Oregon's High Desert Wetlands: Conserving Migratory Birds in a Changing Climate

Commission Climate Report
June 14, 2024
Chiloquin, Oregon

Emily VanWyk & Sarah Reif

Oregon Department of Fish and Wildlife

FWC Climate & Ocean Change Reports

2024 Theme: Species Resilience in a Changing Climate

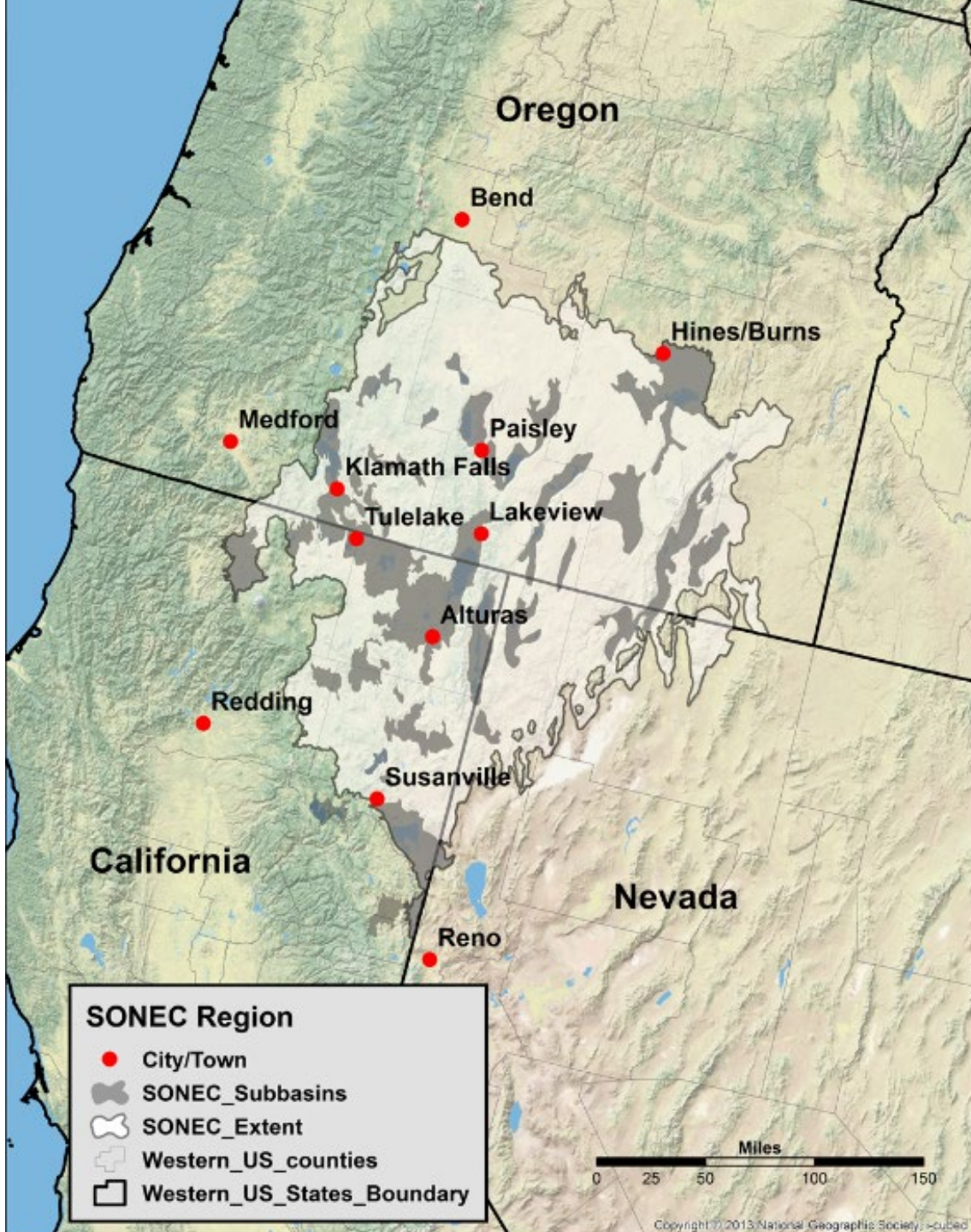
- Natural & Working Lands
  - Agriculture and Rangelands - March
  - Blue Carbon Habitats - April
  - **High Desert Wetlands - June**
  - Forestlands - TBD
- Land Use, Energy Siting - TBD
- Invasive Species - TBD
- FWC/Partner Roundtable - December

Oregon's High Desert Wetlands

OREGON
Fish & Wildlife

Landscape Context

- SONEC – Southern Oregon Northeastern California
- Mosaic of wet habitats within an arid landscape



OREGON Fish & Wildlife

Landscape Context

Working wet meadows

Flood irrigated lands, including irrigated pasturelands, create high quality habitat for birds

Natural wetland habitat

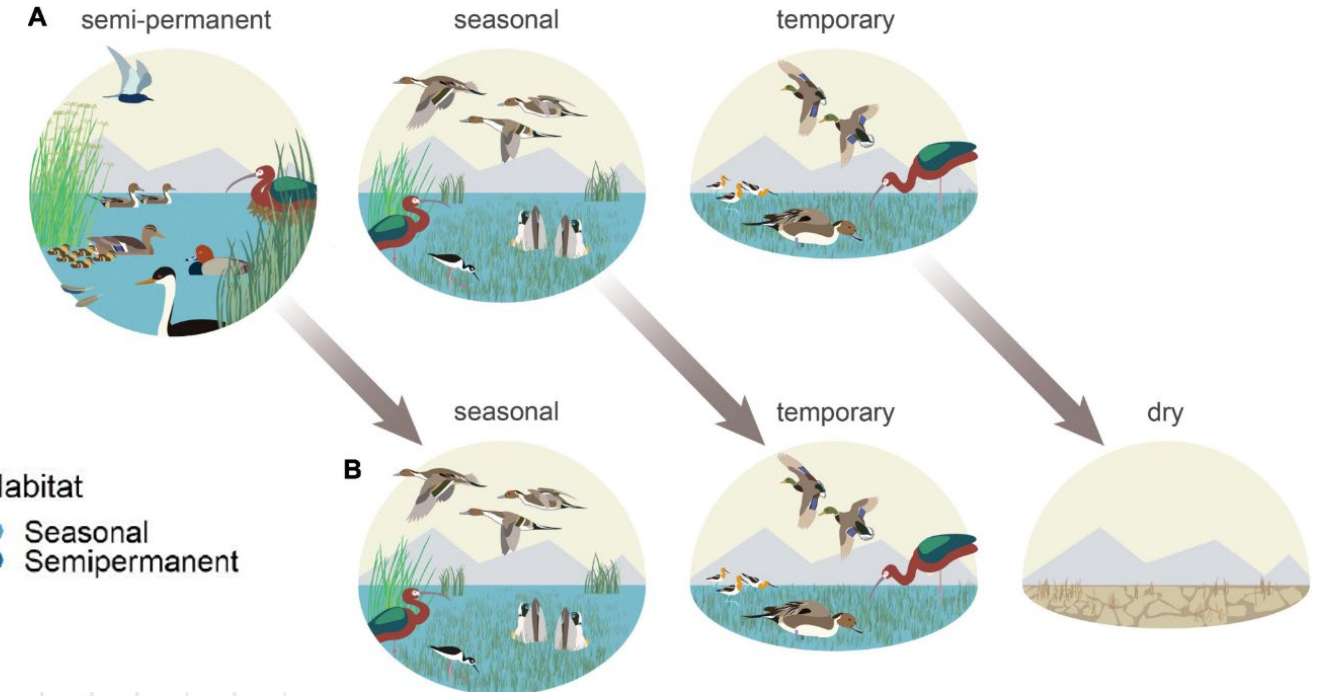
State and federal agencies and private landowners manage wetland habitat for wildlife

Landscape Context

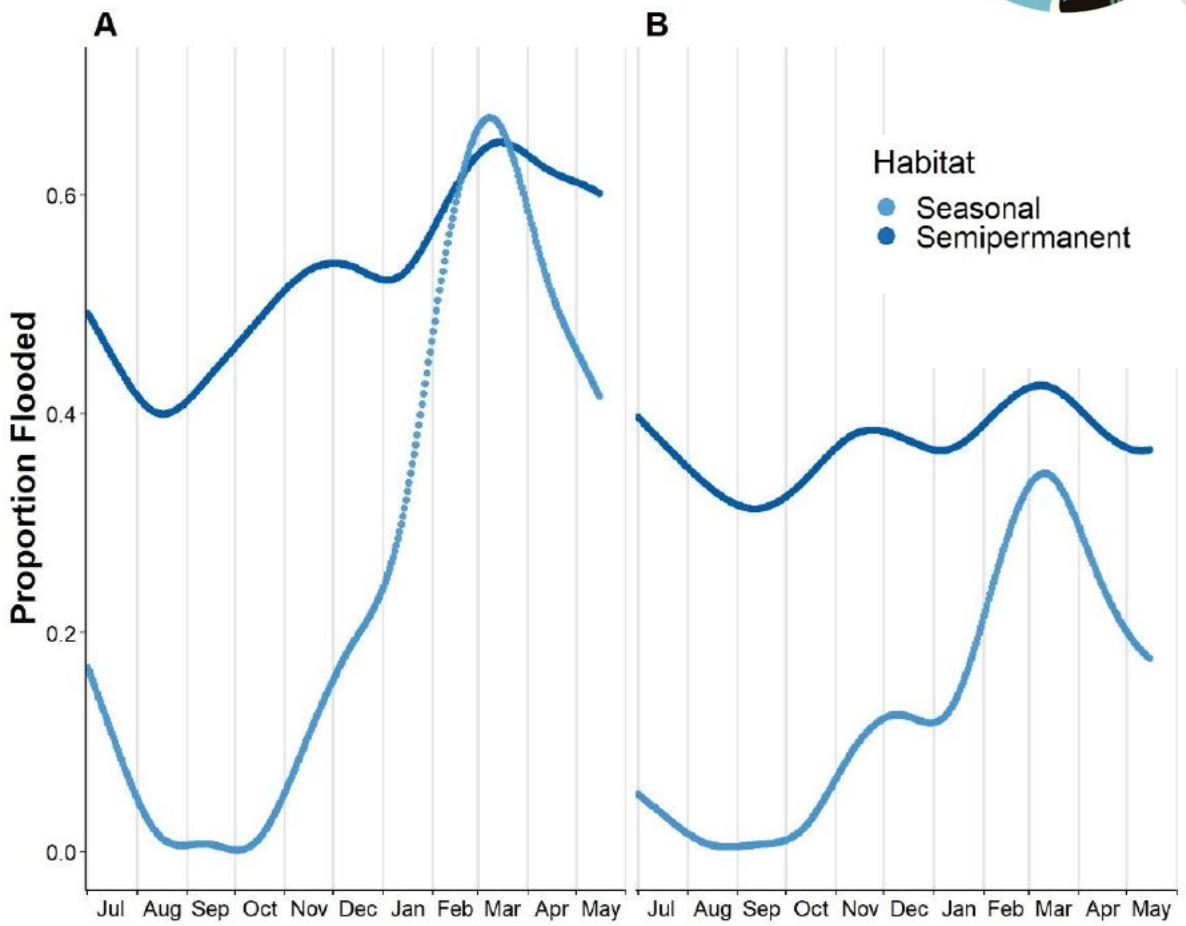
Continentally important bird habitat

- Critical stopover sites link bird migration from the Arctic to South America
- Supports up to 70% of migratory birds in the Pacific Flyway (>6 million birds)

Decreasing Water Availability



Adapted from Donnelly et al. 2022



Adapted from Reiter et al. 2024

Left: Estimates of the daily proportion of wetlands flooded within the Klamath Basin during A) 2002-2006 or B) recent drier (2016-2020) time periods.

Top: Shortened hydroperiods and decreased water availability may result in a shift in wetland functional habitat type in row **A** to row **B**

OREGON Fish & Wildlife

Drivers of Wetland Loss

Water Decline

- Increased temperatures
- Decreased precip - Drought
- Water use
- Unprecedented fires
- Water quality issues

OREGON Fish & Wildlife

Direct Effects

- Functional Habitat Loss
- Diminished Food Availability
- Regional Population Declines

ODFW and Partner Actions

Research and Monitoring

- Intermountain West shorebird survey
- Researching habitat use by focal species
- Tracking migratory connectivity

Assessing Climate Resilience

- Species specific habitat models

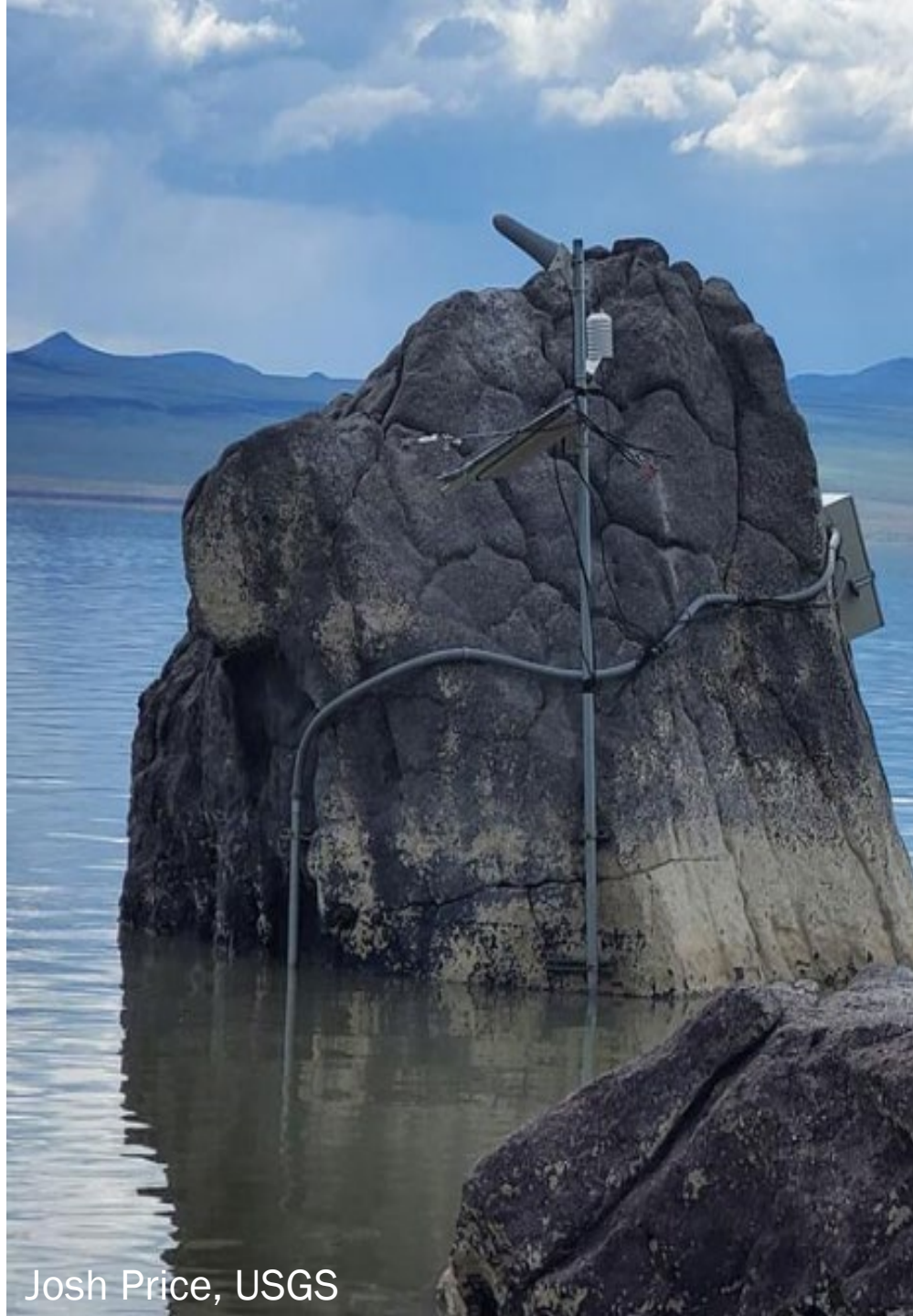
ODFW and Partner Actions

Water Monitoring

- New Lake Abert USGS gage (joint ODFW/OWRD funding)
- 2 regional instream flow studies in 2024

Water Protection

- 14 instream water right applications submitted in 2022


Josh Price, USGS

ODFW and Partner Actions

Summer Lake Wildlife Area

- Groundwater decline: 25% reduction in spring output in last 50 years
- Transition to seasonal wetland management
- Rotate wetland units through a seasonal drying – restoring – flooding cycle
- Benefits to shorebirds, waterbirds, waterfowl, birders, and hunters

ODFW and Partner Actions

Partnership for Lake Abert and the Chewaucan (PLACe)

- Collaborative effort to address water management issues in Lake Abert and the Chewaucan River Watershed
- Tribes, ranchers, environmental groups, agencies, local government
- Focused on water needs for ag, communities, Lake Abert, wet meadows, fish & wildlife

Win-Wins for Working Lands and Wildlife

Example: Flood irrigation

- Mimicking seasonal wetlands for migratory birds
- Supporting hay and livestock production
- Trade-offs of water efficiency vs. ecosystem function

Addressing Species Resilience in High Desert Lakes

Challenges

- Uncertainty
- Data Gaps
- Capacity Gaps
- Increasing demand for water

Opportunities

- Restoration momentum increasing
- Strong and growing partnerships
- Unprecedented funding

OREGON Fish & Wildlife

Take Aways:

Our high desert wetlands are critical

- Consider multiple scales – from the wetland to the flyway
- People are critical to success
- Water solutions require everyone at the table
- Returning to natural function is the best form of resiliency
- Win-wins for working lands and wildlife are the key

OREGON Fish & Wildlife

Thank you!

Oregon Department
of Fish and Wildlife