
Welcome

Western States Water Council

207th Meeting and 60th Anniversary

Snowbird Mountain Resort, 11 June 2025

John K. Mackey, P.E., Director



UTAH DEPARTMENT of
ENVIRONMENTAL QUALITY
**WATER
QUALITY**

DWQ Mission

Safeguarding and enhancing
Utah's waters through
balanced regulation.

15,820
perennial
miles

171,760
total miles

Rivers & Streams

1.47 M acres

Lakes & Reservoirs

510,359 acres

Wetlands

Groundwater

Extensive aquifer system

Priorities



Streamline regulatory
processes

Support affordable
investment in water
quality infrastructure



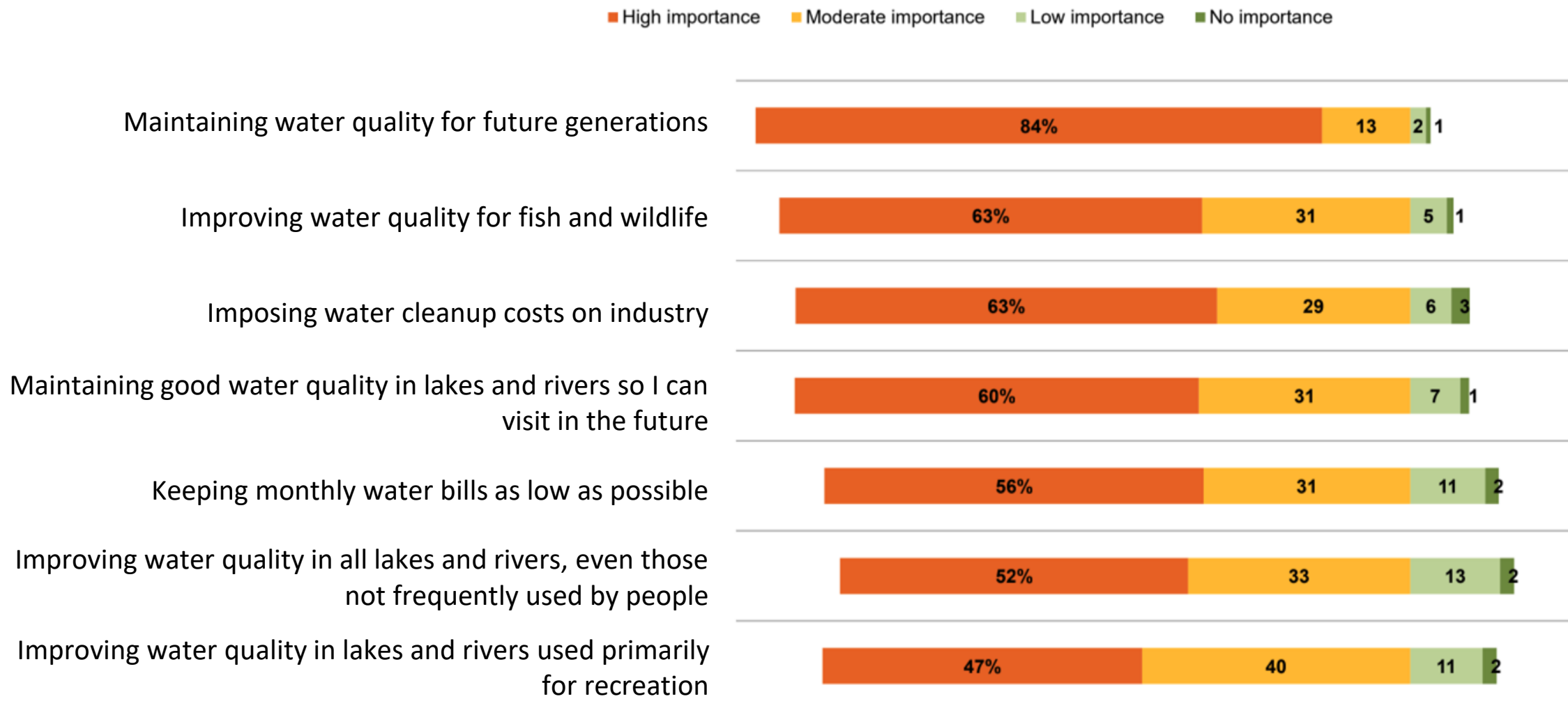
Priorities



Protect drinking water
sources & healthy
watersheds

Priorities

Utahns Place the Highest Importance on Future Generations



2024 Integrated Report

- Submitted to EPA for approval April 1, 2024
- Approved by EPA April 30, 2024
- 2025 Call for Data complete
- 6 years worth of data



Statewide monitoring

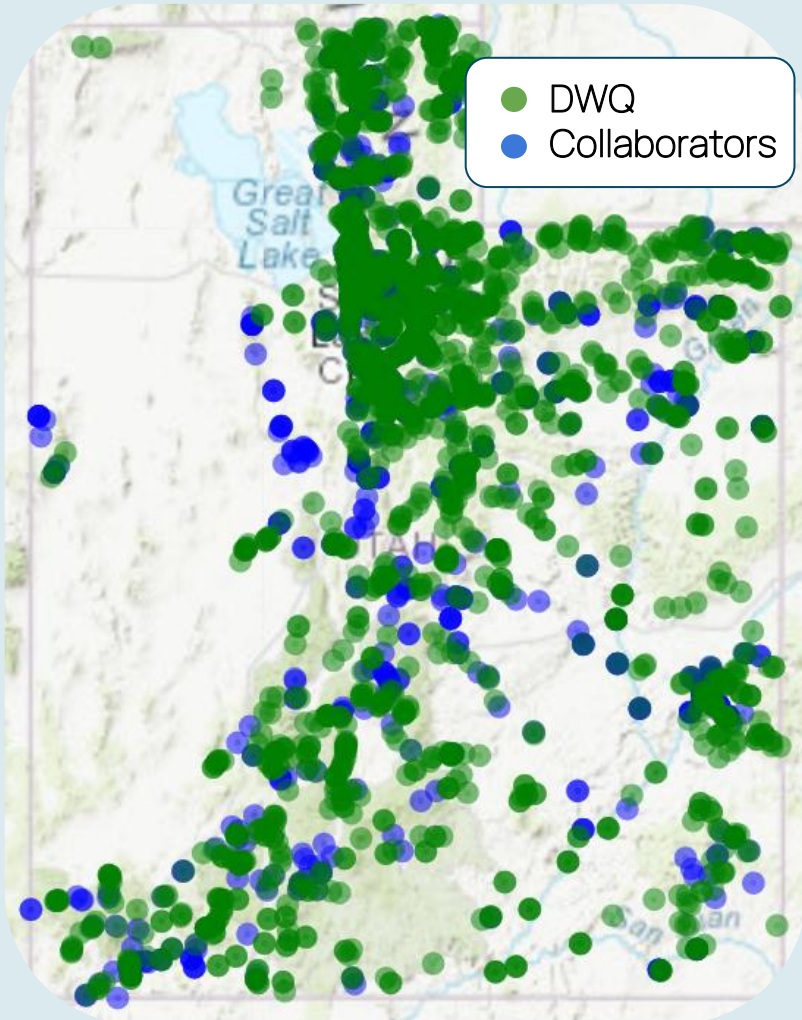


2024 IR Period Of Record:

October 1, 2016
to
September 30, 2022



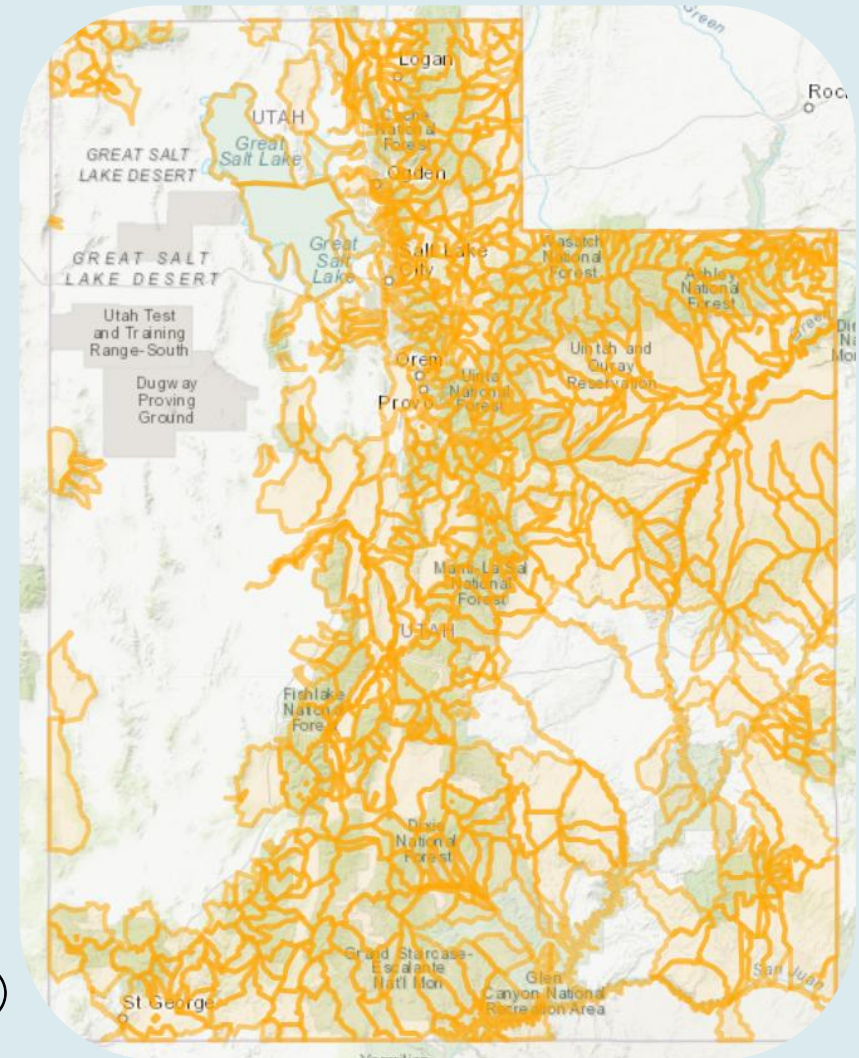
Readily available and credible data



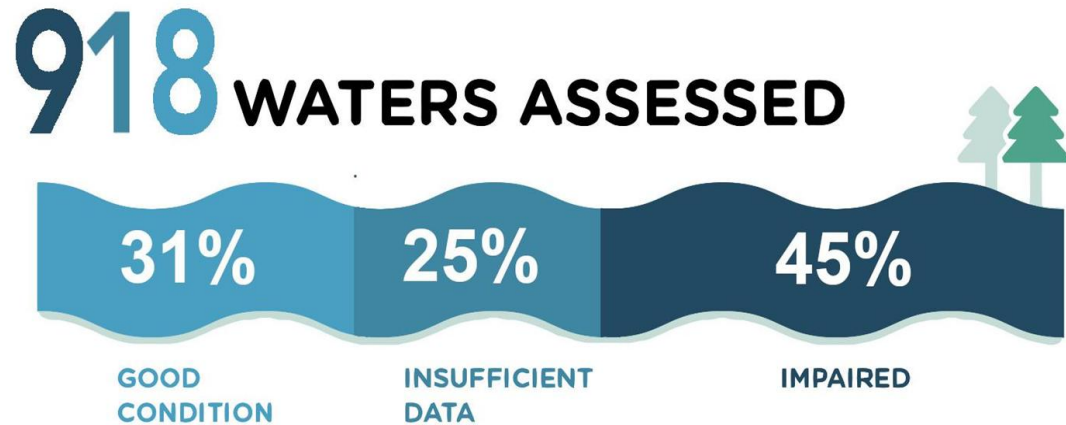
**918
Assessment
Units**

Images made from 303(d)
assessment data

Assessment units



Nearly half of Utah's waters do not support their beneficial uses.



Utah's impaired waters include:

59 drinking water sources

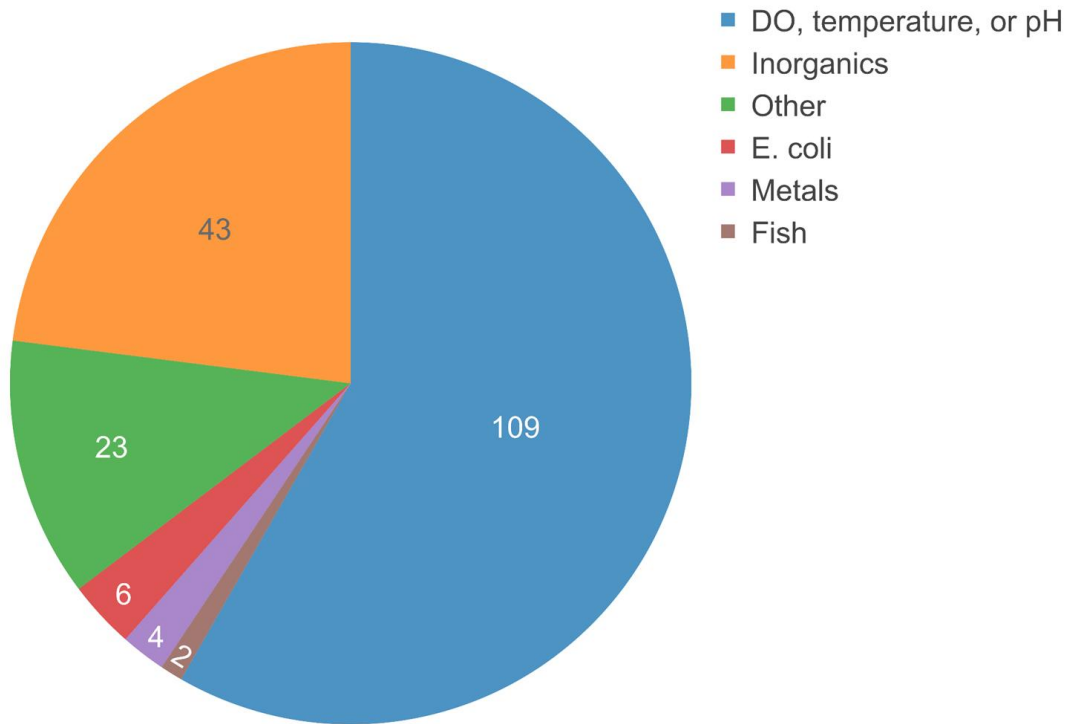
13 blue ribbon fishery lakes

Waters in
5 National Parks &
17 State Parks

3500+ stream miles impaired
for agricultural uses

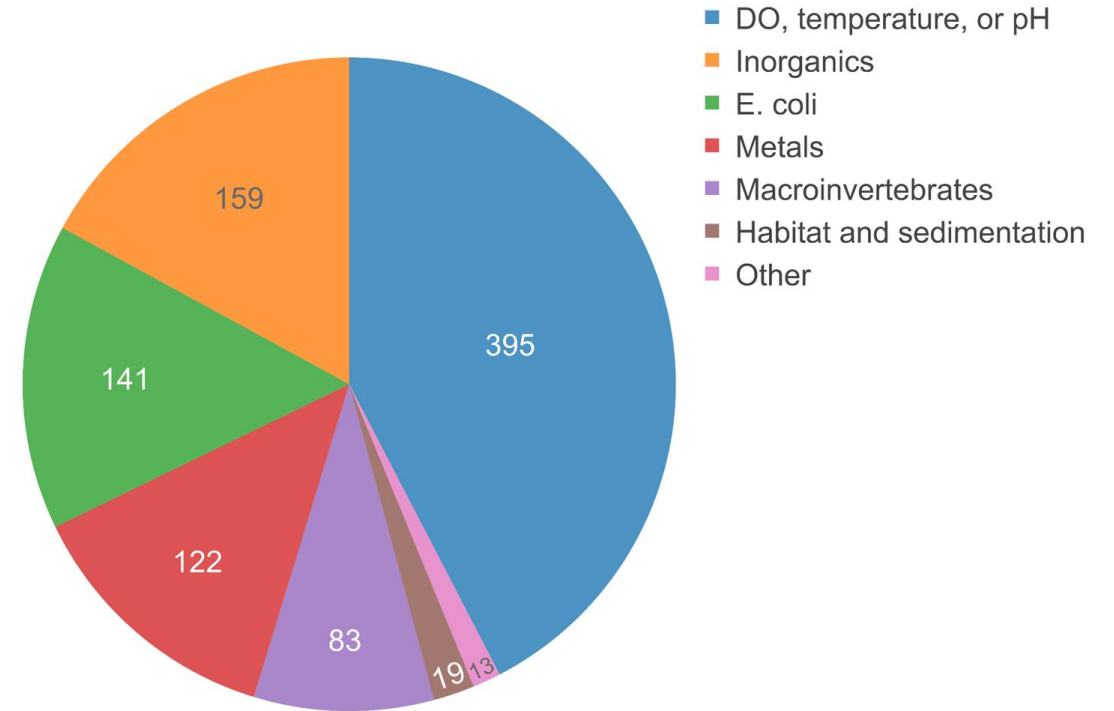
43 assessed waters delisted in 2024

Impairments by Parameter



Proportion and number of lake, reservoir, and pond AU impairments by parameter category.

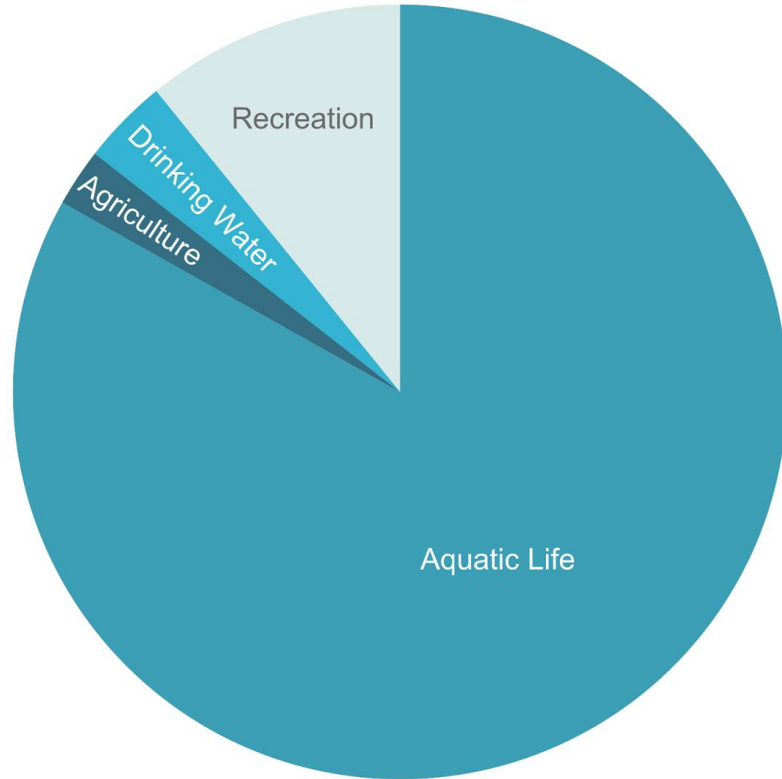
Lakes and Reservoirs



Proportion and number of river, stream, and canal AU impairments by parameter category.

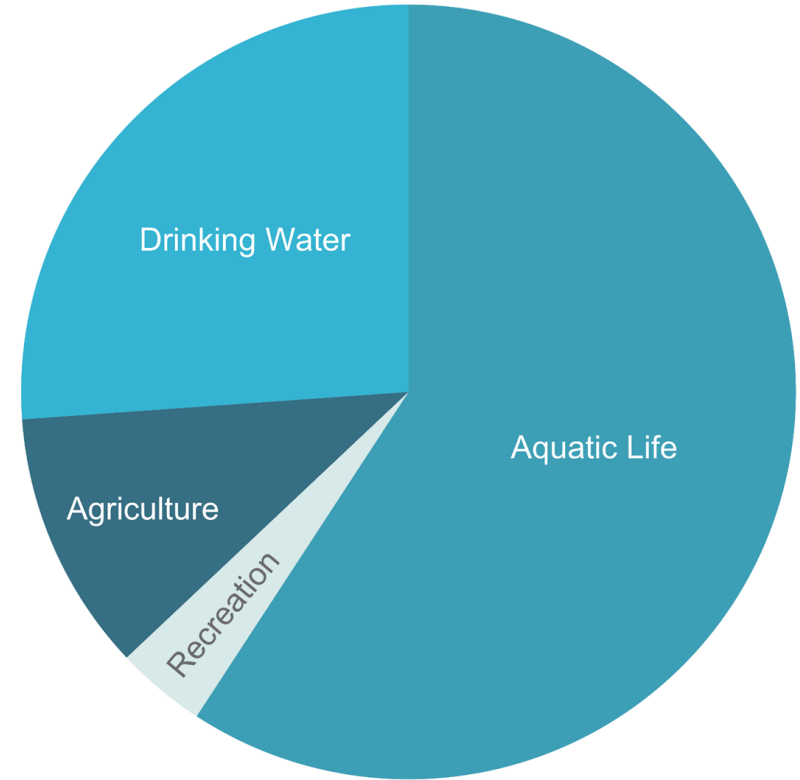
Rivers, Streams, and Canals

Impairments By Use



Proportion of lake, reservoir, and pond impairments by use type.

Lakes and Reservoirs



Proportion and number of river, stream, and canal AU impairments by use type

Rivers, Streams, and Canals

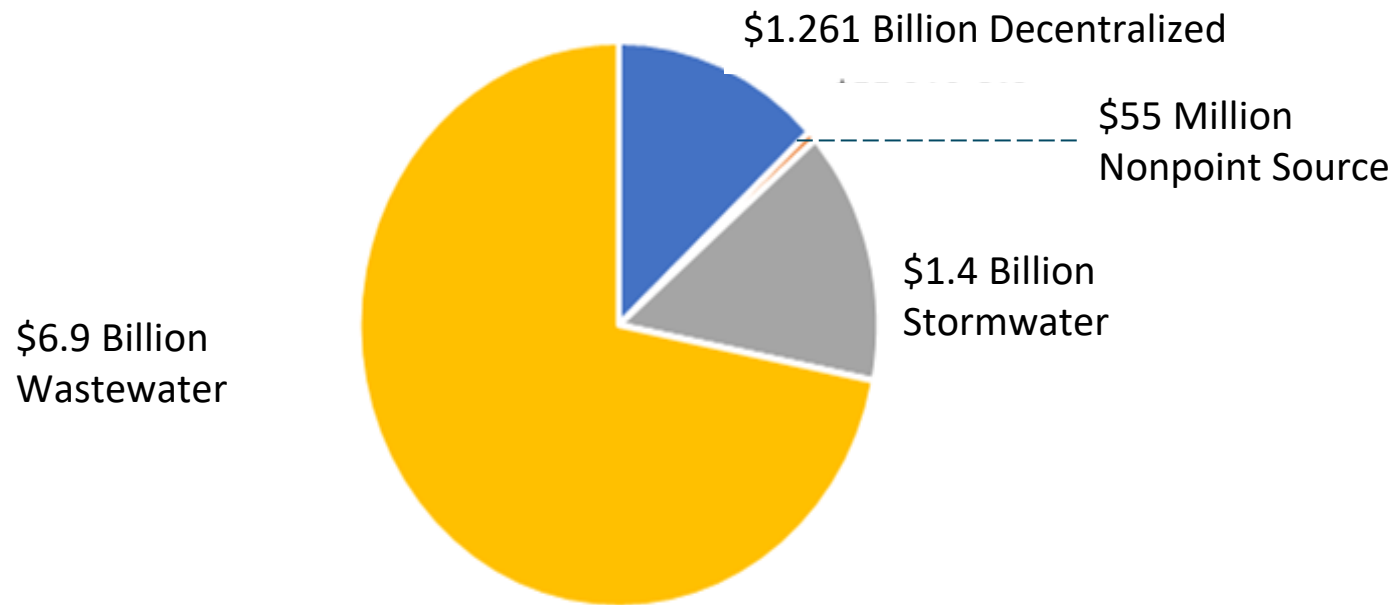
WASTEWATER INFRASTRUCTURE AND FUNDING NEEDS

- Since CWSRF Inception (1983):
 - 460 Projects Supported
 - \$1,350 Million in Clean Water Infrastructure
 - \$730 Million in State SRF Support
- 20-Year Projected Need of \$9.7 Billion



Water Quality Infrastructure Needs Survey Results

Needs By Infrastructure Type

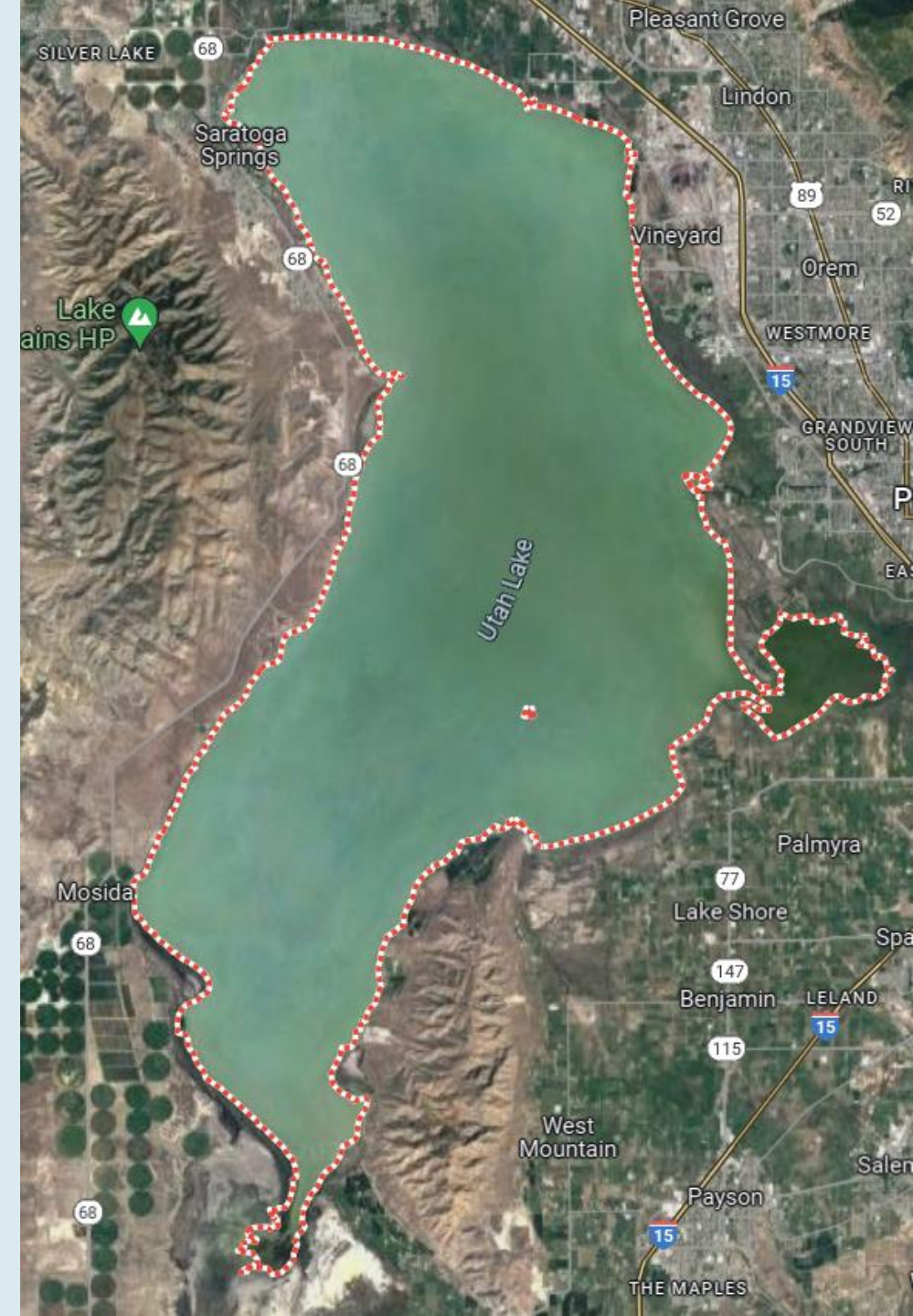


20-Year Water Quality Need
\$9.7 Billion

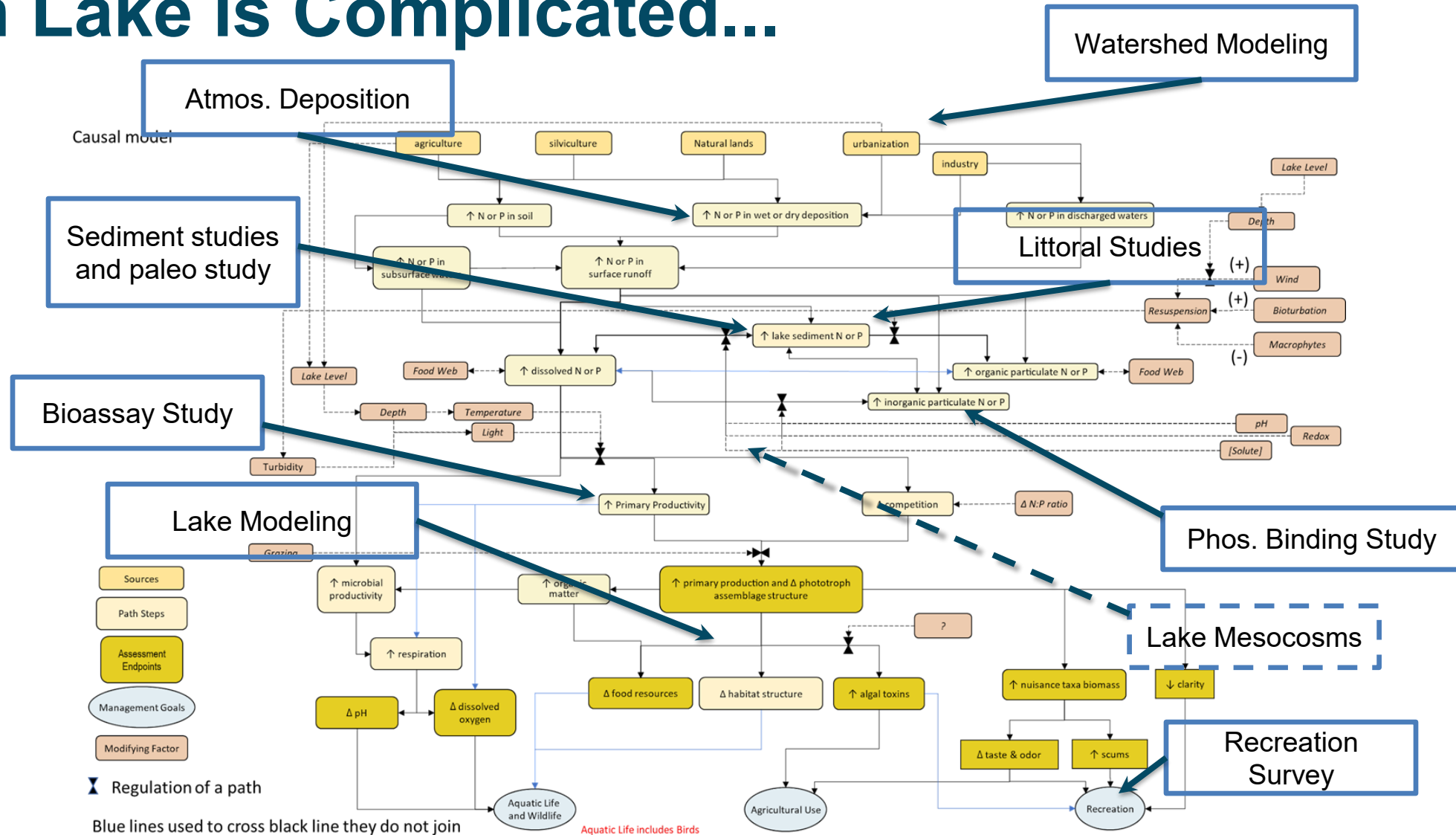


Utah Lake Water Quality Study

- Submitted to EPA for approval April 1, 2024
- Approved by EPA April 30, 2024
- 2025 Call for Data
- 6 years worth of data

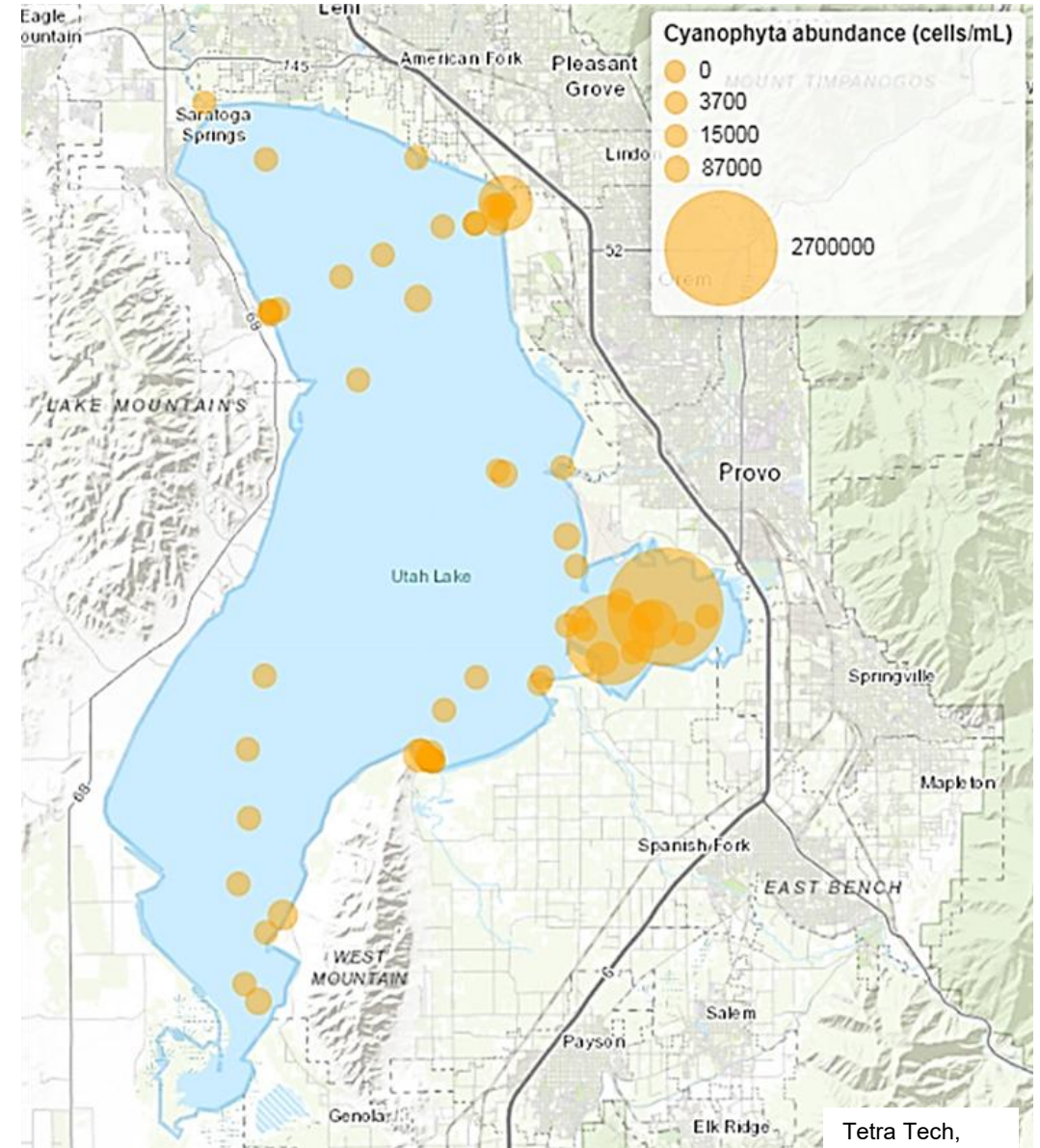


Utah Lake is Complicated...



Harmful Algal Blooms

- Cyanobacteria grow across all parts of Utah Lake
- HAB hot spots occur in Provo Bay and in the northeast part of the main basin of Utah Lake
- HABs in Provo Bay and the northeast occur near major nutrient sources



Tetra Tech,
2022

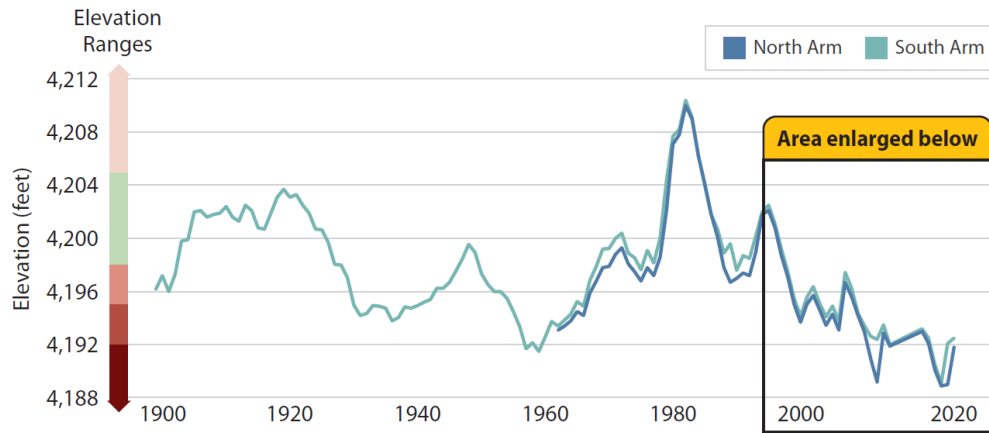
Great Salt Lake Collaboration

- GSL Advisory Council
- Salinity Advisory Committee
- GSLBIP Storm Water Study
- GSL Commission
- GSL Salinity Assessment
- Wastewater Reuse Permitting
- Rulemaking GSL Amendments 2023
- Davis Co. GW Classification



Microbialite Habitat Distribution

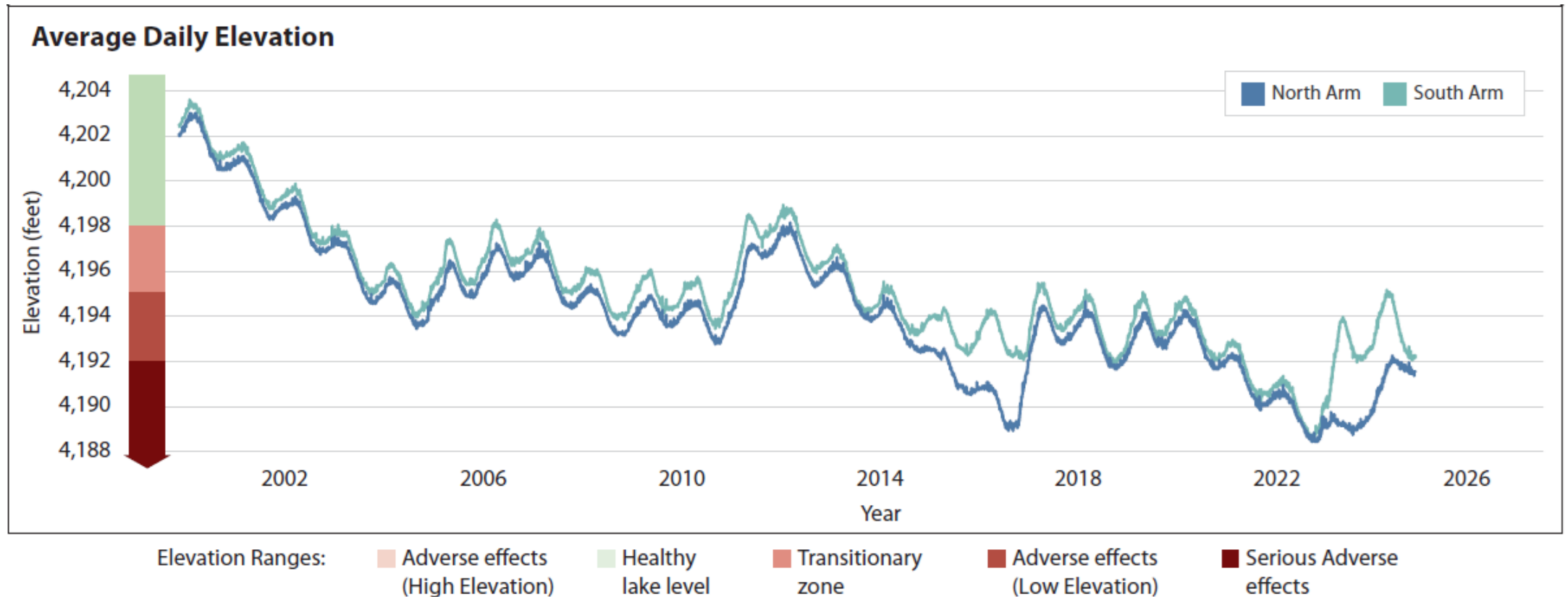
- Significant proportion exposed to desiccation and decay
- Brine fly larvae are dependent on microbialites



Salinity Increases

Gilbert Bay surface elevation and salinity since 2010:

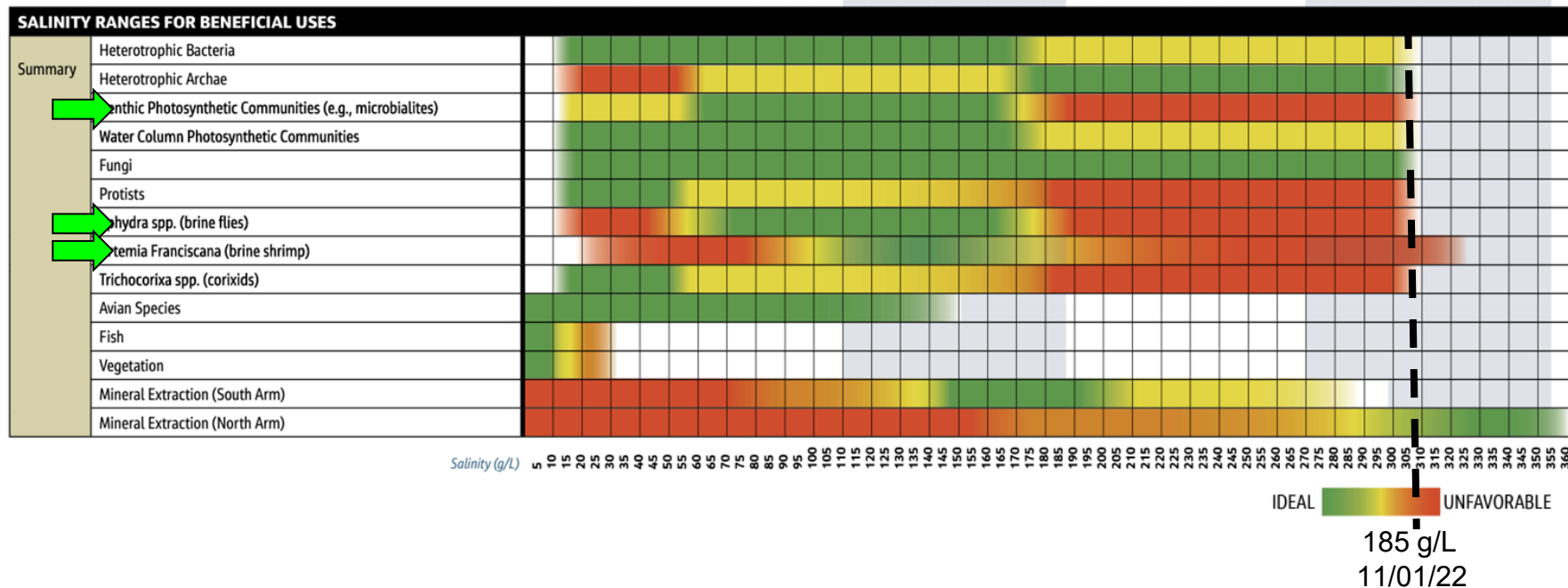
- High salinity affects brine fly and brine shrimp populations



Biological thresholds for salinity

GSL Salinity Advisory Committee:

Best available science resulting from a multi-year collaborative workgroup including state and federal agencies and GSL stakeholders



Wastewater Reuse in Utah

- Irrigation
- Alternative Point of Discharge for Water Quality
- Groundwater Source Protection
- Direct/Indirect-to-Potable

POTW Discharges in GSL Basin

~350,000 AF/yr

Reused POTW Effluent

~4,000 AF/yr





Advanced Treatment Planning

- Two new reuse reservoirs
- AWT Facilities / Willard Bay
- Type 1 Reuse Facility / Ash Creek
- Brine Management Strategies
- Recreational Nutrient Standards
- Category 1 / Pristine Groundwater Cases

Harmful Algae Conditions

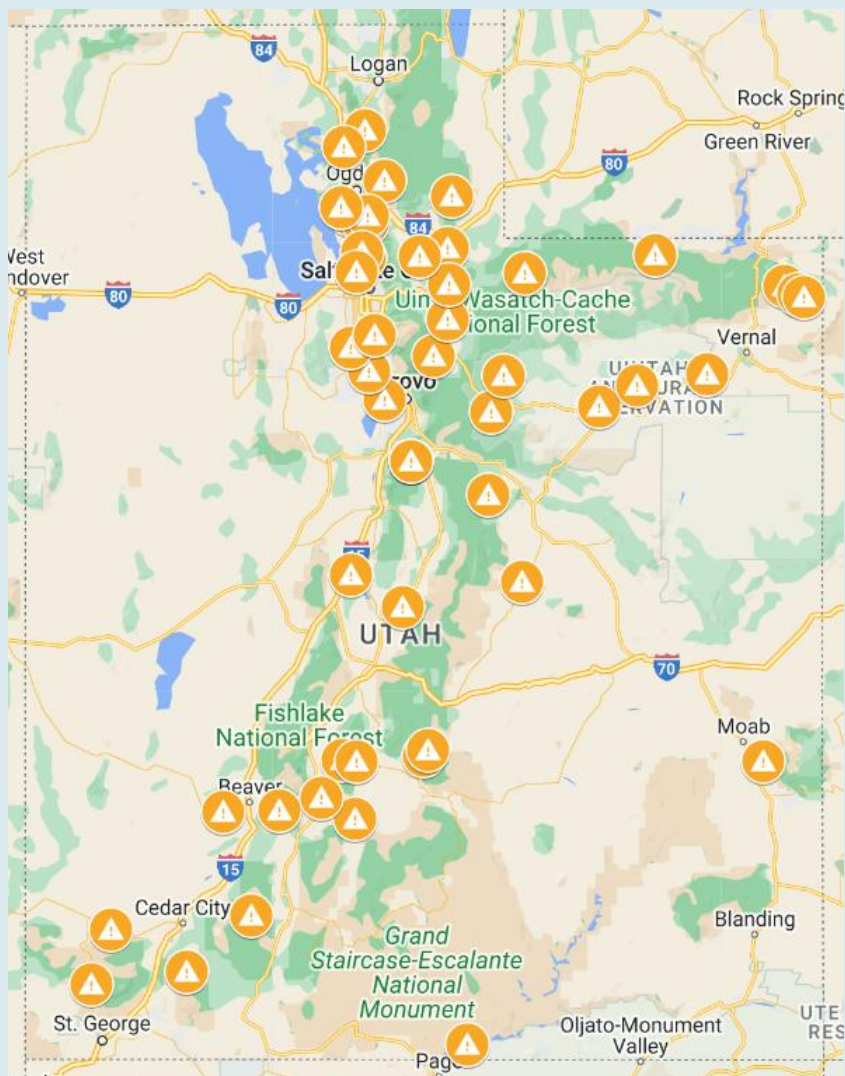
Harmful algal
blooms



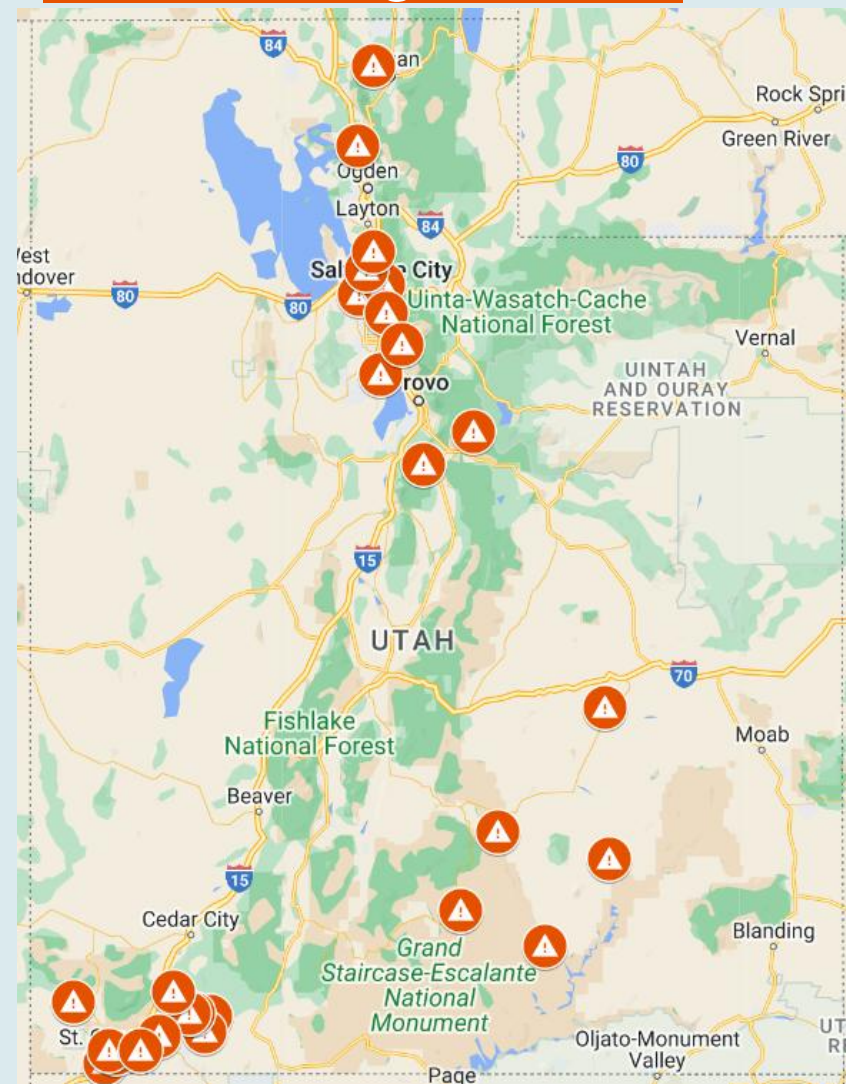
Harmful algae
mats



Harmful algal blooms



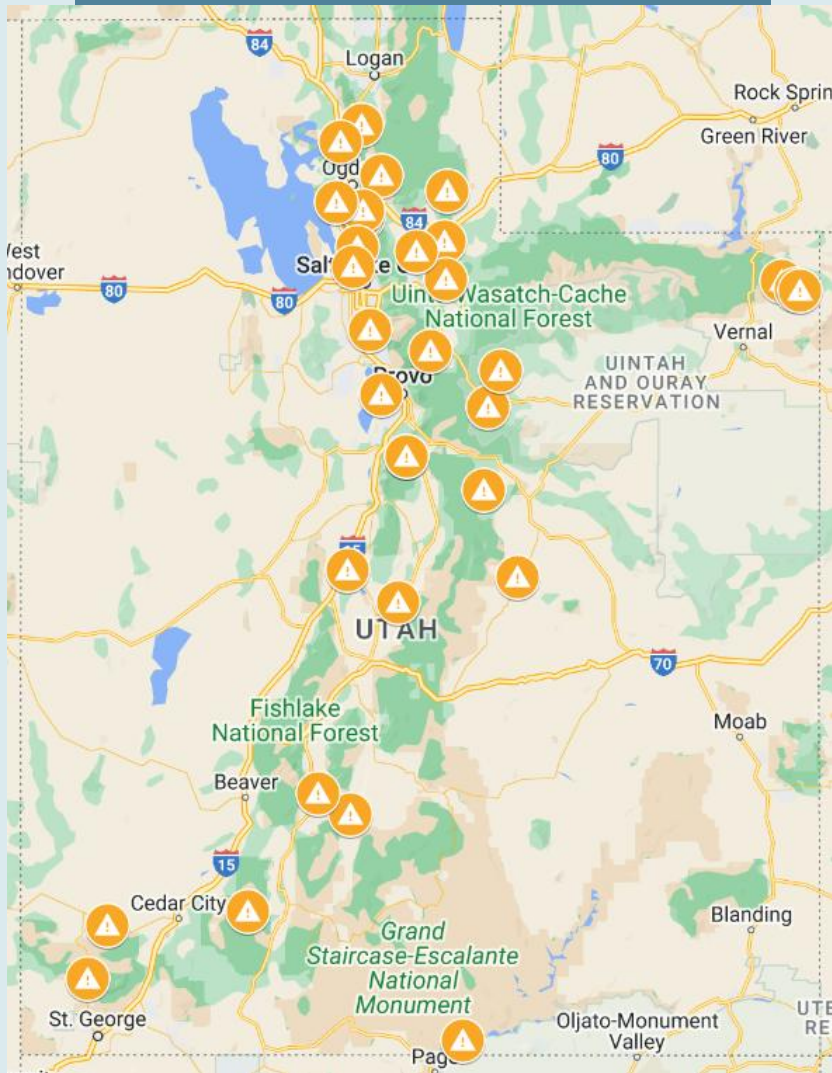
Harmful algae mats



Utah waterbodies impacted during 2024

Harmful algal blooms

Challenges



34 water bodies affected by blooms this year - the largest bloom season on record

94% of Utah recreators report feeling concerned about harmful algal blooms

Accomplishments

33 new permanent educational signs installed at affected water bodies

72% of Utah recreators can accurately identify images of harmful algal blooms

44 water bodies monitored and communicated during recreational season

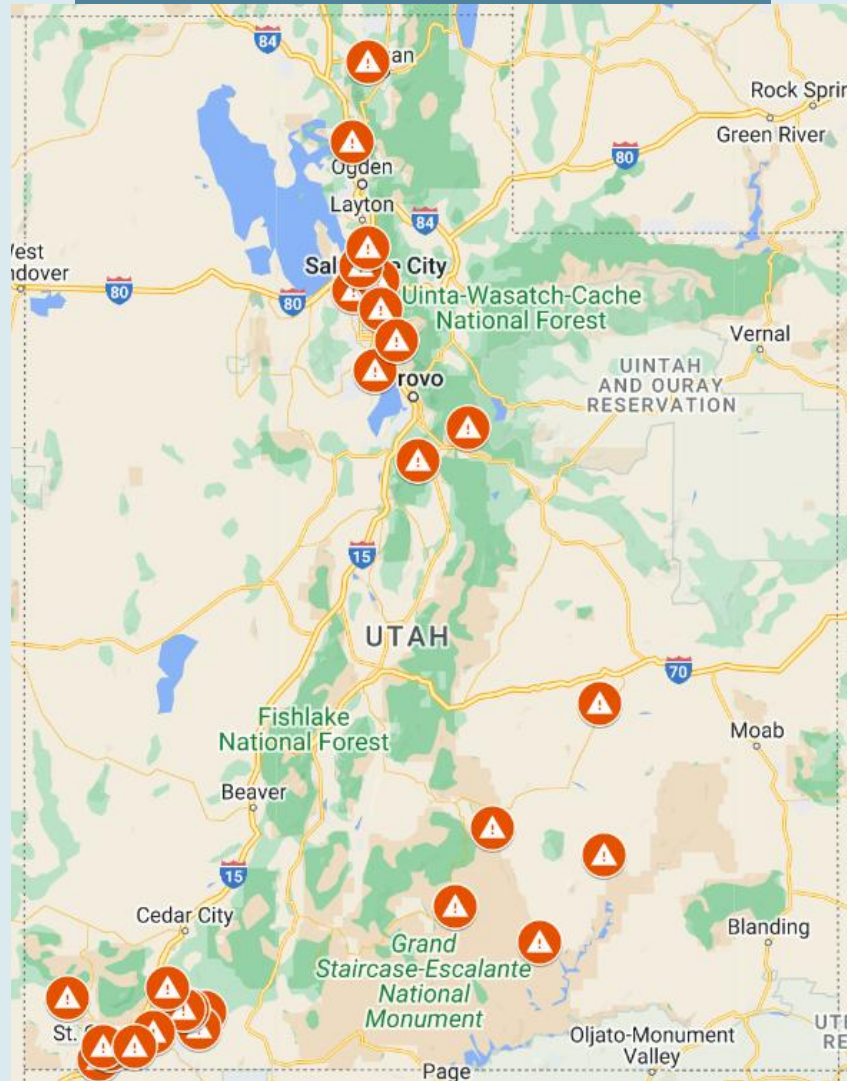


Harmful algae mats

Challenges

27 Utah water bodies impacted by this emerging health concern

10 dog deaths related to algae mats investigated in past two years



Harmful algae mats

Accomplishments

1st state in the nation to develop guidance for evaluating human risk from harmful algae mats

22 water bodies monitored and communicated during recreational season





Spills & Illicit Discharge Reports

- ~600 spills per year reported
- ~300 per year require response
- DWQ ensures:
 - Focus on cleanup
 - Responsible parties are accountable
 - Efficient administrative process



Spills Cleanup

Dixie National Forest

- Pet Hollow 400 bbl (2021)
- Willow Creek 600/2000 bbl (2022)
- Flowline 125/400 bbl (2022)

