

Intermountain West Shorebird Surveys:

A 30-year Perspective on the Health of a Critical Network of Saline Lakes and Freshwater Wetlands

Project Summary Fall 2022

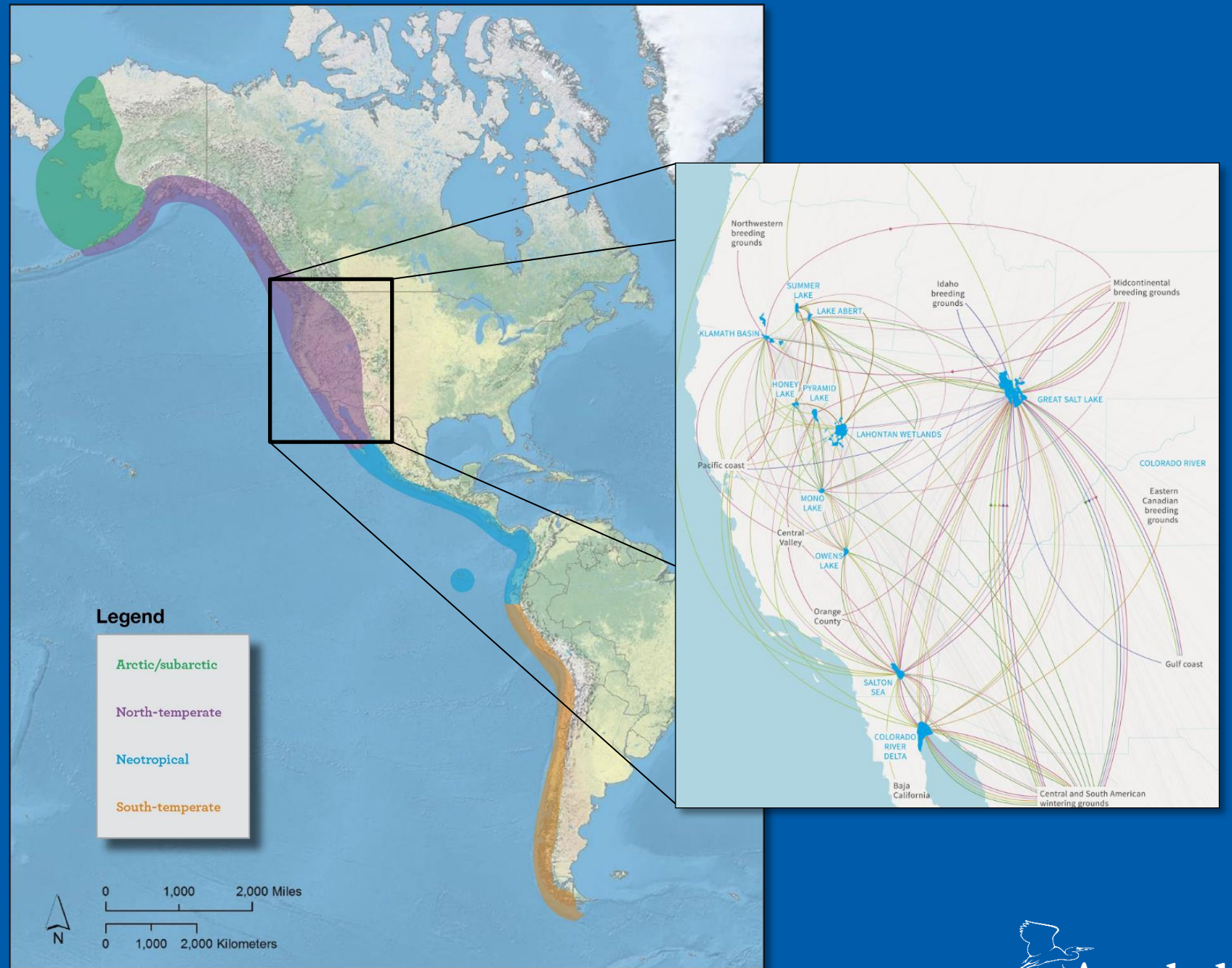
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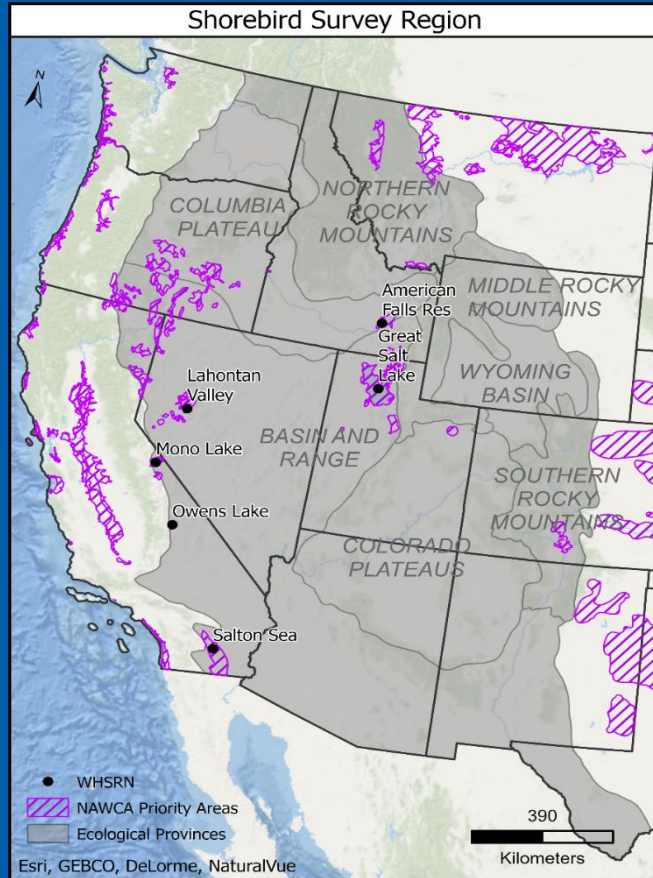
*Migratory shorebirds
are sentinels of
environmental change*

*Indicators of
ecosystem health for
vast and local wetland
networks*

*Freshwater wetlands and
saline lakes of the
Intermountain West
compose a critical interior
habitats used during regional
and hemisphere-wide
migrations*



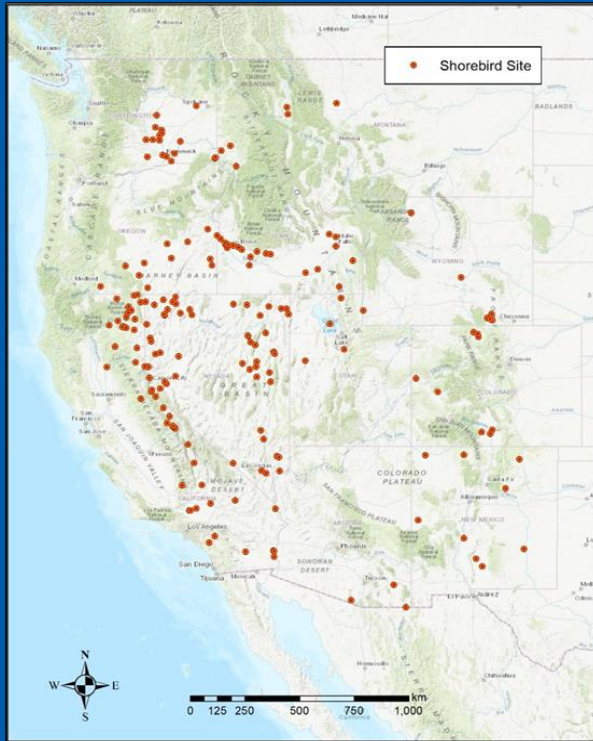
System-wide Data Needed



- **Critical migration stopovers for shorebirds but these key data gaps are limiting informed decision making:**
 - *Distribution and relative use of interior wetlands and saline lakes*
 - *Local and regional trends in abundance and diversity*
 - *Coordinated survey network & standardized protocol*
- **Comprehensive survey from 1989 - 1995¹**
 - *“No net loss” wetland policy in 1985*
 - *Climate change → multidecadal drought*

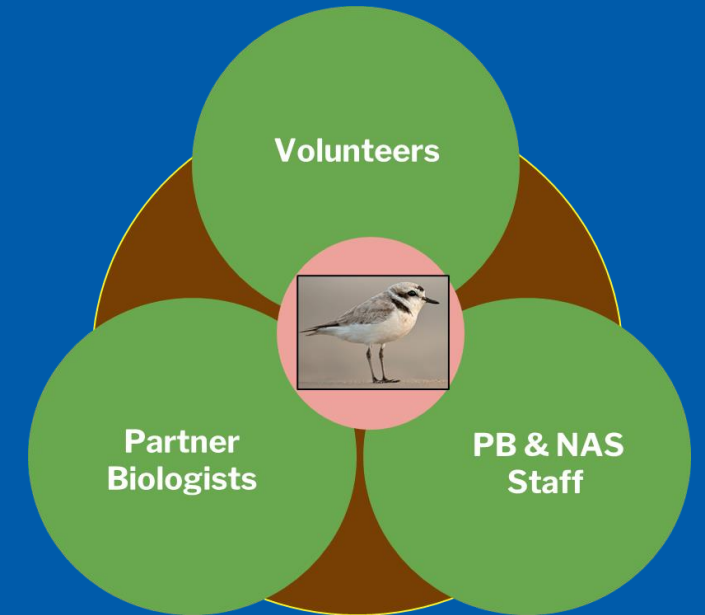
¹ Shuford WD, GW Page and LE Stenzel. 2002. Patterns of distribution and abundance of migratory shorebirds in the Intermountain West of the United States. *Western Birds*. 33:134-174.

Regional Research Objectives:



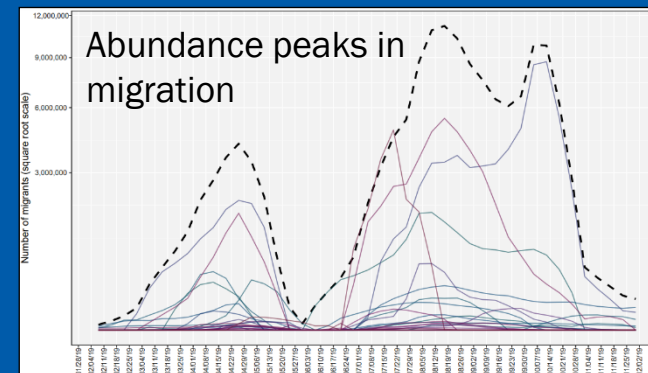
1. Comprehensively survey shorebird sites of the Intermountain West using a network of partners (~200 sites)
2. Compare current distributions to historic surveys → 30-year change
3. Quantify environmental- and human-related factors driving distributions

(4. Compose framework for ongoing monitoring of the regional network)



Methods and Data

- **Sampling Frame: Interior US Pacific Flyway**
- **Habitat types:** range in food production, and reliability
 - Saline lakes, freshwater wetlands, lakes/reservoirs, rivers, flooded ag
- **Repeated snapshot surveys:**
 - 3 spring and 3 fall surveys
 - 1 week window spring (24-30 Apr), 2 weeks fall (9-22 Aug)
 - All shorebird species, potential for other waterbirds



Initial Surveys August 2022

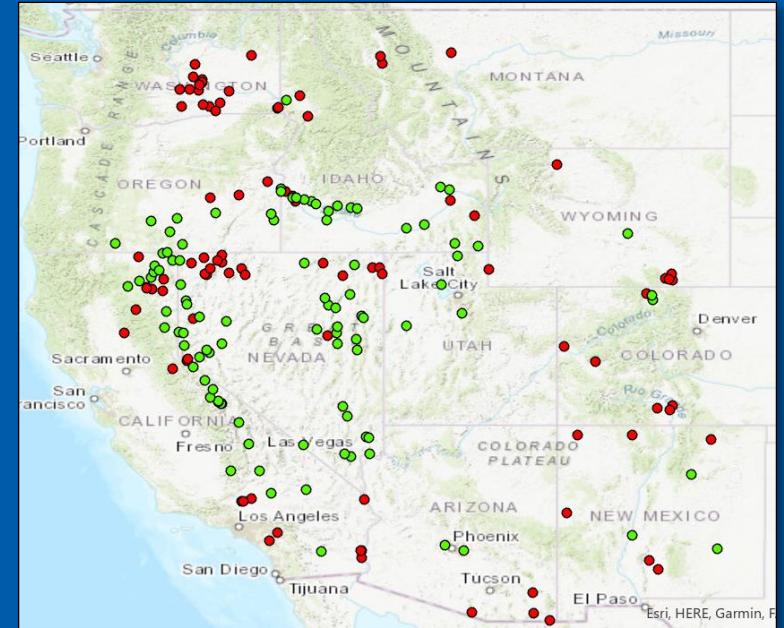
- ~110 sites visited in 8 of 11 Western States
- ~200 participants
- ~350,000 shorebirds counted

Key Sites Surveyed:

- Great Salt Lake (>225k), American Falls, Lake Abert, Summer Lake, Malheur

California: Upper Klamath Basin, Upper/Middle/Lower Alkali Lakes, Goose Lake, Honey Lake, Mono Lake, Owens Lake, Salton Sea

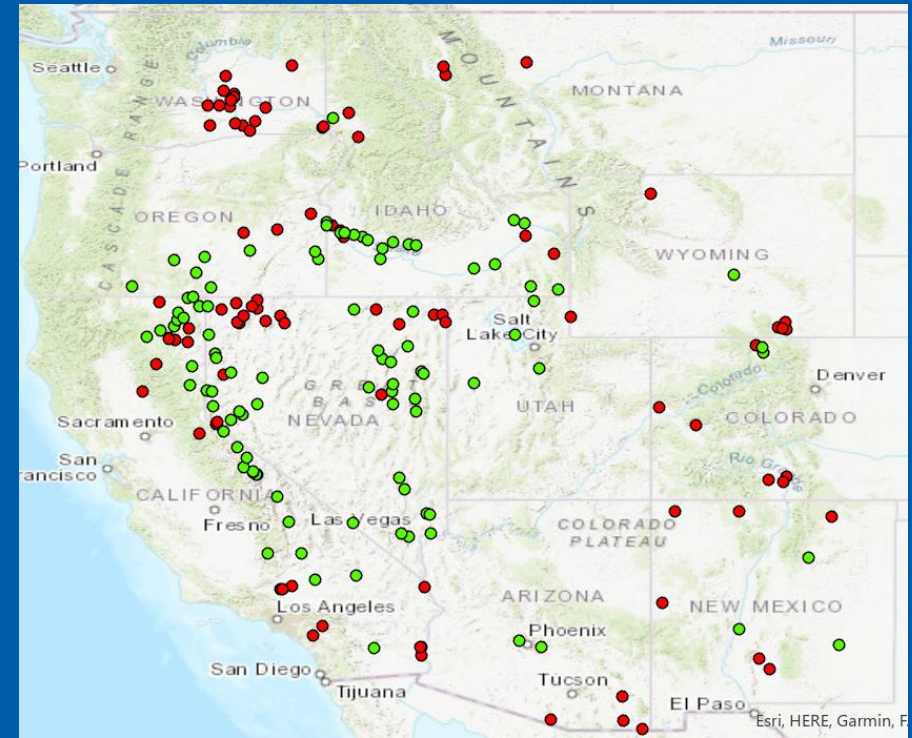
Nevada: Lahontan Valley complex, Walker Lake, Humboldt WMA, (Pyramid Lake)



Shorebird Surveys!

Fall Migration Window (August 9-22, 2022)

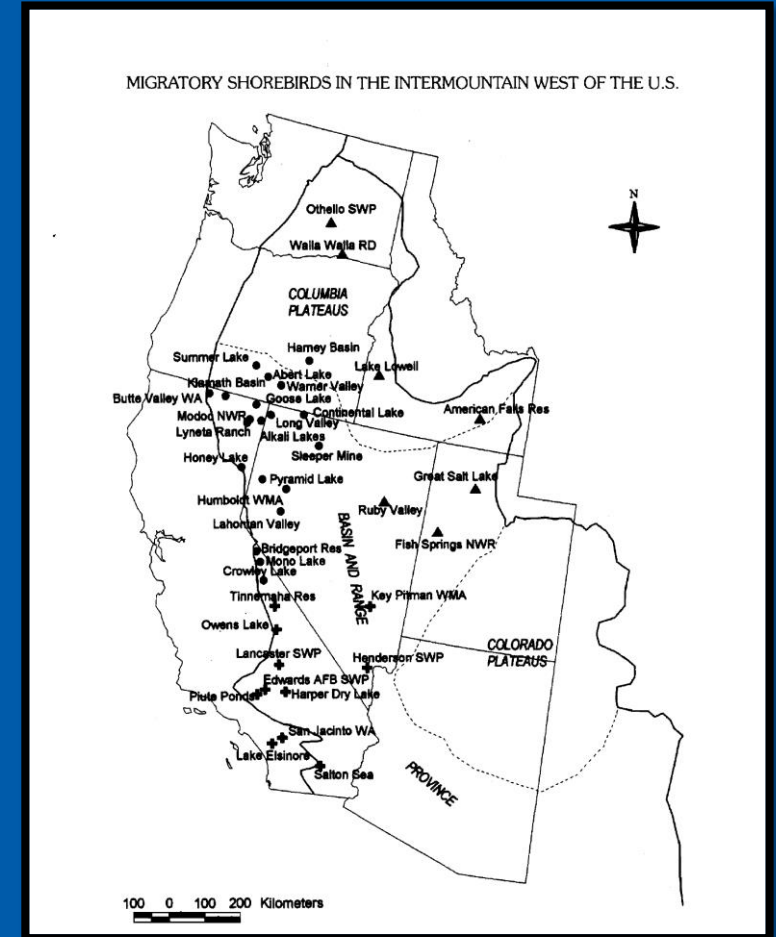
- First Fall - Focus on where we had capacity and important and complex sites
- ~110 sites visited in 8/11 Western States
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- ~350,000 shorebirds counted



Shorebird Surveys!

Fall Migration Window (August 9-22, 2022)

- Focus on Utah, Nevada, California, Oregon and Idaho
- Extra effort designing & coordinating with partners at WHSRN sites and other historically important sites for shorebirds
- Of the 38 sites that historically held >1000 shorebirds, we were able to visit 28.
 - Sites 100% DRY = Goose Lake, Honey Lake, Alkali Lakes (CA/NV), Warner Valley, Lynetta Ranch, Harper Dry Lake, Humboldt WMA



Shorebird Surveys - Utah

Utah “Big Day” August 12, 2022

- 99 participants at 60 unique survey sites (50+ @ GSL)
- 5 modes of survey transportation: Airplanes, boats, cars, ATV’s, and feet!
- Over 228,000 shorebirds and 31 species:
 - 72,000 Red-necked Phalarope
 - 38,000 Wilson’s Phalarope
 - 57,000 unidentified Phalarope
 - 30,000 American Avocet
 - 19,000 Black-necked Stilt
 - 2,000 Long-billed Dowitcher



Rarities: Red Phalarope and Hudsonian Godwit

Shorebird Surveys - Nevada

Driest state in the US but most historic sites (56!)

- 35 participants visited 43 sites
- One “Super Volunteer” visited 12 sites!
- 18 sites completely dry or limited to small springs
- Lahontan Valley: 13,500 Shorebirds
 - 4,000 American Avocets
 - 3,300 Long-billed/Dowitcher sp.
 - 2000 unidentified Phalarope
 - 1,100 Black-necked Stilts
- All other sites combined: <5,000
- Big thanks to Red Rock Audubon Society, Lahontan Audubon Society and Bristlecone Audubon Society



Shorebird Surveys - Nevada



Shorebird Surveys - California

Mono Lake “Big Day” August 15th, 2022

- 23 Participants from Eastern Sierra Audubon, Mono Lake Committee & Oikonos Ecosystem Knowledge
- Walked 45 miles of shoreline and 3-5 miles of island shoreline covered by boat.
- Open water phalarope survey w/Oikonos
- Over 26,000 shorebirds and 20 species
 - 13,000 Red-necked Phalarope
 - 4,700 American Avocet
 - 3,600 Wilson’s Phalarope
 - 3,500 unidentified Phalarope



Shorebird Surveys - California

Salton Sea “Big Day” August 9th, 2022

- 15 participants from Point Blue, Audubon California, USFWS, California DFW, Oasis Bird Observatory, volunteers
- Around 80% of shoreline surveyed by foot, ATV, and truck
- Over 50,000 shorebirds counted
- Boat surveys planned for spring 2023 to cover inaccessible areas - CDFW boat ramp opened in September!



Shorebird Surveys - California



Shorebird Surveys - Oregon

Description of survey efforts in OR, 2022

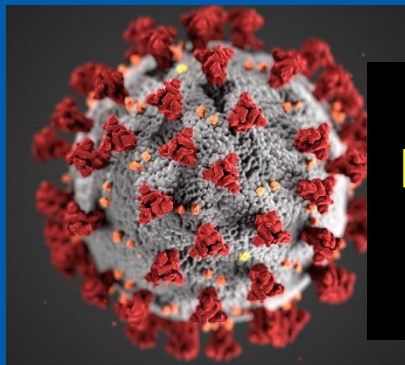
- Upper Klamath Basin: 6 participants
- Over 7,000 shorebirds, mostly packed in Spring Lake (botulism outbreak ongoing)
- Single pool of water in both Tule Lake NWR and Lower Klamath NWRs
- Water agreement holds water in UKL into fall = most habitat in north basin



Shorebird Surveys - Oregon

Description of survey efforts in OR, 2022

- Upper Klamath Basin: 6 participants
- Over 7,000 shorebirds, mostly packed in Spring Lake (botulism outbreak ongoing)
- Single pool of water in both Tule Lake NWR and Lower Klamath NWRs
- Water agreement holds water in UKL into fall = most habitat in north basin



Cancelled!!!
**Boat survey of UKL, aerial surveys
of Clear Lake NWR and 6-7
additional sites**

Shorebird Surveys - Arizona

Lower Colorado River NWR
Complex: 3 refuges
targeted for ground and
boat survey

 **Imperial National Wildlife Refuge** ✓
August 11 at 9:20 AM · 🌐

On Wednesday evening, lightning caused multiple fires along the Colorado River on Imperial NWR, north of Martinez Lake. Interagency fire personnel are onsite, working to contain the fires. Please avoid the area for safety reasons.
Photos - Evi Rader, USFWS



Cancelled!!!



Thank you, partners!!



Acknowledgements

Stan Senner, Brian Tavernia – formerly National Audubon Society

Brad Andres – formerly US Fish and Wildlife Service

Joe Barnes – formerly Nevada Dept of Wildlife

Steering Committee:

Vanessa Loveri – US Fish and Wildlife Service

Colleen Moulton – Idaho Department of Fish and Game

John Neill, Russ Norvell, John Luft – Utah Division of Wildlife Resources

Patrick Donnelly – Intermountain West Joint Venture

Lisa Schibley – Manomet

Questions? Email bbarbaree@pointblue.org

Utah

Utah DWR & Great Salt Lake Ecosystem Program, Sageland Collaborative, USFWS, Tracy Aviary, Great Salt Lake Audubon, Wasatch Audubon Society, Bridgerland Audubon Society

Nevada

Nevada Department of Wildlife, USFWS, Red Rocks Audubon Society, Lahontan Audubon Society, Bristlecone Audubon Society

California

California Department of Fish and Game, USFWS, Mono Lake Committee, Oikonos Ecosystem Knowledge, Manomet, LA Dept of Water and Power, Audubon California, Eastern Sierra Audubon Society, Kerncrest Audubon Society, Oasis Bird Observatory

Oregon

Oregon Department of Fish and Game, USFWS, the High Desert Partnership, Harney County Soil and Water Conservation District, Portland Audubon Society, Klamath Basin Audubon Society, Eastern Cascades Audubon Society,

Idaho

Idaho Department of Fish and Game, USFWS, Golden Eagle Audubon Society, Portneuf Valley Audubon Society, Snake River Audubon Society