2020 PROJECT UPDATE

Avian Monitoring in Puget Sound Estuaries

A collaborative effort by the Marine Birds Work Group of the Puget Sound Ecosystem Monitoring Program (PSEMP)

Science for Conservation

Avian monitoring in Puget Sound estuaries consists of a number of independent monitoring programs that apply disparate survey designs, protocols, and objectives in their monitoring efforts. The lack of regional coordination limits our ability to evaluate avian responses to environmental change and constrains the integration of avian needs into estuary restoration and management planning.

A regional monitoring framework that brings consistency to field methods and strengthens data outputs can help us deliver conservation outcomes for birds by:

1) Increasing our knowledge of the processes affecting bird populations;

2) Generating credible data that can be used to increase public engagement and support for habitat restoration and management.

NEW IN 2020: AVIAN HABITAT MODELS

Understanding the habitat drivers influencing species occupancy is a critical information need for adaptive management of birds and estuary habitat.

In 2020, a collaborative team from the Marine Birds Work Group affiliated with the Puget Sound Ecosystem Monitoring Program (PSEMP) will develop bird-habitat relationship models for focal species associated with estuary habitats.

Model development will inform the design of a regional monitoring framework and provide a scientific basis for integration of bird values in estuary restoration and management.

Proposed species for analysis include:

Dunlin (mudflats)
Greater Yellowlegs (marsh/channels)
Pacific Brant (eelgrass)
Northern Pintail (mudflats and marsh)
Marsh Wren (high marsh)

Dunlin
Photo: Karl Bardon

Project Background

The project has several distinct components:

1) Inventory bird monitoring projects associated with tidal restoration in Puget Sound river delta estuaries and synthesize what was learned. (Koberstein et al. 2017)

2) Identify stakeholder avian information needs and develop recommendations for standardized monitoring. (Bayard et al. 2019)

3) Conduct partner outreach to identify synergies with land owners, managers, biologists, and members of the salmon recovery community. This effort is ongoing.

4) Develop a scientific framework for avian monitoring in coastal estuaries that addresses shared regional priorities. Proposed NTA in the 2018-22 Puget Sound Partnership Action Agenda.

INVENTORY AND SYNTHESIS: KEY FINDINGS

- Twenty-one dike removal projects were initiated in Puget Sound between 1994 and 2016. Of those 21 projects, 14 had bird monitoring.
- Avian monitoring efforts are not standardized. There is considerable variation in methodological and analytical approaches, objectives and performance standards.
- Pre and post restoration monitoring is inconsistent across sites and time. Project managers are constrained to sample at biologically relevant scales.
- Monitoring reports provide summaries of avian response, with very little or no use of statistical methods.
- Justification for restoration activities and associated bird monitoring is not tied to regional or population-level bird conservation objectives.

STAKEHOLDER WORKSHOPS: KEY FINDINGS

- Estuary stakeholders need access to credible data at multiple spatial and temporal scales to understand and communicate the status of bird populations, understand the mechanisms driving their population trends, weigh the implications of different management actions, reduce human conflict, and invest strategically in conservation outcomes for birds and other species.
- Development of a coordinated monitoring framework will facilitate the integration of birds into estuary restoration efforts and will dramatically improve our ability to deliver conservation outcomes for birds in a time of rapid environmental change.
- Birds are a significant engagement tool for conservation because they occur in all habitats, are easily accessible, and are highly charismatic. They can help connect people to our capital investments in nature, and provide an indicator of marine and estuarine ecosystem health for managers and decision-makers.

For More Information

The 2020 Project Update was prepared by Audubon Washington on behalf of the PSEMP Marine Birds Work Group and synthesizes content originally produced by:

Koberstein, M., Slater, G., Bayard, T., and T. Hass. 2017. Avian Monitoring in Support of the Estuaries Vital Sign in Puget Sound: Inventory and Assessment. Report to the Puget Sound Partnership, Tacoma, WA. https://pspwa.box.com/v/Koberstein2017

Bayard, T. Slater, G., Spragens, K., and A. Summers. 2019. Recommendations for a Puget Sound Estuary Avian Monitoring Strategy. A synthesis report to the Puget Sound Ecosystem Monitoring Program and Puget Sound Partnership. Tacoma, WA. https://pspwa.box.com/v/Bayard-avian-strategy

Project Steering Committee: Audubon Washington, Center for Natural Lands Management, Stillaguamish Tribe of Indians, WA Dept. of Fish and Wildlife

Funding: Puget Sound Partnership, Puget Sound Ecosystem Monitoring Program, Stillaguamish Tribe of Indians

CONTACT: TRINA BAYARD, PROJECT LEAD. TRINA.BAYARD@AUDUBON.ORG; 206-652-2444 X 109

PUGET SOUND ECOSYSTEM MONITORING PROGRAM
The backbone organization for Puget Sound monitoring

Audubon WASHINGTON

Washington Department of FISH and WILDLIFE

STILLAGUAMISH TRIBE of INDIANS

Center for Natural Lands Management