

November 15, 2023

Natural Resources, Agriculture, and Environment

Interim Committee

Great Salt Lake Integrated Water Assessment Update

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Division of Water Resources



Learn more

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The Challenge

- Ensuring a resilient water supply requires extraordinary vision and collaborative effort. Solutions remain socially and technically complex as demands on this limited resource continue to increase.
- Today's water management decisions shape tomorrow's possibilities.





Work Plan Development



Learn more

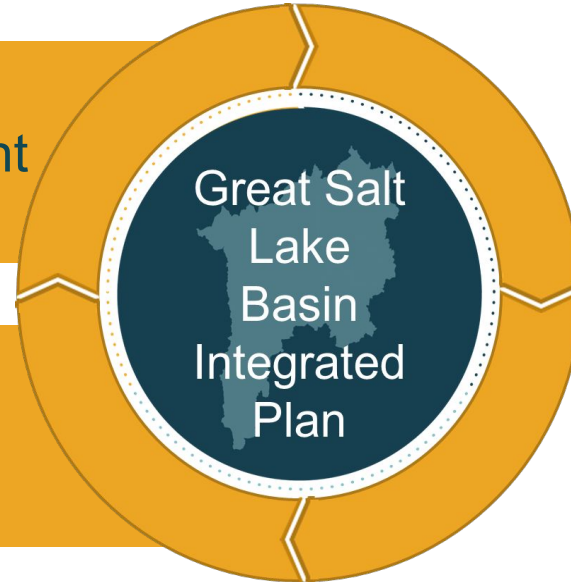
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Integrating Efforts

HB 429 Great Salt Lake
Watershed Integrated Water Assessment
(\$5M, Finish by Nov 2026)

U.S. Bureau of Reclamation
WaterSmart Basin Study
(\$3.1M Match)



“Provide a thorough trade-off analysis to help decision-makers balance water supply and demand, and avoid deterioration of agriculture, industry, and ecosystems”

- Reclamation Basin Study

“Identify and evaluate BMPs that may be used to provide a reliable water supply that:

- Meet water quality objectives
- Meet agricultural water objectives
- Accommodate anticipated growth and economic development
- Provide adequate flow to sustain GSL, GSL’s wetlands, and other ecological functions in GSL’s watershed”

- HB 429

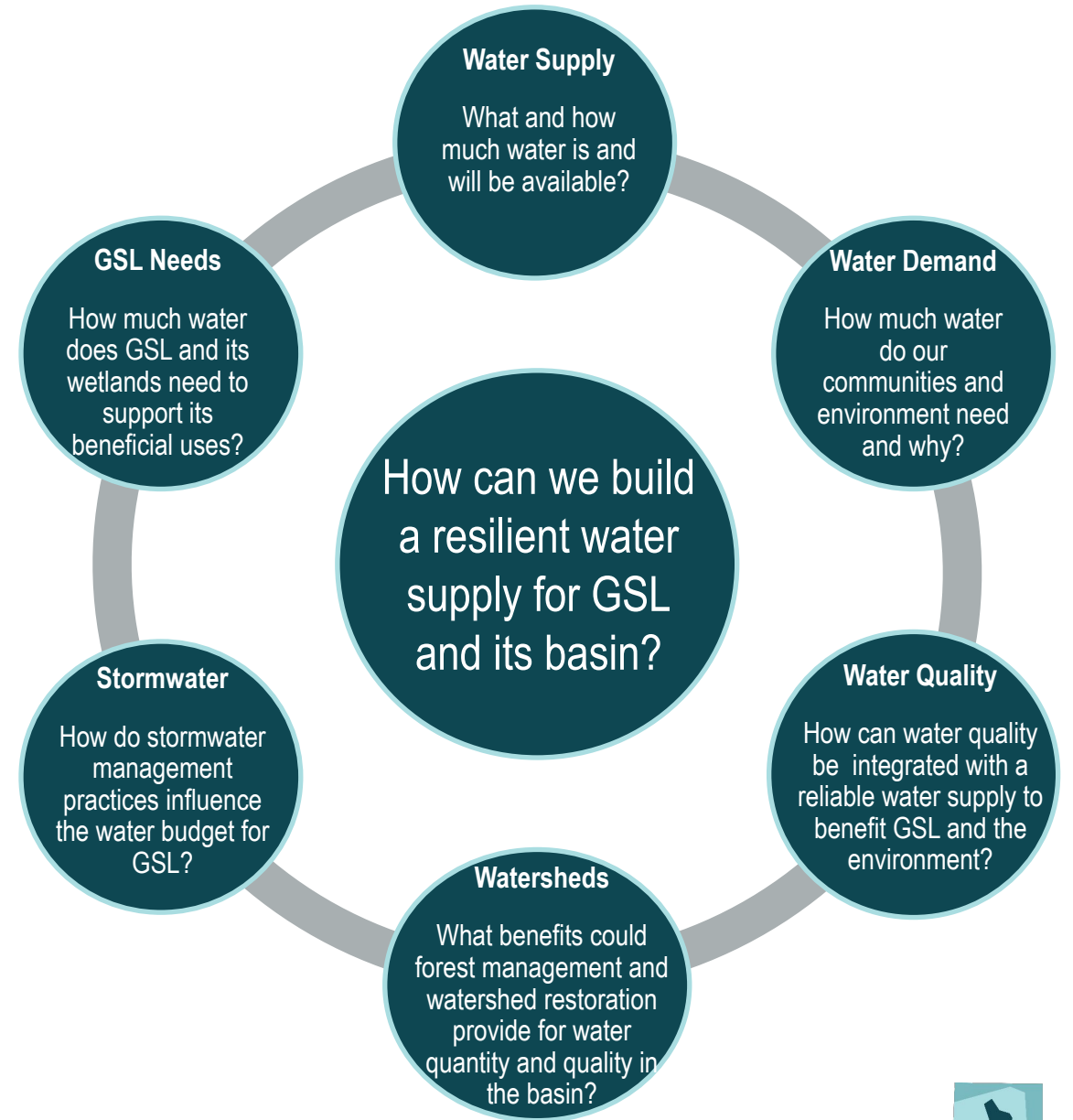


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An Integrated Approach to Work Plan Development



Work Plan Development

Stakeholder Engagement



Workplan Development

Technical Formulation



The Work Plan for the GSLBIP



Learn more
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Our Goal

*Ensure a **resilient** water supply for Great Salt Lake and **all water uses**, including **people** and the **environment**, throughout the **watershed**.*

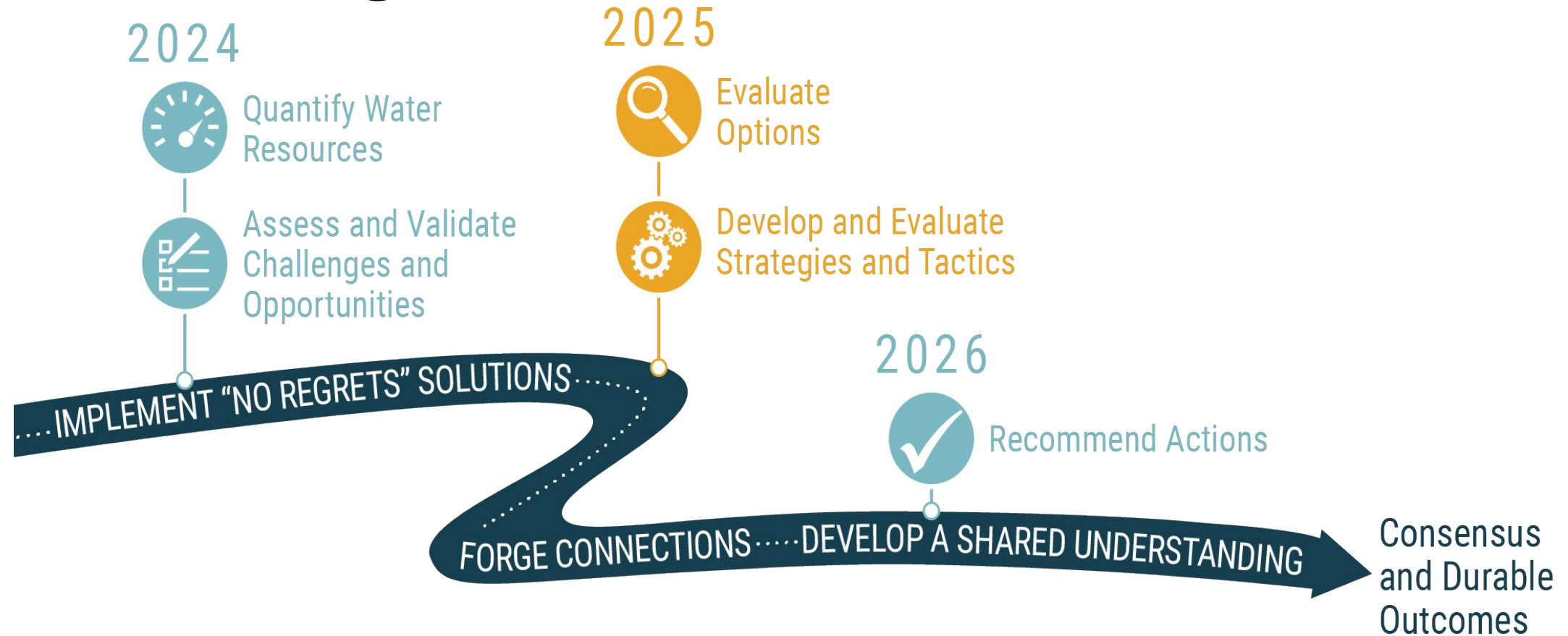


Learn more

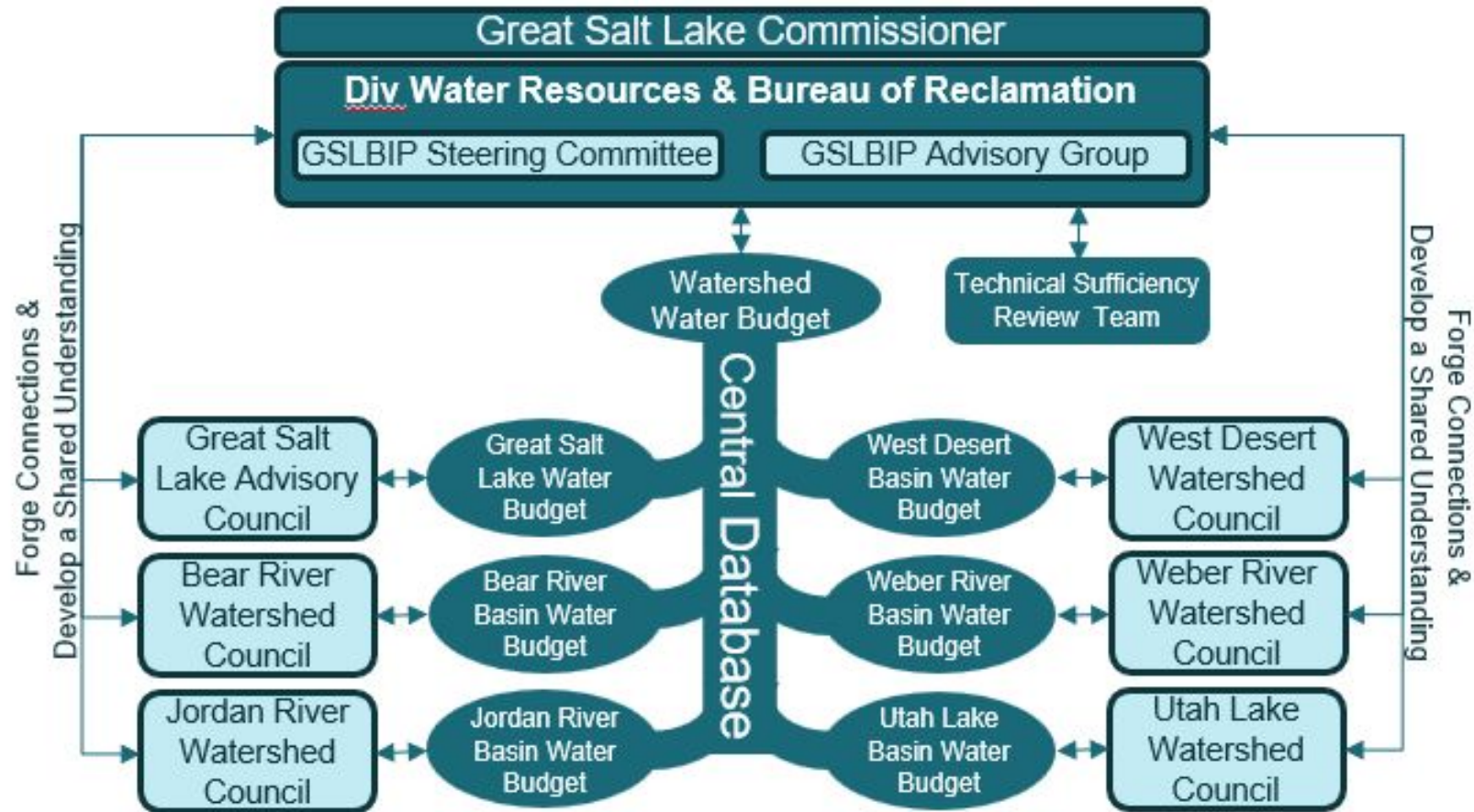
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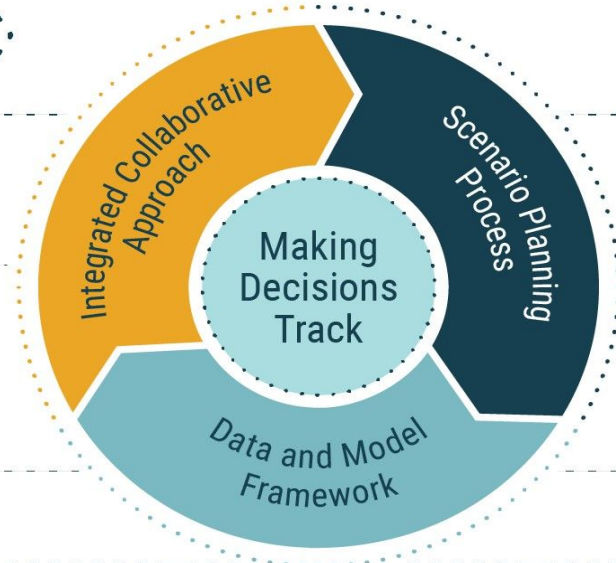
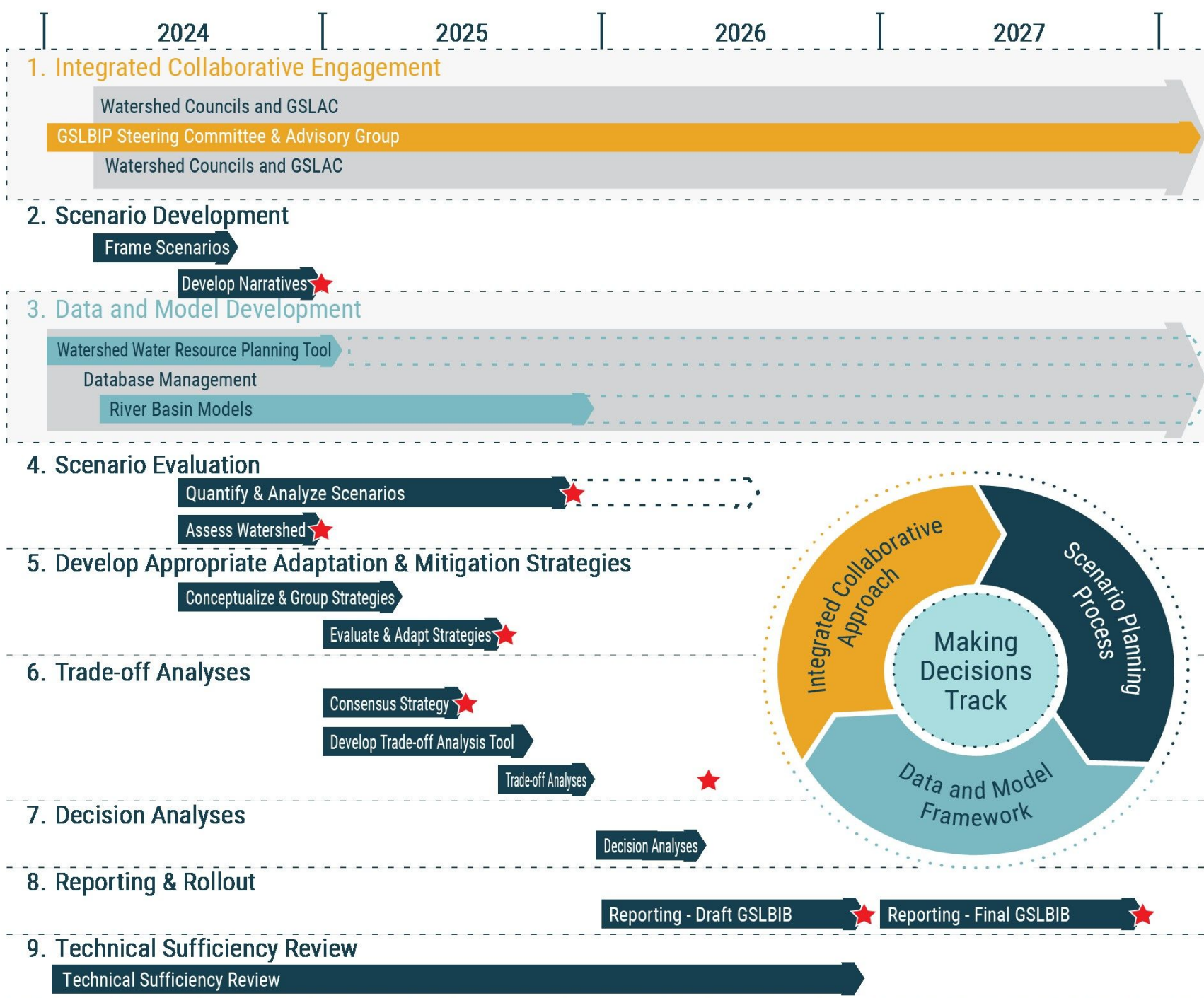


An Integrated Approach



A Collaborative Approach







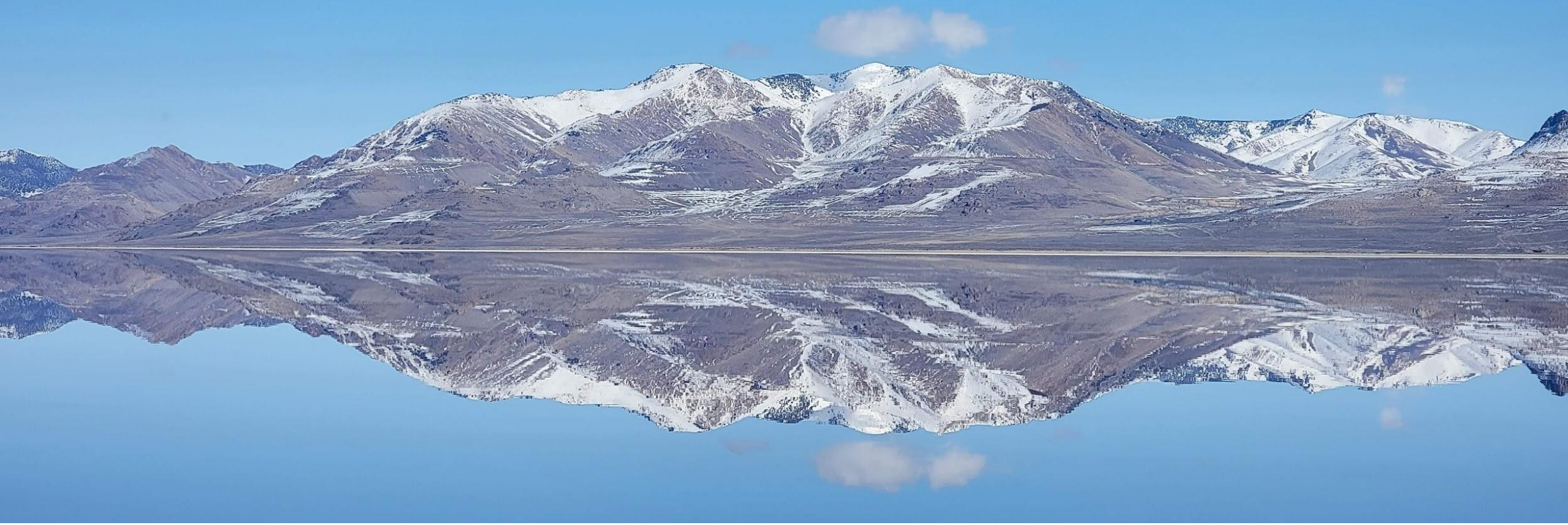
Legend

- Making Decisions
- Strategic Research
- Solutions Development
- Capacity Development

Work Plan Rollout

- Mid-November release
- November 15 presentation to legislature
- December 7 open house
- 45+ day review period
- BIP work begins January 2024





Impacts of Stormwater Management through Low Impact Development in GSL Watershed



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WHAT IS THE EFFECT OF LID ON GREAT SALT LAKE?

Development usually produces more runoff and less evaporation by converting natural open spaces and vegetation to impervious surface, *regardless of stormwater management technique.*



Source: Utah Geological Survey



Source: U.S. National Park Service

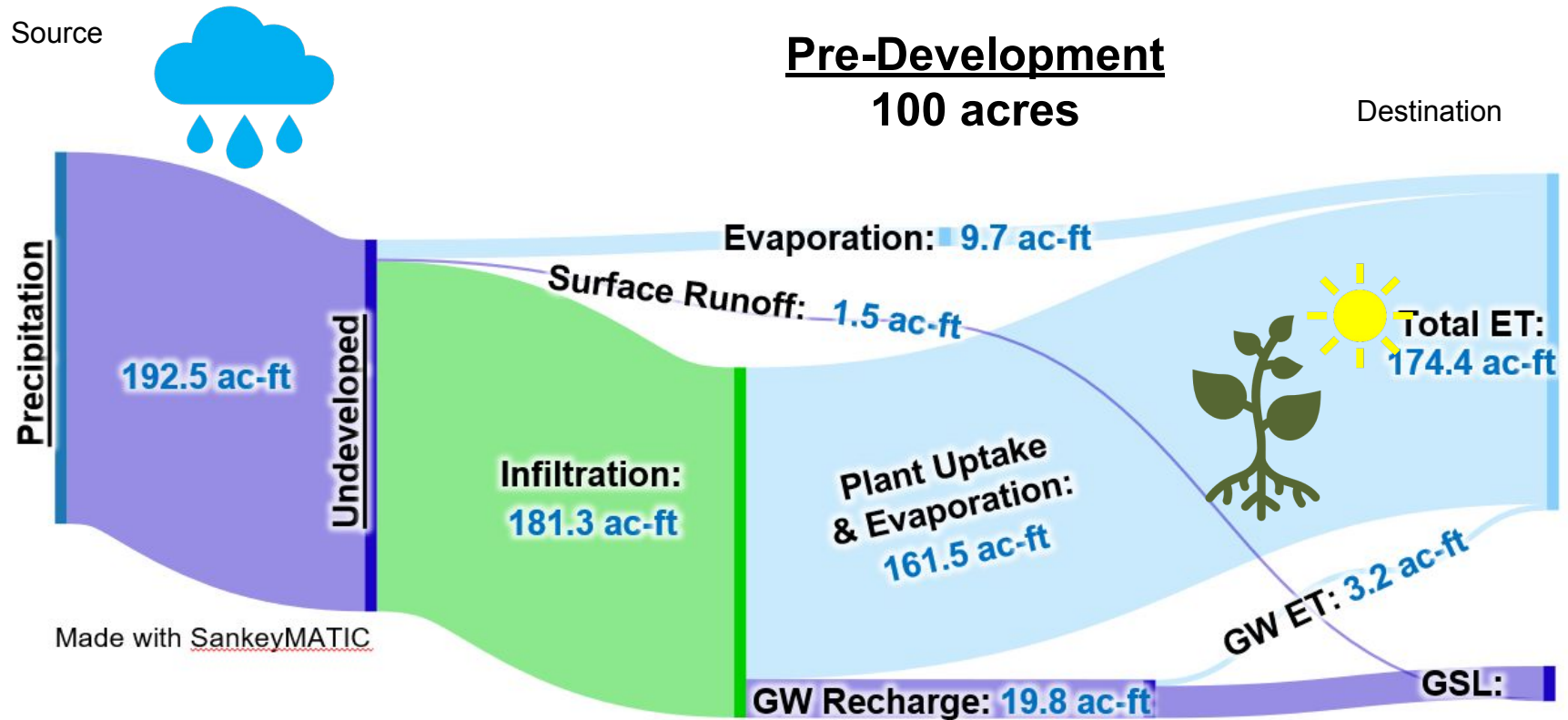


Source: Utah Department of Environmental Quality

Development without LID likely produces more flow to the Great Salt Lake than LID development.

However, direct stormwater runoff into streams and lakes can impair water quality and violate the Clean Water Act.

WHAT IS THE EFFECT OF LID ON GREAT SALT LAKE?



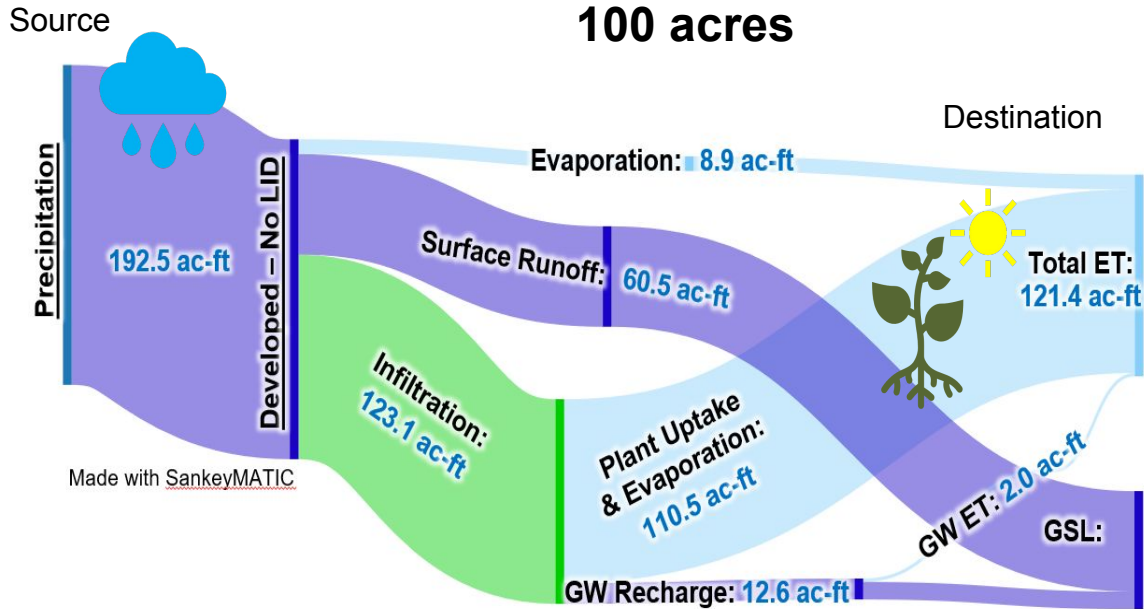
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About 18 AF/year to GSL



WHAT IS THE EFFECT OF LID ON GREAT SALT LAKE?

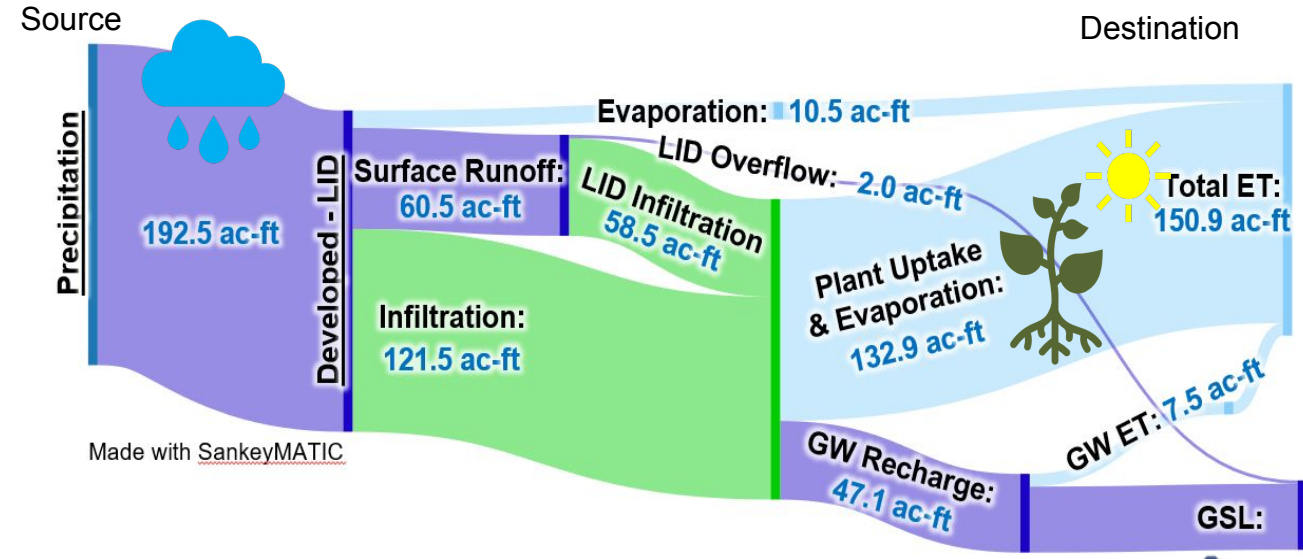
Development without LID 100 acres



About 71 AF/year to GSL*



Development with LID 100 acres



About 42 AF/year to GSL



WHAT IS THE EFFECT OF LID ON GREAT SALT LAKE?

BASIN-WIDE SUMMARY

Description	Totals**
Developed Area (acres)	133,300 (120,000 – 146,600)
Impervious Surface (acres)	53,000 (37,200 - 71,100)
Additional Volume to GSL (With LID) (acre-ft)	24,900 (17,500 - 33,400)
Additional Volume to GSL (Without LID) (acre-ft)	56,100* (39,400 - 75,200)

*Non-LID scenario assumes no evaporative losses during alternative water quality treatment.

**Ranges shown assume future developed areas may vary by $\pm 10\%$ and the percent of developed area that is impervious may vary by ± 5 to 10% .

WHAT IS THE EFFECT OF LID ON GREAT SALT LAKE?

DEVELOPMENT

Benefits

Increased water to GSL

WITHOUT LID

Benefits

- More water to GSL than with LID
- Water reaches GSL faster (days)

Drawbacks

- Reduces GW recharge
- Requires alternative water quality treatments

Drawbacks

Impairs water quality

WITH LID

Benefits

- Improved Water Quality
- Decreases regional detention
- Increases GW recharge

Drawbacks

- Water Reaches GSL Slower (years)
- Additional local infrastructure requirements
- Increased ET resulting in less water to GSL than without LID



THANK YOU



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