Funds Distribution Report

CHARITABLE CONTRIBUTIONS

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Tulalip, WA 98271

TulalipCares.org

Recipient Organization:
Puget Sound Bird Observatory

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Seattle, WA 98165

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https://www.pugetsoundbirds.org

Organization's General Goals:
Puget Sound Bird Observatory (PSBO) studies birds and their habitats in the Pacific Northwest to better understand changes in bird populations, to inform decision, and to engage the public with birds and their needs.

Date of Award:
2025 Q3

Level:
$2,501 to $5,000

For more information, please read the attached report from Puget Sound Bird Observatory.

Tulalip Cares Funding Grant - Final Report (Q3 2025 14.2)

Documentation describing PSBO's use of grant funds that bridged a critical gap in federal funding in specific support of our work across a key program, the Puget Sound Seabird Survey (PSSS).

On behalf of the Board of Directors of Puget Sound Bird Observatory (PSBO), I extend our sincere appreciation for the funding provided by Tulalip Tribes Charitable Fund allowing us to bridge the gap caused by disruptions in Federal funding for an awarded Washington Sea Grant Research Proposal. After the Trump administration stripped the funding from this award, it was re-approved by the courts but the reality that it would take months to materialize left one of our key monitoring programs, the Puget Sound Seabird Survey, in jeopardy. Tulalip Cares funding supported on-going project coordination and funded the tools and technologies associated for this multi-site data collection program until funding was restored. We are forever grateful.

Cindy Easterson, PSBO Director/Treasurer

Puget Sound Seabird Survey – Gap Funding

A Survival Story - Helping Community Science Data Flourish

Puget Sound Bird Observatory (PSBO) studies birds and their habitats in the Pacific Northwest to better understand changes in bird populations, to inform wildlife management decisions, and to engage the public with birds and their needs. PSBO is a 501(c)(3) organization of dedicated scientists, researchers, bird enthusiasts and volunteers who are working together to strengthen our knowledge of our region's avian residents.

The Puget Sound Seabird Survey (PSSS) monitoring dataset is among the most extensive in the Pacific Northwest and was being used for predictive modeling, species vulnerability assessment and habitat prioritization through a funded award from a Washington Sea Grant Proposal, but disruptions in Federal funding interrupted the flow of those funds causing a crisis point for the small non-profit, PSBO. Without deep pockets to cover the break in funding, this long-term monitoring project was in jeopardy. Even after the funding was re-approved, we were informed it would take months to restore the cash flow. The Tulalip Cares funding sustained this program in flight and on-track so that the critical analysis of this long-term data set could be used to better understand how the integration of community science data with long-term aerial surveys could be used to better understand seasonal and long-term shifts in marine bird use of Puget Sound

Puget Sound Bird Observatory extends its deepest gratitude to the Tulalip Tribes Charitable Fund for providing essential gap funding during a period of unexpected federal cuts. Your support ensured that the Puget Sound Seabird Survey — a community powered monitoring program now in its 17th year — continued without interruption across 171 shoreline sites. Because of your investment, 309 trained volunteers contributed more than 2,831 hours of field effort, safeguarding a continuous dataset that is foundational to understanding the health of the Salish Sea.

For the Tulalip Tribes, whose sovereignty, culture, and treaty reserved rights are inseparable from the well-being of these waters, the continuation of this work may carry particular meaning. Seabirds are among the first responders to changes in marine ecosystems. Their presence, absence, and behavior reflect the condition of forage fish, water quality, eelgrass beds, and nearshore habitats — resources that Tribal citizens have stewarded since time immemorial. By sustaining this monitoring effort, the Tribe ensured that these ecological signals were not lost, and that long term trends essential to management and restoration planning remain intact.

Your support also protected the integrity of ongoing University of Washington SeaGrant research, which relies on uninterrupted PSSS data to analyze species distribution, winter survival, and ecosystem change. Without the Tribe's timely intervention, a full season of data — and the scientific insights it enables — would have been lost. Instead, the Tulalip Tribes made it possible for researchers, managers, and Tribal and non-Tribal partners to continue drawing on a robust, region wide dataset that informs decisions across the Salish Sea.

Equally important, your funding sustained one of the region's largest community science stewardship networks. Hundreds of volunteers — many of whom have monitored the same beaches for years — were able to continue contributing to a shared understanding of the Sound's health. Their work reflects a broader ethic of care that aligns deeply with the Tribes' long-standing leadership in protecting the lands and waters of this region.

The Puget Sound Bird Observatory is honored to partner with the Tulalip Tribes in this work. Your investment reflects a commitment not only to science, but to the living systems, cultural connections, and future generations who depend on a thriving Salish Sea. We are grateful for your leadership and proud to continue this shared stewardship together.

University of Washington Modeling Progress

Support from the Tulalip Tribes ensured that the Puget Sound Seabird Survey continued uninterrupted, allowing University of Washington researchers to move forward with a major analysis of long-term changes in wintering marine bird populations. This work combines more than a decade of PSSS community-science data with the Washington Department of Fish and Wildlife's midwinter aerial surveys, creating the most comprehensive dataset available for understanding how sea ducks and other marine birds are responding to environmental change in the Salish Sea.

Over the past year, the UW team refined a new "community integrated model" that allows multiple species and multiple monitoring programs to be analyzed together. After extensive testing with both simulated and real data, this approach emerged as the strongest and most reliable method for detecting changes in abundance, distribution, and habitat use. A full draft manuscript—now under co-author review—details this modeling backbone and incorporates important camera-correction improvements to the long-term aerial survey dataset. This corrected dataset will significantly strengthen future analyses and is now being extended to include PSSS data.

Early environmental results offer insights that are directly relevant to Tribal stewardship. The team examined how sea surface temperature, water depth, and major Pacific climate oscillations influence sea duck populations. While the broad climate oscillations showed little overall effect on the sea duck community, species-specific differences did emerge. Sea surface temperature showed a clearer pattern: most sea duck species (8 of 11 examined) were more abundant in areas with warmer-than-average winter water temperatures. Depth also played a meaningful role in shaping where sea ducks were found, underscoring the importance of nearshore and mid-depth habitats.

These findings represent the first steps in a larger effort to understand how marine birds respond to changing environmental conditions in Puget Sound. As the next phase of work incorporates the full PSSS dataset, the model will be able to examine seasonal patterns, refine habitat relationships, and provide more detailed information on how climate-driven changes may affect species that are culturally and ecologically important to the Tulalip Tribes.

On the following page, **Figure 1** compares four different ways of estimating how sea duck populations are changing over time. The goal is to understand which method gives the most reliable picture of what's happening in the Salish Sea.

The "Mean Population Growth" helps us understand how modeling helps us understand whether sea duck populations are growing, declining or stable. Each bar represents one species (and the community as a whole) and shows its estimated annual population growth under each modeling approach.

- The vertical dashed line marks "no change" — populations staying stable.
- Boxes to the right of the line suggest growth.
- Boxes to the left suggest decline.

By comparing these four models, we can see whether different models tell the same story about population change — and which model gives the clearest, most consistent results.

The bottom row of boxes shows how many sea ducks are in the Salish See over time from 2000 to 2020.

- Solid lines show the best estimate.
- Shaded or dashed areas show the uncertainty around those estimates.

This helps us understand long term trends — whether populations are increasing, decreasing, or fluctuating — and how confident we can be in those patterns.

Across all species and all years, the integrated community model (the blue one) provides the most stable, consistent, and biologically realistic results. This is the model UW will use going forward — and it is only possible because the Tulalip Tribes helped ensure uninterrupted PSSS data collection.

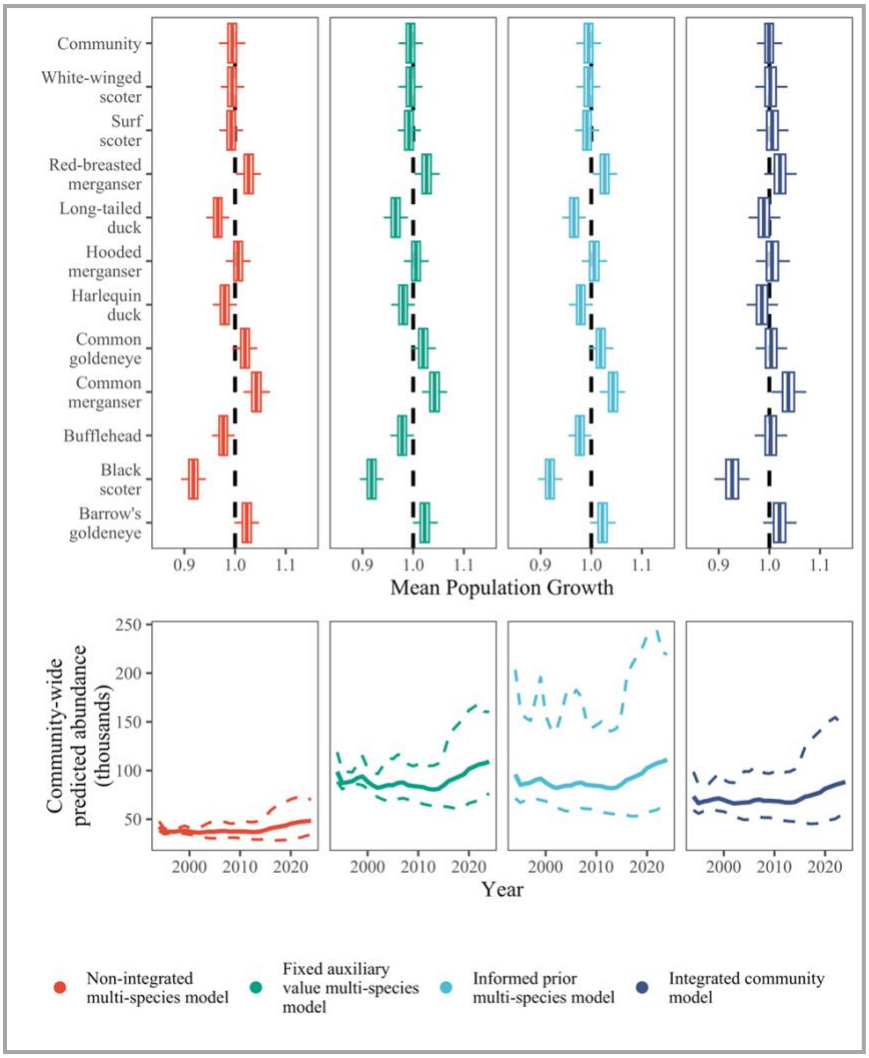


Figure 1: ***Showing how the different scientific models estimate sea duck populations. The blue model — the integrated community model — gives the clearest and most reliable picture. It shows which species are stable, which may be declining, and how total sea duck numbers have changed over the last 20 years. This model is now the foundation for understanding long-term trends in the Salish Sea, and it depends on the continuous data collection that the Tulalip Tribes helped make possible.***

PSBO will provide a copy of the peer reviewed manuscript from this modeling to the Tulalip Tribes after final analysis later this year.

In Conclusion:

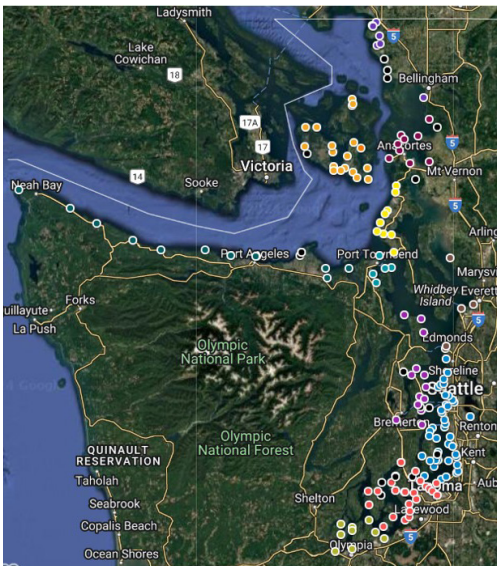
As we conclude this report, we extend our sincere gratitude for your support during this essential gap-funding period for the Puget Sound Seabird Survey. Your investment ensured that PSBO could complete the analyses needed to translate more than a decade of community-science seabird monitoring into actionable insights for regional conservation.

This project is powered by a remarkable network of 309 trained volunteers who return to the shoreline month after month to collect consistent, high-quality data across Puget Sound. Their dedication transforms the survey from a monitoring effort into a region-wide collaboration, generating information that no single agency or organization could gather alone. This gap funding allowed us to honor their thousands of hours of effort by fully analyzing and elevating the value of the dataset they helped build.

The results of this work directly support the agencies, tribes, researchers, and coastal managers who rely on reliable, long-term data to guide decisions in rapidly changing marine environments. The analyses completed during this period are especially important for species of concern such as Scoters and Long-tailed Ducks, which are sensitive to shifts in prey availability, habitat condition, and human activity. By identifying spatial and temporal patterns in abundance, distribution, and habitat use, the PSSS dataset helps managers pinpoint where conservation actions can have the greatest impact—whether through protecting key foraging areas, evaluating nearshore restoration outcomes, or detecting early signals of population change.

Thank you for ensuring that this community-powered monitoring program continues to inform science-based management across Puget Sound and for helping us amplify the contributions of every volunteer who makes this work possible.

More information can be found on our website at:
www.pugetsoundbirds.org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