October 25, 2022
Utah Land Use Institute

Great Salt Lake: What's in it for you?

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UTAH DNR FORESTRY

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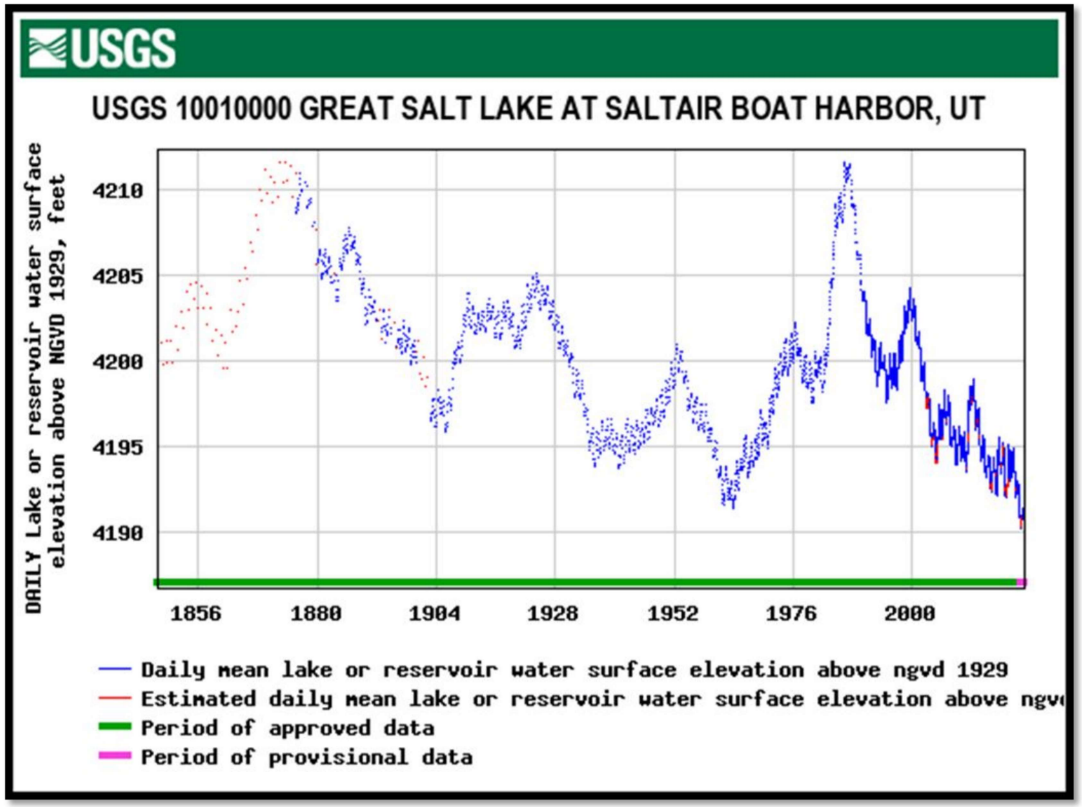
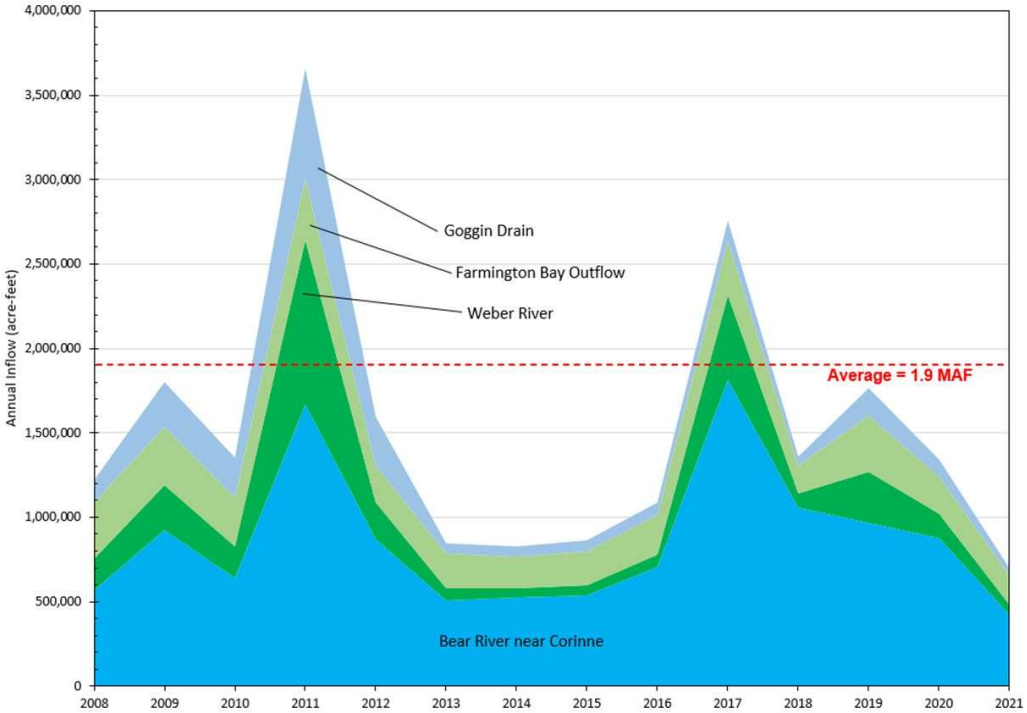
Great Salt Lake Elevations

- Measuring since 1847
- Minimum/Today – 4,188.8
- Maximum – 4,211.6
- Previous historic low – 4,191.2 (October 2021)
- 2.4 feet lower than this time last year



Great Salt Lake Inflows

- Bear River – 47%
  - 1,056,000 acre-feet
- Jordan River – 27%
  - 558,000 acre-feet
- Weber River – 18%
  - 410,00 acre-feet
- Average – 1.9 MAF
- 779,000 acre-feet in 2022 water year
- 708,000 acre-feet in 2021



Importance of Great Salt Lake

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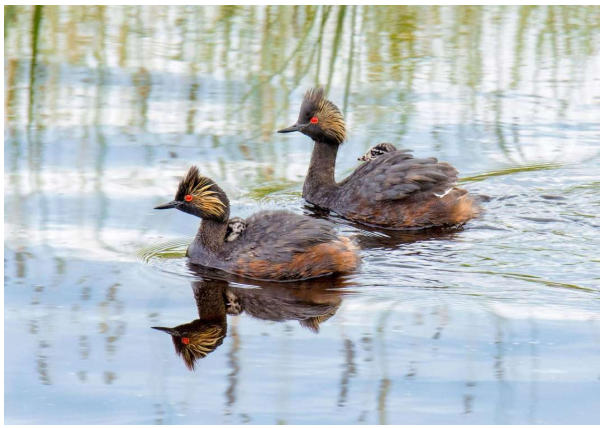
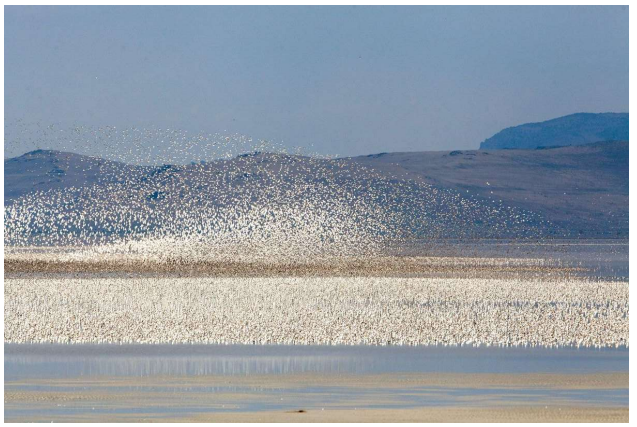
Ecological Significance of Great Salt Lake

- 10 million birds visit GSL annually
- Critical link in Pacific Flyway for over 330 bird species
- 80% of Utah's wetlands
- Microbialite structures





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Estimated Total Economic Impact

Statistic	Direct Economic Effect	Indirect Economic Effect	Induced Economic Effect	Total Economic Effect
Total Economic Output (millions of 2010 $)				
Recreation Sector	74.6	27.8	33.5	135.8
Industrial Sector (Mineral)	685.2	217.7	227.9	1,130.8
Aquaculture (brine shrimp eggs)	33.9	8.0	14.8	56.7
TOTAL ALL SECTORS				***1,323.3***
Total Labor Income (millions of 2010 $)				
Recreation Sector	25.7	9.2	10.8	45.7
Industrial Sector	168.3	67.1	73.7	309.2
Aquaculture (brine shrimp eggs)	12.3	3.2	4.8	20.2
TOTAL ALL SECTORS				***375.1***
Total Employment (Full and Part-time Jobs)				
Recreation Sector	1,217	236	310	1,764
Industrial Sector	1,967	1,288	2,112	5,368
Aquaculture (brine shrimp eggs)	373	63	138	574
TOTAL ALL SECTORS				***7,706***

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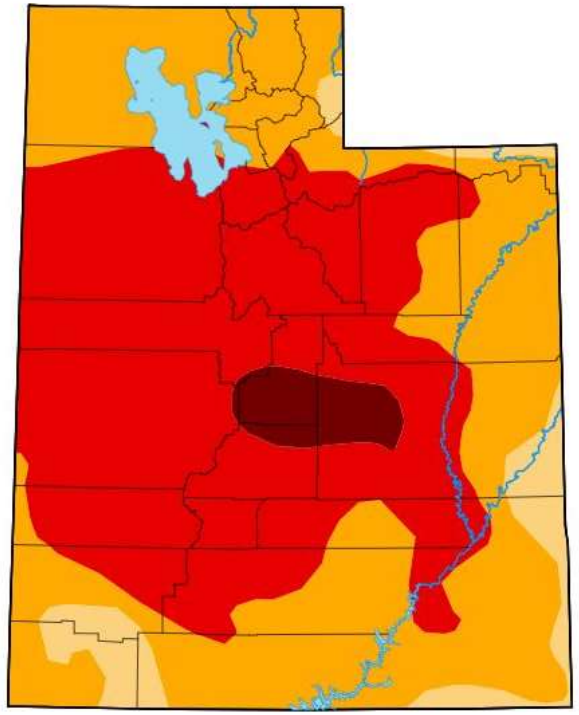
Why would these benefits dry up?



Map released: Thurs. October 20, 2022

Data valid: October 18, 2022 at 8 a.m. EDT

Intensity

- None
- D0 (Abnormally Dry)
- D1 (Moderate Drought)
- D2 (Severe Drought)
- D3 (Extreme Drought)
- D4 (Exceptional Drought)
- No Data

Authors

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Pacific Islands and Virgin Islands Author(s):
Ahira Sanchez-Lugo, NOAA/NCEI

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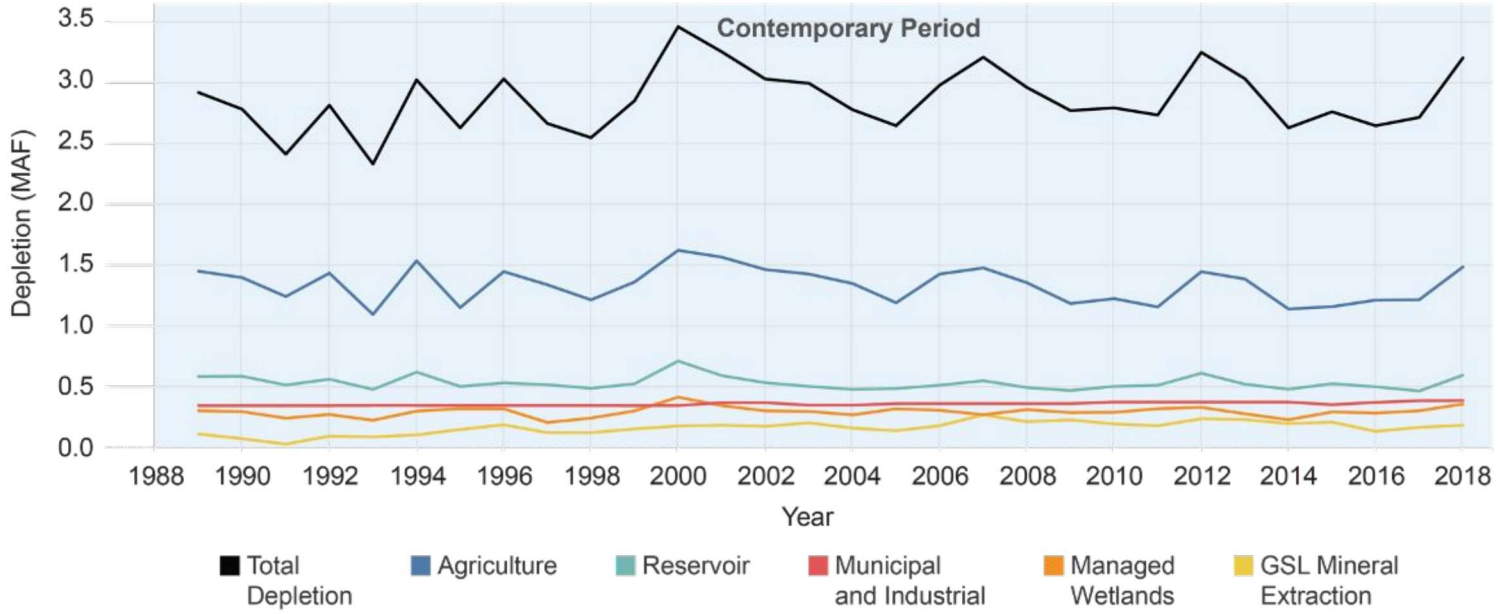
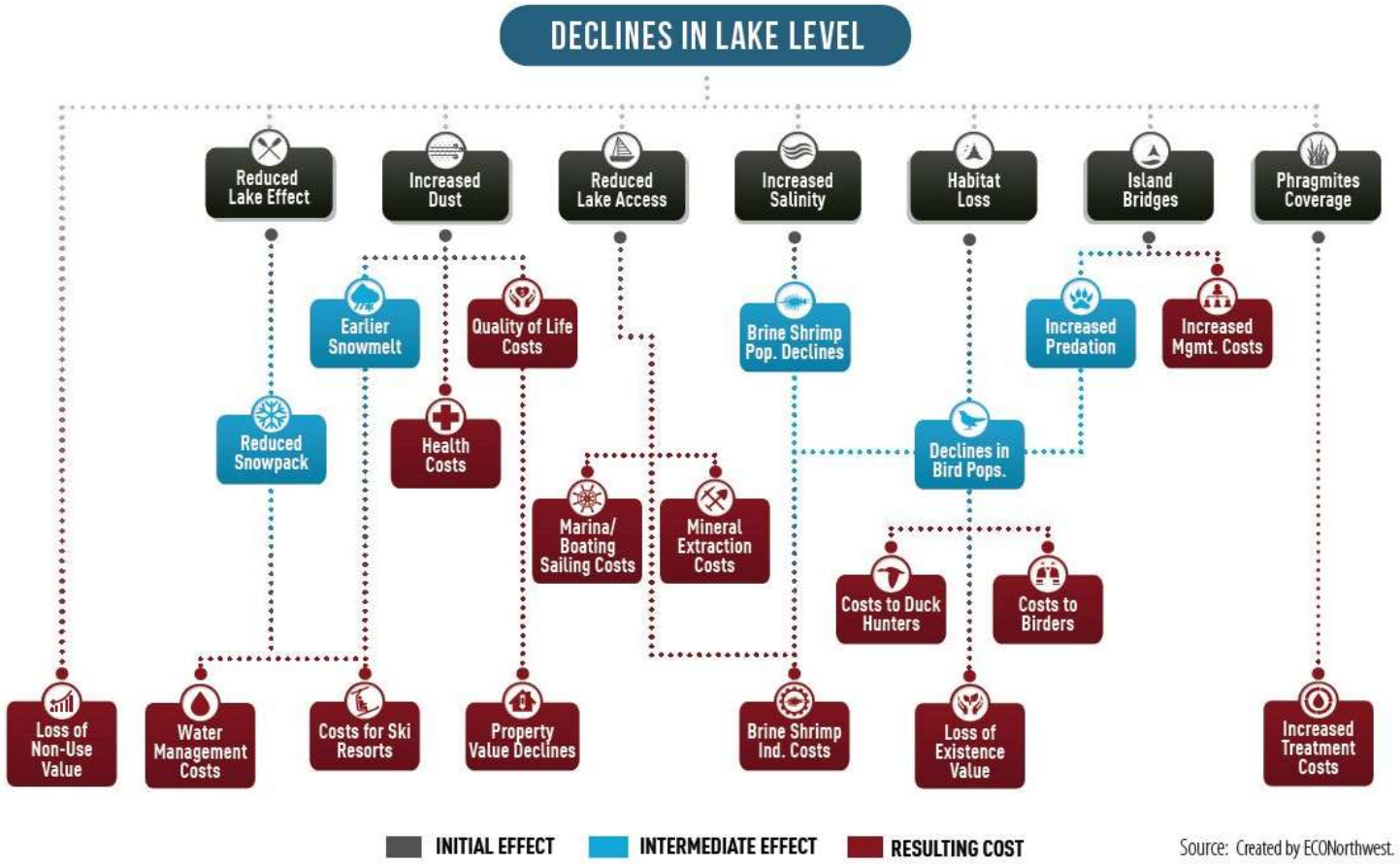
Human Water Depletion by Type, 1989–2018



Source: Great Salt Lake Water Budget, Utah Division of Water Resources, 2022

Potential Costs of A Drying Great Salt Lake



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Potential Costs of A Drying Great Salt Lake

- **$1.69 – 2.17 billion in potential costs annually**
  - Lost mineral extraction: $1.3 billion
  - Mitigation (for dust, etc.): $192 to $610 million
  - Lost recreation: $81 million
  - Lost brine shrimp industry: $67 million
  - Health costs (dust): $7-22 million
  - Loss ski days (reduced snow): $6-10 million

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*2019, ECONorthwest

Consequences of Drying Lakes Around the World

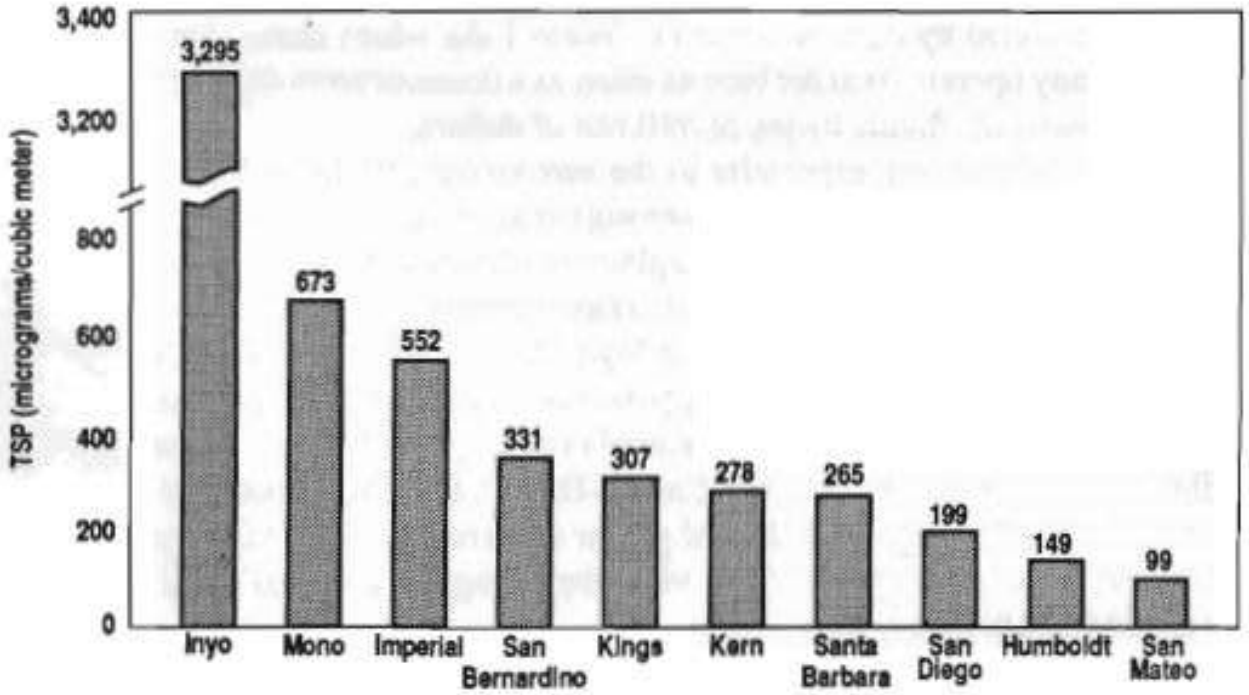
Owens Lake circa 1900

Owens Lake Dust Storm 2016

Largest source of particulate pollution in U.S.

Figure 2. Owens Lake playa environments [Cochran et al., 1988].

Figure 3. Highest 24-hour total suspended particulate (TSP) concentrations in California during 1982, by county [after Kusko and Cahill, 1984].



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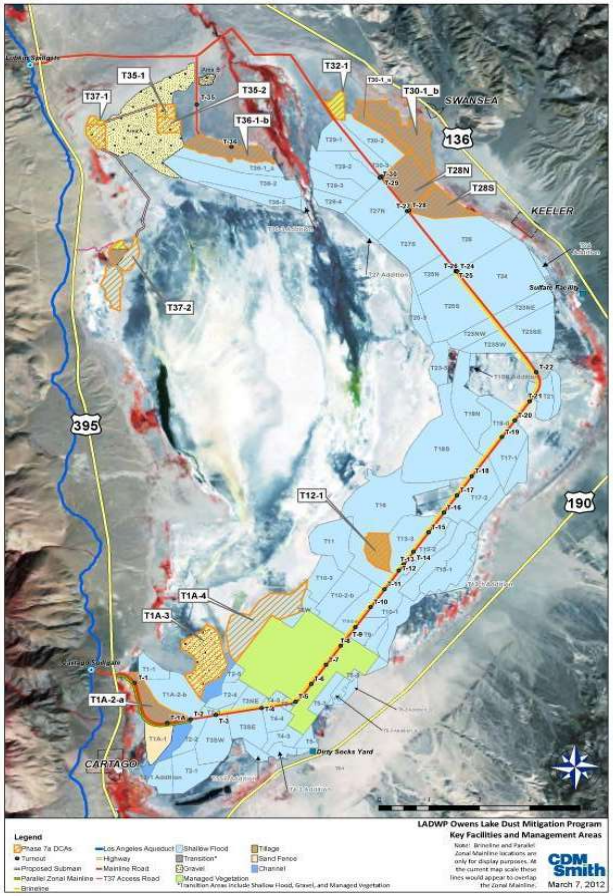
Mitigation Costs

- $3.6B by 2025
- Estimated $75M/year to maintain
- Roughly 1/5 of a person's water bill in L.A.
- 1/15 the size of GSL



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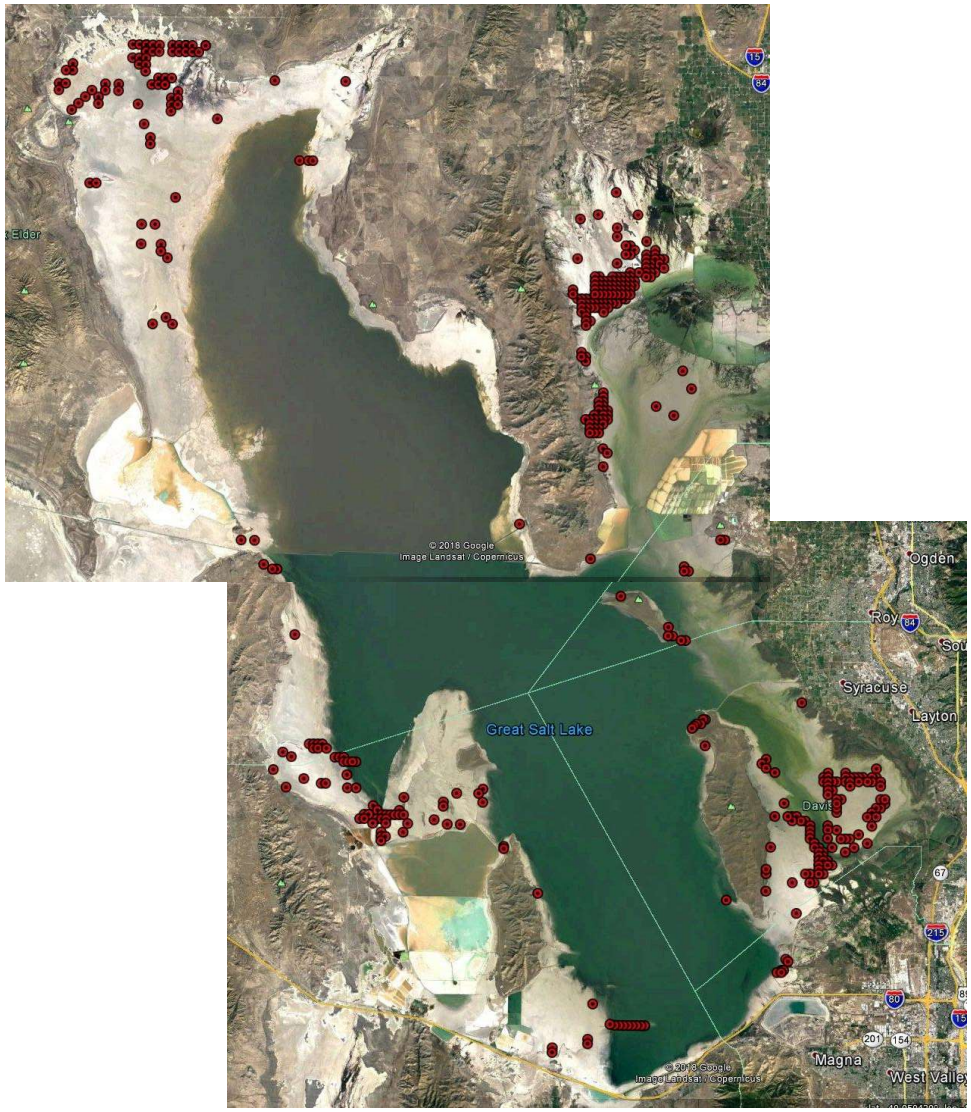
Great Salt Lake Dust Studies

- Began 2017
- PM10 and PM25
- Lakebed Elements
- Crust matters



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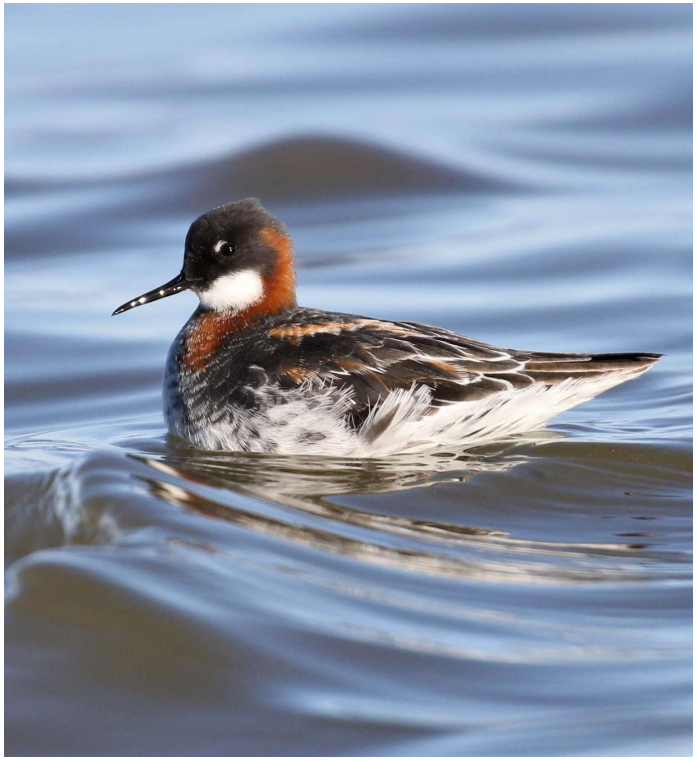
What is being done to protect the lake?

GSLAC Water Strategies

GSL HCR10 Steering Group Strategic Opportunities

Direct 2022 Bills and Funding



Red-Necked Phalarope
Photo: Max Malmquist

Legislation or RFA	Funding
HB33 – Instream Flow	---
HB410 – Great Salt Lake Watershed Enhancement	$30 million – water trust $10 million – habitat
HB429 – Great Salt Lake -Integrated Watershed Assessment	$5 million
HB334 - State Engineer Modifications (GSL Deputy)	$830,000 1x $530,000 Ong
Waterbird studies at Great Salt Lake and Utah Lake	$875,000

Indirect 2022 Bills and Funding

Legislation or RFA	Funding (1x)
Agricultural Water Optimization	$75 million
HB242 - Secondary Water Metering	$250 million
HB121- Outdoor Landscaping - Water Conservation Modifications	$5 million (turf removal incentives)
SB110 - Water as Part of General Plan	$300,000
HB282 - Water Wise Landscaping Amendments	

Great Salt Lake Funding

Project	Funding (1x)
GSL Comprehensive Management Plan Update	$400,000
GSL Education and Outreach	$200,000
Sovereign Lands Trespassing Amendment/Law Enforcement	$115, 000 $140,000 (ongoing)
Sovereign Lands Revenue Amendments	$150,000 (ongoing)
Causeway breach and marina dredging	$5 million

Causeway Breach Modification

THANK YOU

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