

RESTORING NATIVE LANDSCAPES REVIVES THE GREAT SALT LAKE



1987: Lake Elevation 4,211 Feet



THE GREAT SALT LAKE

LEVELS HAVE BEEN DECREASING SINCE THE LATE 1900S DUE TO:

- AGRICULTURE
- INDUSTRIAL USE
- MINERAL EXTRACTION
- WARMER/DRIER YEARS

GREAT SALT LAKE LEVELS ARE IMPORTANT FOR:

- MIGRATORY SPECIES
- MICROBIAL COMMUNITIES
- LOCAL ECONOMY
- LAKE EFFECT SNOW
- AIR QUALITY

IMPACTS OF LAKE DECLINE

- Great Salt Lake (GSL) water level decline puts several vital ecosystems under threat, specifically 80% of Utah's valuable wetlands.
- The GSL is responsible for 40% of the world's production of brine shrimp eggs, which are essential to agriculture.
- Brine shrimp populations also support 10 million migratory birds and 330 migratory species visiting the lake each year.
- Declining lake levels contribute to increasing poor air quality events in the Salt Lake Valley and surrounding areas.

Restoring Native landscapes can help restore healthy lake levels and revive these interconnected ecosystems. The Northwestern Band of the Shoshone Nation, the University of Utah, and Utah State University have come together to restore a one of these ecosystems on the Bear River to benefit the local ecosystem, improve water quality, and increase the amount of water that makes it to the GSL. This project hopes to inspire additional restoration work and collaboration across the watershed.

2022: Lake Elevation 4,190 Feet





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TOTAL WATER LEVEL BENEFITS

Calculations provided by the Bonneville Environmental Foundation estimate that with current flow rates, restoration could save a minimum of 13,000 acre-feet of water per year. By removing 400,000 invasive Russian Olive trees, the Northwestern Band of the Shoshone Nation will help contribute an additional 30,000,000 gallons of water inflow to the system each day. By providing more water into the system, this ecological restoration project is increasing the streamflow of the Bear River, enhances water quality, and habitat availability.

CO-BENEFITS

ECONOMIC BENEFIT

The GSL is responsible for \$1.9 Billion in economic revenue each year. Restoration efforts that improve GSL water levels directly benefits the economy in Utah and the many resources that are extracted from the lake and Utah's economy.

ADDRESSING EMERGENCY DROUGHT CONDITIONS

This project is creating infrastructure that will ensure water is delivered to Beaver Creek (Battle Creek) and the Bear River without system losses. Infrastructure is one of the main limitations associated with safe water access to historically repressed regions.

INCREASING FLOW INTO THE GREAT SALT LAKE

The Bear River is the largest single contributor of water to the GSL. Removing invasive species will increase stream flow. Restoring the riparian habitat at this site will further aid in this goal by allowing native species to thrive and clean the water that ultimately flows into the GSL.

THE INVASIVE SPECIES IN QUESTION: RUSSIAN OLIVE



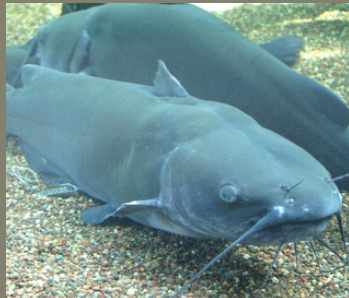
COMMON CARP



THISTLE



CHANNEL CATFISH



RISES PROJECT

Restoring Indigenous Socio-Environmental Systems (RISES) is funded by the National Science Foundation (#2308299) in partnership with the Northwestern Band of the Shoshone Nation, the University of Utah, and Utah State University.

This is a holistic approach aimed at Indigenous restoration of a Bear River tributary using methods such as archeology, paleoecology, oral and archival history, qualitative and quantitative ethnography, field ecology, and statistical and process-based modeling.

