

Great Salt Lake Basin Integrated Plan

Situational Assessment Report

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Prepared by The Langdon Group as a subcontractor to Jacobs Engineering
For the Utah Division of Water Resources

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Section 1: Executive Summary

Our water supply is facing relentless pressure from growth and climatic change. Our communities are growing, transforming our lands, and increasing demands upon a limited and perhaps even declining water supply. Long-term climate trends have decreased and will likely continue to decrease the available water supply. Never have the effects of these pressures been felt more or been more visible than in the last five years. The Great Salt Lake Basin Integrated Plan (GSLBIP) looks to answer such questions as: What is the outlook for our water supplies and demands in the Basin? How have, are, and will they change and why? What adaptation strategies can align water use in our communities with available water supplies to achieve the desired outcomes? Can we develop a pathway to achieve a secure water supply that balances the needs of Great Salt Lake (GSL) and water users throughout its watershed?

The GSLBIP aims to integrate a complex system of systems. No one water budget, or strategy, can be built to “do it all” within the prescribed delivery timeline. Every water budget and strategy are unique, built at different scales, with different information at different levels of detail, and for specific purposes. They must be trusted, used, and continuously improved by those who know the watershed’s systems the best. The GSLBIP proposes to embrace this reality; to build a system of models that represents and integrates the numerous systems throughout Great Salt Lake’s watershed. This Situational Assessment Report (SA Report) includes a summary of the assessment process, findings of the assessment, and recommendations to inform the GSLBIP engagement and communications plan.

Summary of Findings

The following were topics commonly referenced in the situational assessment. They are listed alphabetically; the order does not reflect priority or importance.

- **Attributes of a Successful GSLBIP:** Strategies critical to creating a plan that is supported by all stakeholders and is implementable.
- **Capacity and Stretched Resources of the Division of Water Resources:** Expressed support for the Division and it’s needs for additional resources and staff to implement existing programs.
- **Collaboration Between Divisions of the Utah Department of Natural Resources:** Collaboration on GSL watershed issues is critical within the Divisions of the Department of Natural Resources.
- **Communication & Education:** The plan needs to be easily understood and properly communicated to the entire watershed. Public education and intra-governmental communication should be clear, concise, and consistent.
- **Consumptive Use, Conflicting Use, and Reuse:** These three examples of “use” were consistent topics of concern and demonstrate the complexity of shifting “use” and policy based on ever-changing conditions, technology, and demand.
- **Elected Officials:** Elected officials at the municipal and state levels need consistent and simple communication highlighting needs and strategies around the GSL. Their engagement and support is critical to implementation of the GSLBIP.
- **Endangered Species Act (ESA):** Implications of an ESA listing and looking to other examples such as spotted owl, sage grouse, and salmon, bull trout, and steelhead examples in other western states.

- **Isolation:** Individual organizations feel isolated from other organizations, even fellow organizations with previously perceived shared interests.
- **Engagement of Large Landowners:** Some of the largest landowners are federal agencies such as the U.S. Army and Dugway, U.S. Air Force and North Training & Testing Site and South Training & Testing Site, and Bureau of Land Management (BLM) and while they may not be able to hold formal positions on watershed councils, they are major stakeholders in the GSL watershed that need to be engaged.
- **Legal Obligations to Provide Water:** Allocation of water rights in the GSL basin and legal obligation to fulfill these rights.
- **Ongoing Plan:** The GSLBIP has to be updated continually into perpetuity.
- **Great Salt Lake as a Reservoir:** Many considered a management strategy of managing GSL similar to a large reservoir. If certain criteria are established (snowpack, annual precipitation, plant or animal health, etc.), there could also be management practices executed based on the criteria.
- **Recommendation for Immediate Action:** Includes a list of recommended actions from each participant.
- **Rural & Urban Divide:** Within the GSL watershed there is a rural-urban cultural divide which often manifests with conflicting priorities of water use, i.e., agriculture versus development.
- **Shepherding.** Idea of starting at the lake and thinking outward with infrastructure and resources to manage water from the lake out.
- **Tribal Engagement:** It is critical to individually engage all tribes in the basin.
- **Watershed Councils:** The newly formed local watershed council and the GSL watershed council should be the primary tools and forums for the development and implementation of the basin plan.

Section 2: Background

The Utah Division of Water Resources (DWR) contracted with Jacobs Engineering to develop the Great Salt Lake Basin Integrated Plan (GSLBIP) Work Plan. The Langdon Group (TLG) is a sub-consultant on the Jacobs project team (Project Team) and as part of the role on the project team, TLG designed and led a situational assessment in development of the GSLBIP Work Plan. The situational assessment is a series of interviews with key stakeholders that seeks to:

- Begin the process of informing key individuals and organizations about the beginning of the GSLBIP.
- Gather any data or past or concurrent studies specific to the GSL.
- Educate participants about the GSLBIP.
- Identify all key stakeholders and organizations with interest in the GSL and understanding of their past and concurrent work products specific to the GSL watershed.
- Engage the various levels of agencies and organizations from elected officials, agency/organizational leadership, program managers, project managers and the general public.
- Identify potential members of the GSL Steering Committee that will be formed as part of the GSLBIP Work Plan.

The Project Team conducted interviews with fifty-two individuals representing a wide diversity of local, state, and federal agencies, tribes, non-governmental organizations (NGOs), and other interested entities between March 14, 2023, and April 28, 2023. The Project Team attempted to identify a diversity of stakeholders and interests to gain as many insights and perspectives as possible in the limited time available for assessment interviews. It should be noted that interviews will continue with interested parties as this phase of the GSLBIP takes place. All perspectives are welcome!

Participants were identified by the DWR and Project Team. Some participants were jointly interviewed for both the Utah Watershed Council Act (UWCA) implementation and the GSLBIP. UWCA process began in 2021 and includes the formation of the Utah Watersheds Council (statewide council), 11 local watershed councils, and a Great Salt Lake Watershed Council (GSL Watershed Council). The GSL Watershed Council is comprised five local watershed councils (Bear River, Weber River, Jordan River, Utah Lake, and West Desert). The GSLBIP will create a Steering Committee. The situational assessment also sought to identify potential members of the GSLBIP Steering Committee. GSL Steering Committee may become the initial body of the GSL Watershed Council. As such, in concurrently forming the five local watershed councils that comprise the GSL Watershed Council, some interviews were a combination of the Utah Watershed Council Act implementation and the GSLBIP Work Plan.

The GSLBIP situational assessment constitutes a living document and process. It is anticipated that key stakeholder interviews will continue throughout the GSLBIP process, and a product of the GSLBIP is a draft communications and engagement plan. This communications and engagement plan will be updated as new information is gleaned from key stakeholder engagement. The communications and engagement plan are in direct coordination with the Utah Division of Water Resources communications team with regular weekly coordination meetings.

History

Great Salt Lake formed following the evaporation of the Ice Age Lake Bonneville. Fresh water flows into the lake from the Bear, Weber, and Jordan rivers in northern Utah. But because there is no outlet, water evaporates, leaving behind minerals and salt, making the lake one of the saltiest in the world. GSL is large and shallow: nearly 75 miles long and 35 miles wide, with an average depth of 14 feet. Several industries thrive on the shore of GSL, contributing nearly \$1.3 billion annually to Utah's economy. The lake's shores and food web also provide sustenance, rest, and nesting grounds for up to 10 million migratory birds a year, making it one of the world's most important migratory stopovers.

Historically, lake levels vary naturally from fluctuations in precipitation and stream flows. However, due to multiple factors, including increasing human consumptive use and climactic variation, in November 2022 the GSL dropped to 4,188.5 feet of elevation, the lowest level on record. This represents a 50 percent drop in volume from peak capacity.

During the 2022 Utah legislative session, [HB 429](#) was passed. This bill directed the Division of Water Resources to develop and implement the Great Salt Lake Watershed Integrated Water Assessment.

In addition to this, the division was also awarded a Bureau of Reclamation [WaterSMART](#) grant in December 2022 to develop a Great Salt Lake [Basin Study](#). With similar objectives aimed at better understanding the complex water supply and demand in the GSL Basin, these two projects have merged to become the [Great Salt Lake Basin Integrated Plan](#).

To help facilitate and carry out these objectives, [Jacobs](#), [The Langdon Group](#), [Clyde Snow](#) and [Hansen, Allen & Luce](#) have been hired to assist with the development of the workplan for this project.



These combined projects will help to ensure a resilient water supply for GSL and its watershed by:

- **Assessing** current surface and groundwater supply in the GSL Basin
- **Forecasting** future water demands
- **Investigating** potential benefits of forest management and watershed restoration
- **Coordinating** efforts to quantify and incorporate demand into the water supply and demand model
- **Identifying and evaluating** best management practices to provide a reliable water supply
- **Analyzing** the trade-offs in relation to impacts on water users throughout the basin and avoiding deterioration of agriculture, industry, and ecosystems
- **Recommending** actionable strategies to the holistic management of water resources

The objective of the GSLBIP is to ensure a resilient water supply in the GSL Basin. Within a three-year timeframe, the Division of Water Resources will combine and enhance existing water resource management tools and develop new tools as needed from across the Basin to complete a state-of-the-art water supply and demand study. The integrated plan will collaboratively explore options to address water supply imbalances, increase supply reliability and avoid degradation of the vital GSL ecosystem. In addition, it will include a strategy trade-off analysis within each river basin to assess the costs and benefits of meeting different water resource related goals.

<https://water.utah.gov/gsl-basin-integrated-plan/>

Section 3: Assessment Strategy and Process

The Utah Division of Water Resources (DWR) and Project Team generated a list of approximately thirty-three interviewees, and additional contacts were added as identified throughout the interview process.

The DWR approved email invitation for situational assessment participation and situational assessment process guide served as the primary communication piece for describing the purpose and process of the situation assessment and GSLBIP project.

The goal of the situation assessment was to capture an accurate cross-section of interests and representative members of the community. An interview with every individual with an interest in the GSLBIP was not feasible; however, every effort was made to ensure opportunities for participation and a diverse sample of the GSL watershed community.

On the heels of the COVID-19 pandemic, comfort, access, and ability to conduct interviews through virtual meeting platforms helped increase the diversity of interviews. Many interviews were conducted in-person when possible.

Interviews were conducted by the Project Team with the agreed upon principles:

Interviewers employed active listening skills, built trust, maintained neutral positions, and genuinely communicated that the interviewee's input was valued.

To protect interests and foster an open discussion, specific comments or findings received were not attributed to anyone by name, position, or agency in this report. Feedback is grouped into common themes that emerged through the interviews.

Each individual discussion differed depending on interests and the direction of the conversation. The typical process followed the following sequence:

1. Getting to know the interviewee.
2. Understanding of the GSLBIP process.
3. Identifying the issues important to the interviewee.
4. Identifying opportunities to communicate with the interviewee and community in the GSLBIP process.

To solicit input that is valuable and constructive, the format of interviews was conversational. Interview questions were intended to help generate internal team feedback and served as a reference during the assessment as needed.

Individuals and Organizations Interviewed for the Situational Assessment:

- 1) Alan Packard, Jordan Valley Water Conservancy District
- 2) Barry Prettyman, Provo City
- 3) Ben Nadolski, Ogden City Council and Utah Division of Wildlife Resources
- 4) Ben Stireman, Utah Division of Forestry Fire and State Lands
- 5) Brandon Heidelberger, Central Valley Water Reclamation Facility
- 6) Brian Steed, USU Institute of Land, Water, & Air (New GSL Commissioner)
- 7) Cindy Ledbetter, Bureau of Land Management
- 8) Connely Baldwin, Rocky Mountain Power
- 9) Dave Decker, Provo City

- 10) Don Leonard, GSL Brine Shrimp Cooperative and GSL Advisory Council
- 11) Dwight Slauch, U.S. Bureau of Reclamation
- 12) Elaine York, The Nature Conservancy
- 13) Eric Reid, Bureau of Land Management
- 14) Eric Sorensen, Salt Lake City Metropolitan Water District
- 15) Gary Calder, Provo City
- 16) Hannah Salzl, Provo City
- 17) Heather May, GSL Collaborative
- 18) Holly Simonsen, Friends of the GSL
- 19) Jason Reed, Utah Dugway
- 20) Jacob Young, Jordan Valley Water Conservancy District
- 21) Jay Tanner, Grouse Creek Rancher
- 22) Jeff Budge, Provo River Water Users
- 23) Jeff Young, Ensign Ranches
- 24) Jennifer Puttere, Bureau of Land Management
- 25) Jess Kirby, Summit County
- 26) Jessica Wade, Bureau of Land Management
- 27) Jim Harris, Utah Division of Water Quality
- 28) Jodi Gardberg, Utah Division of Water Quality
- 29) Joe Havasi, Compass Minerals
- 30) John Parry, Weber Basin Water Conservancy District
- 31) Jordan Davis, Bureau of Land Management
- 32) Kyle Roerink, Great Basin Water Network
- 33) Lynn de Freitas, Friends of the GSL
- 34) Marcelle Shoop, Audubon Society
- 35) Marisa Weinberg, Utah Division of Forestry Fire and State Lands
- 36) Michael Gates, Bureau of Land Management
- 37) Mike Rau, Central Utah Water Conservancy District
- 38) Nathan Daug, Cache Water District
- 39) Nicholas King, Hill Air Force Base
- 40) Phil Heck, Central Valley Water Reclamation Facility
- 41) Rachel Musil, Central Utah Water Conservation District
- 42) Rick Maloy, Central Utah Water Conservation District
- 43) Rick Mickelson, Timpanogos Special Service District
- 44) Rick Smith, Davis & Weber Counties Canal Company
- 45) Ryan York, Provo City
- 46) Sandy Wingert, Utah Division of Water Quality
- 47) Scott Paxman, Weber Basin Water Conservancy District
- 48) Shane Jones, Provo City
- 49) Soren Simonsen, Jordan River Commission
- 50) Steve, Sheffey, Utah Dugway
- 51) Tim Hawkes, GSL Brine Shrimp Cooperative, Inc.
- 52) Trevor Nielsen, Bear River Canal Company

Section 4: Comprehensive Summary

This section captures the opinions, beliefs, and perceptions of the situational assessment participants, categorized by themes, that emerged during interviews. ***This assessment does not aim to verify the accuracy of people's statements. Where participants have conflicting understandings of the same phenomena, this discrepancy is identified and articulated as best as possible. It is important to understand different interpretations, regardless of their accuracy, because it reveals nuances in community understanding and helps identify potential information gaps in these communities/groups.***

This report is intended to provide a snapshot in time of a cross section of the communities of interested parties.

Understanding of the Situation

The Project Team began the situational assessment with confidence that there would be individuals and organizations that would be strongly connected to the diversity of needs and issues associated with the management of the GSL. What became immediately clear is that there is no uniformly held and shared vision for the lake and its key constituents. The only organization that appeared to have broad understanding of the majority of needs, issues and opportunities was the U.S. Geological Survey and this was from the recent completion of the [Saline Lakes Ecosystems Integrated Water Availability Assessment](#).

Many organizations shared that they had long assumed that their neighboring organizations held the same values and interests that they held regarding the lake. But, after the June 7, 2022 publishing of the New York Times (NYT) article written by Christopher Flavelle, titled, [As the Great Salt Lake Dries Up, Utah Faces an 'Environmental Nuclear Bomb'](#), there came immediate reaction as agencies and organizations commenced dialogue that revealed the assumed partnerships did not exist or were not what they thought they were. As was stated by multiple parties interviewed in the situational assessment for the GSLPBIP, the NYT article also significantly increased the desire of local watershed councils within the GSL watershed to organize and become certified as watershed councils. The need for collaboration and partnership increased with Utah state legislators also wanting to get more involved in finding solutions for the drying of the GSL.

The NYT article also stated that "Climate change and rapid population growth are shrinking the lake, creating a bowl of toxic dust that could poison the air around Salt Lake City." The question then became, what is THE question that needs to be addressed with the GSLBIP and with multiple new concurrent efforts to address the drying GSL?

The 2023 Utah legislative session brought yet even more forms of legislation designed to solve the issues of the GSL, including the creation of a GSL Commissioner position. The roles and responsibilities of this new commissioner, especially a call for a GSL plan to be completed by November 2023, were perceived by those interviewed in the situational assessment as having potential duplicative intent with the GSLBIP. There was a stated desire for those involved with both plans to avoid potential conflict or confusion about which plan to follow or duplicative expenditure of time and resources in creation of both plans.

The sheer scale of the collaborative effort and process and so many competing interests also made it clear that the reason a GSLBIP does not yet exist is not only because the issue is complicated and ever-changing, but because of the massive scale of interests, individuals, and organizations with vested interest in the lake.

The desire for an integrated plan and organizational structure for participation and collaboration within the GSL watershed is tremendous. In each interview, participants have expressed their enthusiasm for the plan, knowledge of how to collaboratively participate, and interest in implementation of the plan is exceptional.

There is also a tremendous sense that for the GSLBIP to be successful, it must include all of those individuals and organizations with vested interests in the planning process. If they are not meaningfully engaged in the integrated plan, there is almost assuredly going to be conflict and limits to success in the implementation of the GSLBIP.

Complete Situational Assessment Findings

The following are not statements of fact by the authors of this report. Rather, the following are the sentiments, personal opinions, and observations shared by parties interviewed as part of the situational assessment process. They are listed in alphabetical order and not according to priority, interest, or interview.

- **Agriculture Water Optimization.** Ag optimization is important and is the best way to get water to GSL. The best outcome is for farmers to operate efficiently in wet years. Agricultural producers are willing to do their part but will not cover the inefficiencies of the rest of the basin. If agriculture optimization does not work, ag feels they should not have to compensate for over allocation. They see over allocation as a policy failure, and it is not fair for the senior water rights holders to bear the burden of failures downstream. Consideration may also be given to increasing optimization in the area immediately surrounding the lake, in order to preserve wetland ecosystems. Also, is there a higher value crop for feeding livestock than alfalfa? Alfalfa is seen as one of the polarizing water uses and topics in the GSL watershed. Finally, there are organizations, such as Rocky Mountain Power, that have an obligation to fulfill water rights and deliver water. There might be limits to what fallowing of agricultural land can really do when there is a legal obligation to deliver water to agricultural users.

- **Attributes of a Successful GSLBIP.** The following attributes of a successful plan were identified by the participants in the situational assessment:
 - Simple and easy to understand.
 - Polished and professionally designed and laid out.
 - Look to the example of the Strike Team product for the 2022 Legislative Session.
 - Meet the needs of technical and non-technical readers.
 - Approach this by playing the law of averages for flows to the lake. You have a range to play with in drought or in high water times. Strategy to play in the middle of those averages which we can indeed calculate.
 - Unless we tell people what the ranges or margins are to play in, people will do what they are doing to do.
 - Clearly demonstrate the State's grasp of the priorities of the GSL.
 - What are the economic impacts of the lake going dry to the local, regional, and national economy?

- Develop a matrix of use. Clearly communicate who all the water users are and what their actual use is.
 - Successfully engage all of the tribes within the GSL Watershed, both those that are currently located within the watershed and those tribes that have ancestral claim or heritage within the watershed.
 - Seek to balance participation from rural and urban communities within the watershed.
 - Does not try to do everything for everyone. Even a comprehensive plan needs to remain focused to be implementable.
 - Reflect all interests and be implementable because it is inclusive in its creation.
 - Inform all water users what their allocation or water availability is from year to year based on current conditions.
 - Utilize research institutions and others to provide.
 - Contain credible data that easily understood, verifiable, and robust enough to simplify decision-making.
 - Clarify what each organization's part is in the plan.
 - Clarify the "cost" to each stakeholder.
 - Effectively coordinate efforts of all involved agencies.
 - Specify policy recommendations and resource allocation requests.
 - Include plans and contingencies for both high water years and drought.
 - Feature comprehensive mapping and modeling of the ecology and hydrology of GSL.
 - Integrate all other previous and existing efforts and models of GSL, including the GSL Commissioner's strategic plan.
- **Climate and Ecology.** Any Basin Plan should include comprehensive climate modeling and how it impacts each watershed and the basin as a whole. How much of the change in hydrology is due to climate change and are there ways to mitigate for that? Also, we need a greater awareness of the hemispheric scale of the importance of GSL to migratory birds. An analysis of economic factors and drivers around the lake, and how they interact with the health and vitality of the ecosystems of the lake, would be appropriate. If management crashes the ecosystem, it will not matter who owns the water.
 - **Collaboration Between Divisions of DNR.** It is perceived that there is a lack of coordination between the different divisions of the Department of Natural Resources and other state agencies such as the Utah Department of Agriculture and Food. This lack of coordination is perceived as leading to mismanagement of resources and funding and overall missed opportunities for effective communication and partnership.
 - **Communication & Education.** The plan needs to be easily understood and properly communicated to the entire watershed. Implementation of the plan hinges on successfully educating all on the facts about the lake and the purpose of the plan, and how each fit within the plan. The public, in particular, needs to be consistently engaged. Public messaging should be simple and consistent and focus on the water cycle of the GSL watershed, and basic ecology and economy of the lake. Public messaging should also change year to year, i.e., you cannot have the same messages in drought years as in wet years.
 - **Compensation for Agriculture.** If agriculture is pushed to fallow agricultural land or to reduce irrigation water consumption in time of drought, there is an idea that agricultural enterprises should be compensated for not being able to irrigate and thus losing potential revenue from their products that could not be raised or sold to market. There were also additional comments that

compensation for agricultural interests was not sustainable over time. It is clear that this is a topic that needs to be addressed and involve all interested parties in the discussion and possible policy in the future.

- **Conflicting GSL Management Objectives.** For some organizations, their interests are met with evaporation or a dry condition where other organizations and interests are met with steady inflows of freshwater. Examples include the Bonneville Salt Flats where racing functions best when dry and mineral extraction companies that are dependent on evaporation.
- **Conservation.** Conservation needs to take place by all users throughout the entire watershed. We live in a desert! Conservation can be misunderstood because people focus on what they can see, surface water. But people forget that to properly manage the water resources of the GSL watershed, we must also think equally about groundwater and the aquifer. Conservation in times of plenty should lead to a healthy and sustainable aquifer. The GSLBIP could also consider aquifer storage and recovery strategies.

Conservation is also seen as something that should become part of the culture of all water users in the GSL watershed. As urban population continues to grow and the threat of prolonged drought is possible, people need to think about conservation in terms that look beyond the needs and supply of water in the near term and need to think about the resource into perpetuity. This needs to be part of the thinking with the GSLBIP.

- **Consider the Unintended Consequences of Actions Taken.** There is concern that there may be management decisions or policies made to address specific issues within the GSL watershed that may have unintended consequences. One example is fire suppression of forested lands. In arid juniper forests in the West Desert, fire suppression can lead to an overabundance of juniper trees that consume large amounts of water and limit the flow of surface water and impact plant and animal species. Fire suppression in the pine forests of the eastern portion of the GSL watershed can lead to catastrophic wildfire that may impact water quality and impact watershed health for all consumers of that water. There are many such examples of actions taken that may impact other needs and interests of the GSL watershed.
- **Consumptive Use, and Conflicting Use, and Reuse.** The United States Geological Survey defines “consumptive use” of water as “the part of water withdrawn that is evaporated, transpired, incorporated into products or crops, consumed by humans or livestock, or otherwise not available for immediate use.” Consumptive use was one of the topics most referenced in the Situational Assessment and needs to be addressed in the GSLBIP. Examples of “conflicting use” were agencies that manage the Bonneville Salt Flats and agencies that manage for brine shrimp. The Bonneville Salt Flats is ideally dry to accommodate high-speed vehicle racing, while the brine shrimp industry is reliant on inflows of fresh water as part of the conditions that allow them to flourish, all where there are mineral and extraction industries that rely on both wet and evaporative conditions to manage and extract their products. Reuse was also cited as a practice of managing wastewater where municipal wastewater was treated to a high quality of water that could then be reused for secondary irrigation or other uses. While that practice was popular 10 years ago, the demand for getting water to the lake in drought conditions has led to less emphasis on water reuse. These three examples of “use” help demonstrate some of the complexity of changing “use” and policy based on ever-changing conditions, technology, and demand. It was suggested that the GSLBIP could build a matrix of all watersheds in the basin and identify different scenarios of use, reuse, and potential use.
- **Data.** A few considerations for the types, characteristics, and current limitations of data needed for an implementable GSLBIP:

- Data is not accessible to describe how much water is pumped out of Utah Lake.
- Missing data (which is seen as being common) limits ability to do predictive modeling.
- There must be renewed effort to maintain river databases. This data needs to be made accessible and easy to read and understand.
- Data management is needed for future water planning. The data needs to be: Current, available, easily accessible, relevant, searchable, trusted, transparent, and valid.
- Good data has to have lots of stakeholder input and show the interconnection and interdependency between systems. If there is a beneficial supply, it should be accounted for and credited appropriately. Account for net benefit of use.
- **Determining the Right Question.** When asked, “What is the question to be solved with the GSLBIP?” individuals struggled to come up with one question. Layers of complexity about the issues of the lake were then discussed. The challenge is that with one issue or one solution, there were related issues or solutions that had to also be addressed. The connectivity of issues of the lake adds to the feelings of anxiety people have with the GSL and add to the sentiment that solving the issues of the lake are overwhelming to solve. The common theme that came from this discussion is that there may not be one right question; rather, there are a series of questions that need to be answered and what is missing is the organization and framing of these issues and the structure and organization to address the issues into perpetuity. This led to comments that we need to ensure that there is support and resources to address the issues and to manage the complexity and connectivity of the issues, and, that there needs to be ongoing open and transparent communication and education about the issues.
- **Depth of the GSL.** It needs to be acknowledged that the lake is shallow and thus evaporates at a higher rate than a deep-water body. The potential for the GSL to be a deep lake is not reality, so management and planning needs to be based on a lake that is perpetually situated for evaporation. As temperatures with climate change continue to increase, this is yet another condition that will need to be incorporated into planning for a resilient water supply in the lake.
- **Dams.** Hydroelectric power production is very limited within the watershed. The dams that exist that provide hydro power continue in operation because decommissioning these dams would be cost prohibitive.
- **Economic Impacts.** If the GSL goes dry, the impact to the industries that rely on products that come from the lake could be significant. The spread of the impact goes much more beyond the industries in Utah as the products that are produced from the resources of the lake impact aquaculture, aluminum production, and a wide host of industry that is often not associated with the lake. The comments associated with the economic impacts were often tied to education of the public and elected officials about these impacts and the importance, from an economic perspective, of the lake having a resilient water supply.
- **Endangered Species Act.** Utahns need to understand the implications of an ESA listing. This is the “stick” vs. the “carrot” approach to changing opinion and behavior. This will create conflict with the state of Utah and the federal government and not help the resource.
- **Growth.** There appears to be a common sentiment that population growth is going to continue into perpetuity. Utah is often cited as one of the fastest growing states in the country. Utah is also a desert with a finite water supply that is threatened by drought and climate change. The sentiment that was shared in the situational assessment was that whatever is done with planning or policy into the future needs to also accommodate for residential growth. The thought that went hand-in-hand

with accommodating residential growth was where that water would come from. Some cite conservation efforts by all, others cited agriculture holding the majority of water rights in the state. This then led to people speaking about agriculture water optimization or for those in agriculture, concern over their water being taken. Some entities and individuals mentioned concern that growth seems to be the primary value and will come at the expense of water conservation and the lake. They talked about the need for intentionally, and publicly, balancing the priorities and acknowledging the tension between them.

- **House Bill 491, Great Salt Lake Commissioner Act.** This was the most common comment throughout all of the situational assessment interviews. The assessment interviews were completed before Brian Steed was announced as the GSL Commissioner. Prior to the announcement, there was tremendous concern about “who” was to be selected to be the Commissioner. Finding the “right” person to fulfill this position was causing a lot of anxiety from all interest groups. The position is seen as being fraught with potential competing interests, duplicate efforts with the GSLBIP, giving too much power and authority to one person, not sustainable over time, and many other questions and comments of concern. There were also comments that if the right person were selected as the Commissioner, there could be tremendous upside by having an individual that would be empowered to help expedite and execute changes and improvements to the watershed. There were also many comments that the tasks of the GSL Commissioner (creation of a plan for the GSL) should be integrated into the work of the GSLBIP.
- **Illegal Water Use and Enforcement.** There is a perception that there are many that are illegally drawing water out of the streams in the watershed. It is perceived that there are many illegal water diversions throughout the GSL watershed. Once the system is modernized to measure and monitor water use, there needs to be enforcement for those that are taking more than their allocation or water. With the absence of enforcement, those that are operating beyond the law will continue to do so. There is a sense that there are no real consequences for breaking the law and using more water than legally allocated. All diverted water is supposed to be measured. According to several participants, this is not happening.
- **Inclusion of All Water Users.** Need to not just look to the immediate water users in the watershed. Need to also include neighboring states as partners in conservation and sustainability of the GSL. It is critical to gain the cooperation of Idaho and Wyoming. If Idaho, in particular, developed their entire allocation of the Bear River, the consequences for GSL could be dire.
- **Infrastructure Modernization.** A common sentiment of individuals that are involved with water infrastructure was the need to modernize the existing infrastructure. This will require additional funding and support from elected officials and federal agency partners. The benefits cited of updated water infrastructure included agricultural efficiencies (and ease in recognizing the contributions of agriculture). Specifically, modernization of assets for improved metering and monitoring for both urban and agricultural use. There are continued efforts to meter and monitor residential use, but there is very limited metering and monitoring of agricultural use, and almost no knowledge of stream flow at diversions. Lastly, the “berm” at the new Union Pacific bridge was identified as an example of limited infrastructure and as a limited management tool at the GSL for managing water levels at the lake.
- **Invasive Plant Species Removal.** *Phragmites australis* is an invasive non-native plant species that tend to shade out native plant species, killing off other plant life. While not commonly mentioned as part of the Situational Assessment, *management* of the GSL and associated resources was commonly cited. *Phragmites* are an example of a GSL issue that needs to be continually addressed, funded, is “out of sight, out of mind” to the general public, multi-agency issue, is complex with

ongoing science and monitoring required, may not be able to be completely addressed (in this case, eradicated), and has direct impacts to other interests (destroys habitat for wildlife and destroys ecological conditions for other plant species).

- **Isolation.** Individual organizations once thought they were synched up with their neighbor. They are now finding that is not the case. Individuals and organizations feel isolated and unsure about what is going on with the GSL. In the absence of knowing how or where to engage, organizations simply do their own thing... As they learn about this project, there is tremendous desire to participate!
- **Large Landowners and Managers.** The U.S. Army and Dugway, U.S. Air Force and North Training & Testing Site and South Training & Testing Site, Bureau of Land Management (BLM), and Rocky Mountain Power are examples of large agencies/organizations that may manage large tracts of land or manage water rights within the GSL watershed that often go relatively unknown in their tremendous responsibilities and obligations.
- **Land Development.** Comments were shared that when it comes to land development, this is a failure of policy allowing commercial and residential development in locations where it should never be allowed. Competing values and interests of land development versus conservation and water use optimization should be made explicit, and considered, in every new decision or policy.
- **Look to Nature.** There are plenty of examples where nature manages water. Example of beavers and their creations of dams and wetlands that slow water flow, put water into the aquifer, etc.
- **Manage GSL Like a Reservoir.** This concept was shared by multiple parties. The basic idea is that an effective management philosophy for the GSL might be to manage the GSL like a large reservoir. If certain criteria are established (snowpack, annual precipitation, plant or animal health, etc.), there could also be management practices that would take place based on the criteria. This would be established with a range of criteria that when met would dictate management of water within the watershed.
- **Management and Planning.** One of the most common comments received in the situational assessment is that the lake simply needs management. The perception of management is that it is not currently coordinated or taking place in a comprehensive manner. There was hope expressed that a result of the GSLBIP would be effective and inclusive management of the GSL. Comments were also shared that the GSL should be managed with good planning in drought and in years of plenty. Drought is seen as removing the buffer that exists to maintain healthy lake levels and highlights mismanagement that we don't see when there is healthy water levels in the lake. There is a perception that there is some planning for drought, but there is no planning for high water events and where there is flooding there are only knee-jerk reactions. Flooding occurs and then the state seeks FEMA grants to repair damages. We should have flood event planning and strategies. The amount of money spent on reconstruction after devastating flooding could be offset with good flood planning and preventative infrastructure development
- **Monitoring.** No entities interviewed as part of this assessment were in opposition to monitoring of lake levels or other natural resources associated with the GSL. There were no examples cited of conflict over interpretation or monitoring. There is general consensus that there is a very wide range of resources that need to be monitored into perpetuity with the GSL and that the political will, funding, and other resources needed for monitoring is expansive. The most common comment regarding monitoring is that it is essential to good science, planning, and policy making today and into the future. It was often cited that for monitoring to be successful, it needs to have collaborative and inclusive partnerships and engagement that limit potential conflict, avoid duplicate efforts,

results and processes that are done in coordination with other planning and monitoring for increased mutual benefit and best use of resources and funding.

- **Overall allocation, Paper Water, and Enforcement.** It is widely perceived that there are no consequences for not keeping the rules related to water use, overuse, and other forms of mismanagement. These issues are not often seen as being done with intent to break the law; rather, they reflect actions that in some cases have taken place for decades. Resources for increased enforcement are a prerequisite to effective shepherding and measurement of water in the watershed.
- **Pinion and Juniper Encroachment Management and Tree Removal.** Throughout much of the western portion of the GSL watershed, juniper trees are prevalent. Junipers are seen as a tree that was once limited in site domination by wildfire. With the suppression of wildfire, juniper trees have flourished and become a dominant species in some locations. Juniper consume a tremendous amount of water. Efforts by the BLM and local livestock operators to reduce juniper encroachment have been extensive in some portions of the watershed (Grouse Creek).
- **Political Support.** There were many comments about the role of politics, elected officials and the GSL. Political support sentiments related to the interests of the individual or organization represented.

Legislators. If the entity provided water for agricultural use, there was some ire towards legislators that were developers accompanied with perceptions that their interests were skewed towards development. If the entity provided water for urban/municipal use, there was angst towards the legislators that represented agricultural interests and agricultural use such as growing alfalfa (seen as crop that disproportionately uses water).

There is general frustration that state legislators are asking the wrong questions and grasping for ideas to resolve the issues of the GSL. There is general frustration that state legislators are directing money and resources to the wrong places and causes and that the money and resources would be better spent through support of the existing state agencies and organizations such as the DWRe and the DNR.

Congressional Delegation. Utah's members of Congress were referenced similarly to state legislators. It was also cited that there has been limited political support for GSL needs for years. Today there is plenty of political support but lack of organization.

Both congressional and state legislators are viewed as essential to the future of the GSL. The need for them to be continually informed and educated about the resource needs of the lake was also cited.

- **Prior Appropriation Doctrine.** In dealing with water rights, the prior appropriation doctrine states that water rights are determined by priority of beneficial use. Common beneficial uses include irrigation, hydroelectric power generation, mined land reclamation, and other valuable domestic, municipal, or commercial purposes. Both "prior appropriation doctrine" and interpretation of "beneficial use" are not widely understood yet are cornerstone principles that relate to the use of water in the GSL watershed. Both should be reflected in communication about the lake and in the GSLBIP.
- **Public Utility Commission (PUC).** The PUC's do not want to remove the hydroelectric power facilities within the watershed because they may determine in the future that they want to continue their use in hydro power production and because removal is cost prohibitive.
- **Recommendations for Immediate Action.**

- Get people together from the different interest groups. Help them get on the same page with a unified ask.
- Get DWRe and DNR additional staff and resources.
- Compensation. Create jobs at DWRe and DNR that are competitive to attract and retain top talent to work on these water supply and GSL issues.
- Garner political support and subsequent resources for the lake.
- Partnership with federal agencies.
- Get agencies organized. Clarify roles and responsibilities of each agency and clearly articulate this to the state of Utah.
- Increase the speed of decision making within DNR and DWRe.
- Plan for flooding. We plan for drought, but we are only reactionary for high water.
- System modernization beyond ag efficiency (and then enforcement).
- Water metering expanded from urban to rural/ag use as well.
- Improve data sharing.
- Actively coordinate with Idaho and Utah.
- Hard caps for water districts and utilities – price true worth of water.
- Restrict outdoor water use by municipalities.
- Integrate climate modeling.
- Set an official target lake level during drought years.
- Evaluate adjudication procedures with a lens of how water gets to the lake.
- Initiate an economic study of the benefit of GSL to the basin and the state.
- **Role of Biologists in Water Management.** There were two primary biologists referenced in the SA interview process: brine shrimp and waterfowl biologists. The waterfowl biologists were identified as often being tasked at Wildlife Management Areas (WMA) with managing water flowing into the WMA and what then flowed into the GSL. The need for infrastructure and staff at the WMA's that are water system experts and not just biologists was cited.
- **Role of Government.** Provide clarity on which agency does what and where you go for specific needs and help. Cities were also identified as key to all future water conservation and policy as they are the entity with the greatest ability to enforce policy and rules on water use. Cities are also seen as having the ability to change domestic water use culture and policy such as requirements for green grass, and promotion of xeriscape landscaping practices. City and county elected officials are seen as actually having power to influence local water use through enforcement power of local government that state and federal agencies may be unable to implement.
- **Shepherding.** WMAs and duck clubs are the final water passthrough to get to the lake. They do not have the resources or infrastructure to determine how much water is coming into their facility and how much is getting to the lake. The idea is to begin with what the lake needs and build the shepherding system up into the watershed. Without adequate metering throughout the watershed, many worry water conserved high in a watershed may not make it to the lake.

- **Steering Committee for GSLBIP.** The GSLBIP will have a steering committee. The intent of which is to become the basis for the GSL Watershed Council. There were several comments encouraging this path of creation of the GSL Watershed Council to avoid duplication of effort, efficiency of time and resources for those individuals that may be on both (if they were separate), and that the GSL Watershed Council would be the best path for the long-term platform for continuing the work of the GSLBIP.
- **Storm Water and Wastewater.** Many participants agree that both waste and storm water are prohibited from quickly and effectively getting to the GSL. This is seen as missed opportunity in getting water to the lake. There is a sense that there are creative management solutions that can come from management of storm water and wastewater being properly treated through modern technological solutions but also natural systems such as wetlands that may meet multiple needs of removal of this water, treatment of the water, use of this water-by-water dependent habitats and contribute the water flow into the lake.
- **Support for Utah Division of Water Resources.** Rather than create new programs and new leadership structures, there were many who want to see more support for the Utah Division of Water Resources (DWRe). Comments ranged from increasing compensation for DWRe staff to promote recruitment and retention, increase budgets for DWRe staff to be active and known throughout each of the five local watersheds that comprise the GSL watershed, budgets that were created for the Great Salt Lake Trust and Great Salt Lake Strike Team could have been directed to DWRe instead of creating new and possibly duplicative projects and initiatives. One suggestion was a splitting of the Department of Natural Resources for a creation of a Utah Department of Water, which would include the Division of Water Resources, Division of Water Quality, and the Division of Water Rights.

DWRe Recruitment and Retention. There were multiple comments that the DWRe needs additional funding and resources to attract and retain top talent to successfully implement existing programs and policy.
- **Systemic and Organizational Structure.** This sentiment is related to the opinion that the GSL and its lake levels did not receive much attention until recent years when the lake level dropped. Now that the lake is getting so much attention and funding, it highlights the need for a systemic approach (integration of all interests) and accompanying organizational structure in order to capitalize on the interest, political will, and funding to make improvements at the lake into the future. Two specific needed improvements were identified: **Clear Decision-Making Roles and Process** (successful example shared of the Salinity Task Force), and **Timely Decision Making**. Clear direction can help ease stakeholder anxiety. Example shared of waiting for a decision to be made about the berm during the winter of 2022/2023.
- **Thinking Beyond the Watershed.** The boundaries of the GSL Watershed are much bigger than they seem at first sight. The boundaries of the five local watersheds that comprise the GSL watershed are based on the hydrologic units identified by a unique hydrologic unit code (HUC). But the water that comes into the GSL watershed also comes to the lake from sources outside of the HUC through the Central Utah Water Project and other trans-basin water projects. The comments from the situational assessment were from those who know about these trans-basin systems and those that regularly engage with the adjoining states and the comment is that we need to engage all stakeholders, even those outside of the formal boundaries of the GSL. The comment was also expressed that the issues of the GSL are “everyone’s” issues and the impacts of the lake going dry will have impacts to the region and the country.

- **Water Rights.** Participants recommended that any planning that occurs does not go counter to the obligation to meet water rights. Consider the rights of agriculture and urban/residential holders when planning and convening stakeholder groups. Several interviewees mentioned a need to evaluate and perhaps reassess the way water rights are apportioned and adjudicated in Utah and the GSL basin in particular.
- **Watershed Councils.** Established in the 2020 legislative session, House Bill 166 (the Utah Watershed Council Act) outlines the implementation of a statewide Utah Watersheds Council and 11 local watershed councils. A 12th local council for the GSL is then made up of the five local watershed councils within the GSL watershed (the Bear River, Weber River, Jordan River, Utah Lake and West Desert). These councils are seen as the great hope for implementation of all the successful elements that can come from an integrated plan.
- **Wildfire Fuel Reduction.** Looking beyond the GSL, there is need for watershed management of the primary tributaries that provide water to the lake. This includes the Bear, Weber, Jordan, and Provo rivers. The Bear, Weber, and Provo rivers were cited as rivers that have high risk of beetle kill, disease, and overgrowth that, when combined with climate change and drought, are prime candidates for wildfire. Participants also cited encroachment of residential development into watersheds and riparian areas as problematic. This wildlife-urban interface needs to be managed well for wildfire risk and other impacts.
- **Waterfowl Management Areas (WMA) and Duck Clubs.** These are the final water passthrough for water to get to the GSL. WMAs are limited in infrastructure and are managed by waterfowl biologists. WMAs were described as being underfunded, understaffed, and lack infrastructure and resources to monitor inflows of water and outflows into the GSL. There are six WMAs that are grouped into three management areas: Salt Creek (which is about to expand with newly acquired property), Harold Crane/Willard Spur/Ogden Bay, and Farmington Bay.
- **Value Driven Management.** There were many comments about managing the GSL based on established conditions and criteria. Example being, if the lake meets certain criteria (in drought or in times of plentiful water) certain management practices are invoked. If the water hits a low water mark, then management practices are put into place. If the water reaches certain higher water marks, then other management practices are put into place. The idea is that the lake is actively managed based on water availability and conditions. The partner to this is clear communication to all water users in the system about what the conditions are, and what is expected of them for water use. The sentiment also shared is that if people know what their use is based on conditions, they can then make management and use decisions based on those parameters and have some say over how they manage their allocation. Such management will require setting clear value structures and priorities between such values as conservation, growth, ecological and human health and quality of living.
- **What is THE Question to Solve with the GSL?** When asked, stakeholders interviewed in the situational assessment struggled to identify one driving question to be addressed in the GSLBIP process. There were several thoughts shared of proper questions to have in mind in developing the plan. They included: What is the objective statement? 'How do we get water to the GSL', contrasted with, 'how do we ensure water supply for all uses including people and GSL'? How much can we deplete and still have enough water for the GSL? If precipitation has stabilized, we can do the math and see how much is needed for the lake to be stable. Does the current record water year (winter 2022/2023) represent the bottom of the long drought, or just an aberration in a new normal of extreme drought? What is the maximum we can deplete and keep the lake at the optimal level? How much water is necessary to maintain the varied ecosystems on the lake?

- **Concurrent Initiatives, Planning, and Studies.** There was an assumption going into the situational assessment that the study team would learn of a large volume of concurrent studies, planning and initiatives. While those interviewed shared this assumption, the only examples shared during the interviews included the Bureau of Reclamation Basin Study, the U.S. Geological Survey Saline Lakes Program, Utah Lake Management Plan, and Utah Lake Accounting Model.

Key Stakeholder Engagement

The following individuals and organizations were identified by interviewees for future engagement as part of the GSLBIP process. Some were identified as also being candidates for the GSLBIP Steering Committee. This following is not an exhaustive list of stakeholders that can or should be involved in the GSL BIP process. The project team will continue to coordinate with key stakeholders as necessary and the recommended names below will be considered, among others to serve on the GSL BIP Steering Committee.

- Kelly Heart, The Nature Conservancy
- Chris Brown, The Nature Conservancy
- Hugh Hurlogh, Utah Geological Survey
- Diane Menuz, Utah Geological Survey
- Bonnie Baxter, Westminster College
- Scott Burgendorf, Water Master on Provo River (State Engineer's Office)
- Chris Thompson, Spanish Fork
- Chris Tschirki, Orem City
- Russ Funk, Heber City (or the Valley).
- American Fork City
- Doug Smith, Wasatch County
- Marvin Kenison, Juab County
- Jacob Young, Jordan Valley Water Conservancy District
- Alan Packard, Jordan Valley Water Conservancy District
- Trout Unlimited (Provo River)
- Provo Fly Fishers
- Russ Findley, Bureau of Reclamation
- Chris Kelleher, state of Utah employee
- Russ Franklin, Central Utah Water
- Doug Kip Soloman, University of Utah
- Greg Carling, Brigham Young University
- Zac Ongerugg, Brigham Young University
- Ben Abbott, Brigham Young University

- Janice Brahney, Utah State University
- Timpanogos Water District
- Luana Thompson, Ute Tribe
- Chris Robinson, Ensign Ranch and Summit County Council
- Jeff Young, Ensign Ranch
- Jessica Moncomb, Elko Office of the Bureau of Land Management
- Southern Utah Wilderness Alliance
- Fremont County Conservation District
- Piute County Conservation District
- Natural Resource Conservation Service
- Utah Watershed Restoration Initiative
- Potash
- Eric Rogers, Intrepid
- Sevier Playa Potash
- Peak Minerals
- Bonneville Salt Flats
- Bill Keech, Utah Geological Service
- Jeremiah Brunell, Utah Geological Service
- Brenda Bowen, University of Utah
- Robby Knight, Dugway
- John Luft, Utah Division of Wildlife Resources
- Chad Cranney, Utah Division of Wildlife Resources (WMA Manager)
- Redge Hansen, Utah Division of Wildlife Resources (WMA Manager)
- Jason Jones, Utah Division of Wildlife Resources (WMA Manager)
- Duck Clubs
- Justin Anderson, Ogden City
- David Tarboton, Utah State University Civil and Environmental Engineering
- Brian Steed, Executive Director of Utah State University's Janet Quinney Lawson Institute for Land, Water and Air
- GSL Commissioner
- Fish Springs Wildlife Management Area
- Utah Lake Authority
- John Maybe, RMP Water Attorney

- Skull Valley Goshute Tribe
- Rachel Quist, Dugway Cultural Resources

Section 5: Communications Plan & Stakeholder Engagement

In the Situational Assessment, effective communications and stakeholder engagement was seen as arguably being more important than the technical merits of the GSLBIP. There were several attributes of a successful plan that will be incorporated into the Communications Plan as part of the work plan development for the GSLBIP. The key elements expressed in the Situational Assessment included:

- **Process.** The best way to build and keep trust with the stakeholders in the GSL watershed is to clearly communicate process. What will the “process” for engagement be? The GSLBIP steering committee becoming the GSL Watershed Council is seen as a great tool to provide opportunities for ongoing engagement and process. In the absence of process, people and organizations will create their own. The hope is that the GSL Watershed Council and the additional five local watershed councils will help meet this need.
- **Partnerships.** Utilize non-partisan institutions such as universities, county extension programs, 4-H and other organizations for objective information sharing and opportunities for collaboration.
- **Promotion of Utah Division of Water Resources.**
 - Interpersonal Relationship. Many people interviewed did not identify specific relationships they have with employees from DWRe. When the position of Area Planning Specialists was shared with interviewees, they did not know that this position existed and there was definite interest in future engagement with local DWRe staff. Several DWRe staff were identified as being great examples of representing DWRe and promoting the work and opportunities for engagement with the Division and its goals and objectives.
 - DWRe Requests to Utah Legislature. Some interviewed cited the Strike Team document created during the 2023 legislative session as a good example of collateral that the DWRe needs to develop that is marketing formatted and presentation quality that is easy for legislators to digest and understand and ultimately make policy and funding decisions because of the ease of use.
 - Agency Reputation and Relationship of Trust in Community. Provide active listening and timely responses. Be available to engage with the community. Be accessible by providing the public or interested groups the opportunity to request a meeting with DWRe and GSLBIP team members to provide information on the GSLBIP process, answer questions, and gather input.
 - Recognize that not everyone differentiates between Utah Department of Natural Resources, Utah Division of Water Resources, and other state of Utah departments and divisions.
- **Website & Story Map.** An active website that is regularly updated is seen as essential by those interviewed. The current website could benefit from additional promotion and awareness of its existence. Those that know about it value its quality and ease of use. Additionally, for people to listen, they first need to feel that they have been heard. Story maps have many benefits and since there are so many interests reflected in the GSLBIP, a story map might help individuals and organizations see the work that they have been involved with in the past reflected in a story map. The story map is also easy to view and consume in the current era where people no longer read lengthy documents. A story map may be a phenomenal tool to help people understand the event of the GSL, quick access to previously conducted studies and research, clarity about the current GSLBIP process and access to the GSLBIP upon its completion.

- **Story Map.** Development of a story map that helps communicate the history of the GSL and includes modern events that have impacted not only the GSL but the watershed. Included historic highs and lows of water in the lake and those elements that contributed to those conditions.
- **Active Social Media.** Social media was cited as the most common place that people turn for information and news. GSLBIP should seek to utilize this tool for information sharing.
- **Public Opinion Surveys.** The future of the GSL and a resilient water supply will be affected by shared public education, interest, support, behavior, and personal accountability. It is assumed that there is a large gap between current knowledge and interest in the drought conditions of the GSL and what is current conditions really are. It is cited that while the GSL is a geographic feature that can be seen from space, it is actually quite well hidden to the general public along the Wasatch Front. Conducting public opinion surveys are seen as a way to measure and test these assumptions about how people perceive the GSL and the watershed and associated needs and issues. Once this baseline of data is established, public relations campaigns and other educational efforts can be more effectively developed and deployed for maximum impact. Ongoing public opinion surveys can then measure the effectiveness of the outreach and adjustments can accordingly be made.
- **One-on-One Relationships.** When parties were interviewed, they were often asked who they work with and what agencies do they engage with at the state of Utah on water issues. Those with personal relationships appeared to have more informed understanding of the needs and issues of the lake and felt a sense of connection to the issue and where to engage with the state of Utah.
- **Development of Key Messaging.** There likely needs to be dedicated funding and resources to promote the DWR and the collaborative programs and processes of the GSL and GSLBIP. This would help provide the mechanism to deliver consistent and impactful key messaging. A key message identified in the SA was that the issues of the GSL are “everyone’s” issue and is not just an issue of the Wasatch Front.
- **Improved Coordination with GSL Collaborative.** The GSL Collaborative is a group of media representatives that convene to communicate about the needs, issues and current events associated with the GSL. Unfortunately, this group often refers to sources for information about the GSL that are not from the Department of Natural Resources, or the Division of Water Resources (or other government agencies) and incomplete or inaccurate information can end up being shared with the public. The idea here is to convene the GSL Collaborative with the communications and substantive experts within DNR and DWR to build relationships and improve communication and coordination.
- **Agency Capacity and Team Building.** Work amongst the agencies within DNR (and other related state agencies) to share on-the-ground knowledge of what is going on to preserve institutional knowledge. Identify opportunities for peer-to-peer check ins with a cross boundary focus. Agency leadership needs to provide clear direction on resource priorities and engagement with the community.
- **Tools/Techniques:**
 - **Public Meetings.** Look for opportunities for people to meet and have dialogue about the GSL. These can both in-person or virtual. Virtual meeting platforms can include facilitated breakout groups for more interpersonal dialogue. Public meetings can also be held as workshops that are less about presentations and more about two-way dialogue. Public meetings can also be held at specific locations where people can gain on the ground knowledge and experience with the resource.
 - **Notifications.** Continue to provide accurate and timely notifications of important events, key milestones, or other opportunities to inform the public, agencies, and partners about the GSL.

- **Meetings & Presentations to Community Groups.** Build off of the current success of DWR representatives speaking at conferences by seeking engagement opportunities with civic groups, non-governmental organizations, and volunteer organizations to share information and opportunities for engagement with the GSL.
- **Federal Policy Education & Understanding.** If the products of the GSLBIP include environmental studies as part of the National Environmental Policy Act (NEPA), seek opportunities to educate and inform the public about the NEPA process and how they can engage.
- **Local Area Working Groups.** The five local watershed councils and the GSL Watershed Council should help provide opportunities for interested parties to engage in GSL dialogue. Another opportunity might come from the formation of Local Area Working Groups that can be made up of local representatives of various interests and can provide another opportunity for engagement in GSL issues. They may also serve as subcommittees of the local and GSL Watershed Councils.
- **Site Visits/Joint Observation Visits.** There is no better way to cross divides and resolve conflict about natural resource issues than getting out on the ground and looking at and understanding the resource together. There may be great opportunities for engagement through site visits and tours of the GSL and its resources.

Section 6: Appendices

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GSL Basin Integrated Plan - Situational Assessment Guide

March 2023

Overview: The following guide is intended to help the project team with consistency and ease in conducting key stakeholder interviews as part of the Great Salt Lake Basin Integrated Plan (GSLBIP) process. It is anticipated that the majority of interviews will be conducted by Dan Adams (TLG), Andy Rasmussen (TLG), and Jeff Den Bleyker (Jacobs). There may be interviews where a Utah Division of Water Resources employee may also be present, and this is likely to be Laura Vernon (GSL Basin Planner).

Interview Process: The following steps are identified as keys to a successful situational assessment process and effective key person interviews.

1. Parties to Interview
 - a. Individual and Organizations. Identify all stakeholder organizations. Identify all key stakeholders from each organization.
 - b. Prioritization. The number of individuals and organizations with interest in the GSL is incredible. The project team will seek to identify key stakeholders and organizations for purposed of this phase of the project, and will also identify stakeholders and organizations for further engagement throughout the project process and on into implementation.
 - c. For efficiency, stakeholder organizations may be grouped as appropriate.

2. Anonymity and Attribution.
 - a. In introductions at each interview, the interviewer will inform the interviewee that their names will not be attributed to any comment in the Assessment Report.
 - b. All interviewers will provide typed notes of their interviews to the Langdon Group.
 - c. We want to foster an opportunity for those interviewed to candidly share their thoughts, ideas, observations without feeling constrained in their comments.

3. State of Utah Role in Assessment

- a. Interviewers will offer opportunities for those interviewed to have follow-up meetings with DWRe staff.
- b. In introductions at each interview, interviewers will describe the State of Utah organizational structure for this study/project.

4. Note Taking

- a. For group interviews, interview teams should have one technical team member, one communications team member, and a designated note taker. If facilitating a larger group, a note taker other than the technical and communications team leads should take notes.
- b. Notes should be taken in a common format for ease of note taking and compiling final assessment report. By utilizing the same question format (see Questions below) the team can ensure consistency in comprehensive interviews and ease in formulating the assessment report.
- c. The team should utilize the formatted question document.

5. Setting the Stage. The following are recommendations for starting the interview:

- a. Share your name, organization and role in the project. Provide your business card or copy of contact information.
- b. Share One-Pager & Website URL
- c. <https://water.utah.gov/gsl-basin-integrated-plan/>
- d. Schedule:
- e. 2023 (complete by December) – Workplan (situational assessment, workshops, technical gathering and gap analysis)
- f. 2024 – 2025 – Assessment: Studies & Strategies
- g. 2026 – Action Plan
- h. Confidentiality – Your notes are confidential and will not be shared. You will also not have any attribution in your report (the interviewee name will not be attributed to a comment).
- i. Report – An assessment report will be drafted. The report will list the individual names and organizations interviewed. A copy will be provided to those interviewed to verify correct content. The report will be used to help inform the communications plan of the project and help uniform and guide the Basin Integrated Plan.

6. Interview Questions

We want to ensure that our interviews are comprehensive and meet the needs of our stakeholders. This is likely best accomplished by addressing three needs:

- a. Substantive (technical, details, science, gaps)
- b. Procedural (process, decision making, schedule, prioritization)
- c. Interpersonal (who needs to be involved, potential conflict, multiple agencies/organizations, past relationships, capacity of DNR and DWRe)

The interviewer should seek to gain insights from each interviewee with regards to all three of these needs. The following questions in this guide should not necessarily all be asked but should help the interviewer to have questions to inform each of the three needs.

- **Substantive:**
 - History:
 - What are your observations and concerns about how things have been done in the past and how they will get done in the future? Think about trust, capacity, relationships, organizational structure. What comes to mind for opportunities and risks?
 - Sharing information:
 - What data, methods, knowledge, resources, models or tools do you utilize for water supply planning? Which would you like to have?
 - What can you contribute to this plan in terms of data, methods, knowledge, resources, models, analysis tools, reports, consultants or staff.
 - What past studies and research has your organization participated in? Was there a report or deliverable from this past work and can you direct us to this resource?
 - Focusing the issue:
 - What is the primary concern for your organization with regards to the GSL? (i.e. water quality, water scarcity, climate change, prolonged drought, agricultural interests, urban development needs, cost, etc.)
 - Knowing that the State has made Great Salt Lake a priority, what do you think our goal should be?
 - What is the single-most important outcome for you or your organization with regard to GSL?

- What water related challenges do you have? Do you anticipate having?
- How do you assess the suitability of your water supply interest? Do you have a single or set of key system performance indicators?
- **Procedural:**
 - Engagement:
 - How would you like to participate in the process of developing the Integrated Plan?
 - Who is the proper individual from your organization for technical coordination? (i.e. knowledge of past studies, engaged in previous planning, etc.)
 - Who else should we interview as part of this situational assessment?
 - What is the best way to communicate with you and your constituents?
 - Frequency, format (media, social media, email, mail)
 - What particular knowledge or strengths do you feel you/your organization could contribute to make this project a success?
 - Concurrent Work:
 - What projects or efforts are you currently involved in that we should take into consideration or include in the development of the Integrated Plan?
 - Steering Committee:
 - The GSL Basin Integrated Assessment and the Utah Watershed Council Act (UWCA) are seeking individuals to form a Steering Committee (for the GSLBIP) and GSL Watershed Council (for the UWCA). Who are individuals you can think of that would be great for this combined effort and would be exceptional on a steering committee/GSL watershed council?

Come prepared with the 11 seats recommended in the Watershed Council Act.
 - GSLBIP Process:
 - What are your concerns about the process of creating a resilient water supply in the GSL?
- **Interpersonal/Trust:**

- What are the pitfalls you can foresee that could potentially derail a successful Integrated Plan?
 - Some ideas might be related to: conflicting messaging, confusion over concurrent related organizations and efforts, agency capacity, media/social media, interpersonal conflict, urban/rural conflict, unforeseen issues like drought or flooding or wildlife impacts...
 - How would you like to participate in the planning process to assure you have a better understanding of water resource challenges of others throughout the basin and to understand how you contribute?
 - How can DNR, DWRe, and the GSLBIP build trust and credibility with local, state, federal government, tribes and the public at large? How can they lose this trust?
 - What are the biggest potential pitfalls and challenges of the GSLBIP?
 - Some ideas might include implementation, “acts of god,” changing administrations, funding, public apathy, competing natural resource issues...
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- What else? Always end your interview by asking what other questions or comments the interviewee would like to share...