study Committee is to work with Dave Olson (USFWS, R6) to develop a database of nesting data to be incorporated into the fall report.

Fall survey (combined with the RMP sandhill crane surveys) is scheduled for the week of Sept 23–27 (peak window is 24–26).

Research Activity

Utah plans to capture and instrument GPS/GSM units on trumpeter swans in the near future.

Isotope work is being done by Nicole Ibrahim at University of Maryland Center for Environmental Science. A manuscript is in preparation and a verbal report will be made to the Pacific Flyway Study Committee Spring 2025.

GSM work is being done by Sharon Poessel with USGS in Boise, Idaho. A manuscript titled "Movements and habitat use vary across the Rocky Mountain Population of Trumpeter Swans" is in peer review with Ornithological Applications.

Recommendations

The RMP trumpeter swan sub-committee has no recommendations.

Pacific Trumpeter Swan Subcommittee

Brandon Reishus, Oregon Department of Fish and Wildlife

Population Status

The subcommittee has identified an interim population abundance index to monitor the population after the discontinuation of the North American Trumpeter Swan Survey. The index is the estimated number of total (single, paired, and flocked) swans observed in strata 1–4, 6 & 7 in Alaska from the Waterfowl Breeding Population and Habitat Survey. The 2024 total birds index was 12,785 (SE 2,246; 95%CI 8,382 to 17,187) and the 3-year average was 14,969 (SE 2,684; 95%CI 9,709 to 20,229). The 2024 index is 14% below the LTA and the 3-year average is 50% above the interim population objective of 10,000 swans.

Harvest Information

Population is not subject to harvest.

Management Activity

Washington Department of Fish and Wildlife (WDFW) reported that during the 2023–2024 winter, 121 trumpeter swan mortalities were recorded, down from 310 in 2022–2023. Of these 121 birds, a minimum of 17 were attributed to lead poisoning, 54 were attributed to powerline strikes, 16 were suspected of Highly Pathogenic Avian Influenza (sampling priorities did not allow for confirmation swabs on all individuals), with 7 individuals collected as feather piles and additional 26 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.

The subcommittee is currently working towards a revision of the Council's management plan for Pacific population trumpeter swans and intends to change the plan to a status review document, similar to the Pacific population of sandhill cranes. The subcommittee plans to have the document ready for Council consideration in 2025.

Research Activity

WDFW through support of a graduate student project at California State Polytechnic University – Humboldt (CalPoly-Humboldt), deployed 19 GPS-GSM neck collars during January 2024 related to questions about movement and habitat use in the Skagit Valley of Washington, and migration routes and timing to breeding areas. More information will be shared with the subcommittee in future meetings.

Recommendations

The subcommittee did not adopt any recommendations.

Eastern Tundra Swan Subcommittee

Jason Schamber, Alaska Department of Fish and Game

Population Status

The management index for the Eastern Population (EP) of tundra swans is the 3-year average of the Mid-winter Waterfowl Survey in the Atlantic (AF) and Mississippi flyways, and Ontario Canada. In 2024, a total of 64,437 swans were counted during the survey. The 3-year average (2022–2024) mid-winter index was 99,316; 24% above the Management Plan population objective of 80,000 swans, but below the 110,000-swan threshold that allows for 12,000 permits to be issued for the 2025–2026 season.

Tundra swans breeding east of Point Hope, Alaska and across the Alaska Arctic Coastal Plain (ACP) belong to the EP (versus the Western Population of tundra swans), as they winter principally in the AF from New Jersey to South Carolina. The 2024 total bird index from the ACP survey was 11,033 (95% CI: 9,080 – 12,985); below the long-term (2007–2024) average of 14,832 birds.

Harvest Information

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

The spring-summer subsistence harvest has not been monitored via a harvest survey since 2019.

The total harvest in the AF and Central Flyway (CF) in 2023–2024 was 3,590 swans: DE (146), NC (2,514), VA (101), MT (59), ND (476), and SD (294).

Management Activity

None reported in the Pacific Flyway.

No change in the number of EP swan permits (no more than 5,600 in AF and 4,000 in CF) is allowed for the 2025–2026 season.

Research Activity

None reported.

Recommendations

The subcommittee had no recommendation(s).

Western Tundra Swan Subcommittee

Jason Jones, Utah Division of Wildlife Resources

Population Status

The status of Western Population (WP) tundra swans is measured using a 3-year average of the breeding ground index, which includes the combined total bird indices from the Waterfowl Breeding Population and Habitat Survey (Strata 8–11) and the Yukon Kuskokwim Delta Coastal Zone Survey (Pacific Flyway Council 2017). The 2024 breeding ground index was 74,181 (95% CI: 59,768–88,595) and the most recent 3-year (2022–2024) average was 82,508 (95% CI: 64,641–100,374) swans, 38% above the management plan objective of 60,000 tundra swans. During winter 2023–2024, the following states counted tundra swans: California – 46,186; Oregon – 12,059 (5,488 tundra swans and 6,571 unknown species); Utah – 17,257; Washington – 39; Nevada – 1,260.

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 2023–2024 were as follows: Alaska – 136; Idaho – 50; Montana – 500; Nevada – 650; and Utah – 2,750. During the 2023–2024 seasons, the following harvest was reported: Alaska – 22 tundra swans; Idaho – 9 tundra swans (one trumpeter swan); Montana – 136 tundra swans (29 trumpeter swans); Nevada – 72 tundra swans; and Utah – 1004 tundra swans (nine trumpeter swans).

Management Activity

In Idaho, of 50 permitted swan hunters, 10 swans were reported harvested, with one being a trumpeter swan (an expanded estimated harvest of 12 swans). In Nevada, harvest was down from previous years, likely due to tundra swans arriving late in response to mild weather. After four consecutive years of early closures, in spring 2023 the Utah Wildlife Board voted to prohibit trumpeter swan harvest. This action appeared to help keep the Utah swan hunting season from closing early. Specifically, nine trumpeter swans were killed in Utah (the quota is 20), and individuals who harvested birds either did not know or self-reported their actions to the Utah Division of Wildlife.

Research Activity

The Environmental Protection Agency (EPA) continues a study of lead (Pb) contaminants at the Bunker Hill Superfund Site in northern Idaho. Releases of Pb from Bunker Hill mining operations resulted in contamination of 7,000 ha of wetland habitat used by tundra swans during their northward migration. Tundra swans feeding in the contaminated wetlands experience high Pb exposures due to sediment ingestion as they forage for rooted plants. Remediation activities include converting agricultural lands to uncontaminated wetlands and water level management practices to reduce time waterfowl spend in contaminated wetlands. To better track remedy effectiveness, EPA initiated a study to determine the most appropriate long-term monitoring approaches to deploy at Bunker Hill. Last year, 12 birds were captured and received neck collars; nine received GPS neck collars.

Todd Katzner with the U.S. Geological Survey is finalizing his research on trumpeter swan movement ecology and stable isotope analyses of feathers collected from hunter-harvested or dead trumpeter and tundra swans. A final report and publication are forthcoming.

Recommendations

The subcommittee adopted two recommendation (s):

- The subcommittee recommended no changes to the framework for swan seasons.
- The subcommittee recommended no change to the framework for swan seasons in Alaska

Pacific Coast Band-tailed Pigeon Subcommittee

Melanie Weaver, California 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 2024 assessment of the MSS data suggested no significant trend in the median annual count of Pacific Coast band-tailed pigeons observed at mineral sites during the long-term (2004–2024), last ten years (2015–2024) and last five years (2020–2024), indicating no evidence for a change in Pacific Coast band-tailed pigeons over those time periods.

Harvest Information

Harvest and hunter participation are estimated from the Migratory Bird Harvest Information Program. Preliminary estimates from 2024 indicated total harvest, active hunters, and total hunter days afield for Pacific Coast band-tailed pigeons were 3,800 (95% confidence interval = 3,100–4,400) pigeons, 1,800 hunters, and 4,100 (3,700–4,600) days afield, respectively. Composition of harvest was 15% hatch-year pigeons.

Oregon noted that 846 people purchased band-tailed pigeon specific HIP permits (required for hunting pigeons).

Washington noted 169 from mandatory harvest report.

Management Activity

California Department of Fish and Wildlife obtained and deployed 19 MOTUS tags (five in coastal region and remaining in Sierra foothills). Initial objectives are to obtain general movement data to inform projects in the future.

Research Activity

The Washington Department of Fish and Wildlife continued to deploy GSM markers on pigeons, deploying a total of 40 over last several summers, and will share distribution at the winter meeting. This is intended to identify additional mineral site locations because current locations are being lost for various reasons. Four operational surveys have been added based on marking. Nevada has put out 10 GSM transmitters with the intention of finding new mineral survey sites. To date the birds have been observed crossing back and forth over the Sierra Nevada range (Georgetown- Tahoe basin). As a subcommittee we should develop more fundamental questions at the winter work meeting.

Joe Sands (USFWS R-1) marked band-tailed pigeons to test feasibility of trapping and marking for potential future projects.

Recommendations

The subcommittee adopted one recommendation:

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

Interior Band-tailed Pigeon Subcommittee

Adam Behney, Colorado Parks and Wildlife

Population Status

For the Interior population, the North American Breeding Bird Survey (BBS) indicated a long-term (1968–2022) decline (-2.1% per year, 95% credible interval = -4.6 to -0.5) in abundance, and that there were no trends during the recent 10- and 5-year periods. 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 2024).

Harvest Information

For the Interior band-tailed pigeon, the number of hunters who obtained a special permit was 326, 1,420, and 248 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 2023, total harvest, active hunters, and total hunter days afield were 1,366 (742–1,990) pigeons, 1,578 hunters, and 4,815 (3,879–5,751) days afield, respectively (Pacific Flyway HIP Data Book 2024).

Seamans, M. E. 2024. Band-tailed pigeon population status, 2024. U.S. Department of the Interior, Fish and Wildlife Service, Division of Migratory Bird Management, Washington, D.C.

Management Activity

None Reported

Research Activity

AZ has started a banding and telemetry study for interior BTPI. Planning to deploy 50 GPS/GSM solar transmitters across AZ. Have 17 deployed to date from four locations in the state.

Recommendations

The subcommittee adopted one recommendation:

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

Western Management Unit Mourning and White-winged Dove Subcommittee

Kyle Spragens, Washington Department of Fish and Wildlife

Population Status

The predicted abundance of mourning doves and respective credible intervals for 2024 in the Western Management Unit (WMU) is 50.70 million (70% CI: 42.39–58.94 million). The predicted abundance is consistent with the "Standard" regulatory framework as prescribed by the harvest strategy.

White-winged dove abundance is assessed through two surveys: the North American Breeding Bird Survey (BBS) and a state-specific survey in Arizona. The BBS indicates continental white-winged dove abundance has increased significantly during the most recently available 10-year period (2012–2022); however, abundance has not changed significantly in Arizona, California, or the Western BBS area during that same time period. Threshold values for each alternative use the most recent moving 3-year average BBS index value as a percentage of the long-term average index of abundance modeled from BBS data for white-winged doves in the WMU during 1968–2022. The most recent index prescribes the 'Standard' alternative.

Harvest Information

The 2024 WMU mourning dove harvest estimate was 1,534,500, an increase of 62% from 2023. The 2024 white-winged dove harvest estimate was 150,000, an increase of 79% from 2023.

Management Activity

The mourning dove harvest strategy will replace the current discrete logistic model with the Integrated Population Model now available for the WMU. Recent development of an Integrated Population Model for the WMU by Dr. David Koons and Dr. David Otis, with the assistance of the National Dove Task Force, represents a significant advancement in population estimation for the WMU. This model allows for the estimation of parameters that would not otherwise be estimable from any single dataset, reconciles bias among datasets, improves parameter precision, and provides insight into governing mechanisms of population dynamics. The model allows for spatiotemporal variation in vital-rate mechanisms and accounts for heterogeneity in demographic parameters across states in the WMU. It relies on banding, Parts Collection Survey, Harvest Information Program data, and BBS datasets.

Research Activity

None reported.

Recommendations

The subcommittee adopted three recommendation(s):

- U.S. Fish and Wildlife Service update the mourning dove harvest strategy to replace the current discrete logistic model with the Integrated Population Model now available for the WMU.
- adopt the 2024 revised Management Plan for the western white-winged dove.
- no change to the season framework for doves in the WMU, except to allow up to 15 white-winged doves in Arizona and California's daily bag limit.

  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 two 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. The daily bag limit is 15 mourning and white-winged doves in the aggregate.

Central Valley and Pacific Coast Populations of Sandhill Crane Subcommittee

Melanie Weaver, California Department of Fish and Wildlife

Population Status

The Midwinter Survey occurred in the Central Valley of California in early January 2024, however, data has not been received from the Central Valley Joint Venture observer.

Harvest Information

The Pacific Coast Population of sandhill crane is not subject to fall/winter harvest in Washington, Oregon, or California. Alaska fall harvest was 232 sandhill cranes.

The Alaska subsistence harvest survey has not been conducted since 2019.

Management Activity

None reported.

Research Activity

Cranes were marked at Ladd Marsh in OR.

The U.S. Geological Survey-Western Region marked 10 cranes with GSMs in the California Delta region for unknown reasons.

Recommendations

The subcommittee adopted one recommendation(s):

- The subcommittee recommends no change to the Alaska season frameworks for sandhill cranes.

Rocky Mountain Population Sandhill Crane Subcommittee

Larisa Harding PhD, Arizona Game and Fish Department

Population Status

The September 2023 survey of the Rocky Mountain Population (RMP) of sandhill cranes (cranes) detected 27,267 cranes, an increase of 8,635 (+46%) from 2022 (18,632 cranes). The most recent 3-year average (2021–2023) is 23,287 cranes. This average is greater than the population objective of 17,000–21,000 cranes described in the Pacific Flyway Council (Council) RMP Sandhill Crane Management Plan.

Harvest Information

State harvest estimates for the 2023–2024 crane seasons indicate Arizona harvested 49 (from an allocated 190), Idaho harvested 235 (from an allocated 267), Montana harvested 138 cranes (from an allocated 491), New Mexico harvested 607 (from an allocated 905), Utah harvested 167 (from an allocated 280), and Wyoming harvested 215 (from an allocated 326). The reported harvest does not include crippling loss. The 2023–2024 total harvest estimate was 1,411 which was 57% of the total harvest allocation of 2,459.

Management Activity

No activities are reported for 2023–2024.

Research Activity

Dan Collins, U.S. Fish and Wildlife Service, reported a total of 53 RMP cranes were banded in New Mexico this past 2023–2024 field season, with 34 banded, 15 auxiliary marked, and four GSM/GPS unit deployed. Efforts will continue to capture and band sandhill cranes in New Mexico for the foreseeable future.

Efforts to capture and outfit three sandhill cranes with leg GPS units in central Utah resulted in one banded RMP crane with a GPS transmitter. In part, this effort is to assess population affiliation of this segment as either Lower Colorado River Valley or RMP sandhill cranes.

Researchers at Colorado State (Rachel Vanausdall, Chris Malachowski, and Bill Kendall) are working with Dan Collins on a simulation study for mark-resight of markers to estimate abundance. This is an exploratory effort since marked birds are available for resighting.

The following publications may have implications for RMP sandhill crane management:

Vanausdall, R.A., W.L. Kendall, D.P. Collins, and Q.R. Hays. 2024. Time of year and weather influence departure decisions of sandhill cranes at a primary stopover. Frontiers in Ecology and Evolution 12:1279279 doi: 10.3389/fevo.2024.1279279

Donnelly, J.P., K. Jensco, J.S. Kimball, J.N. Moore, D. Ketchum, D.P. Collins, D.E. Naugle. 2024. Beneficial ‘inefficiencies’ of western ranching: Flood-irrigated hay production sustains wetland systems by mimicking historic hydrologic processes. Agriculture, Ecosystems & Environment 370:109051. https://doi.org/10.1016/j.agee.2024.109051

Recommendations

The subcommittee adopted two recommendations:

- The subcommittee recommends no change in the season framework for Rocky Mountain Population (RMP) sandhill cranes.

- The subcommittee recommends that allowable harvest will be determined by the formula described in the Pacific and Central Flyway Management Plan for the Rocky Mountain Population of Sandhill Cranes pending results of the 2024 fall abundance and recruitment surveys.

Lower Colorado River Valley Sandhill Crane Subcommittee

Dan Collins, U.S. Fish and Wildlife Service – Southwest Region

Population Status

Arizona Game & Fish Department (AZGFD) estimated a collective total of 5,156 cranes at Cibola National Wildlife Refuge (NWR), Salton Sea NWR, Gila River and Colorado River Tribal Lands, with the 3-year average at 4,554. The population objective is to maintain a minimum of 2,500 cranes as measured by the 3-year average. An estimate of recruitment was generated for Cibola NWR at 8.6%.

Harvest Information

None reported. -

Management Activity

Cibola NWR is evaluating their farming activities, potentially reducing the footprint of available resources to overwintering cranes.

AZGFD will pursue establishing a hunt in Lower Colorado River Valley by coordinating with National Wildlife Refuges along the Lower Colorado River to update Environmental Assessment and Hunt Plans.

Research Activity

None reported.

Recommendations

The subcommittee adopted no recommendations.

Midcontinent Sandhill Crane Subcommittee

Dan Collins, U.S. Fish and Wildlife Service – Southwest Region

Population Status

The Management Guidelines for the Mid-continent Population of Sandhill Cranes identifies the annual spring photo-corrected aerial transect survey of the Platte River in Nebraska as the primary measure of population status. The management index is the average of the three most recent and reliable photo-corrected estimates from the annual spring survey. The 2024 photo-corrected estimate was 420,840 cranes and the management index (3-year average) was 788,505 cranes. The management index is 60% above the upper threshold of the population objective range of 350,000–475,000 cranes.

Harvest Information

In the 2023–2024 season: Alaska reported a harvest of 1160 cranes (Harvest Information Program), Arizona harvested 585 cranes, and New Mexico reported a harvest of 389 cranes (in the Central Flyway portion of the state).

Management Activity

No management activity reported.

Research Activity

No research activity reported.

Recommendations

The subcommittee adopted one recommendation:

- The subcommittee recommends no change in the Alaska and Arizona season frameworks for sandhill cranes.