

A Performance Audit of

Utah's Water Management

Ensuring Data Integrity,
Program Best Practices,
and Comprehensive Water Planning

Office of the Legislative
Auditor General

Report to the UTAH LEGISLATURE





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November 14, 2023

TO: THE UTAH STATE LEGISLATURE

Transmitted herewith is our report:

“A Performance Audit of Utah’s Water Management: Ensuring Data Integrity, Program Best Practices, and Comprehensive Water Planning” [Report #2023-15].

An audit summary is found at the front of the report. The scope and objectives of the audit are included in the audit summary. In addition, each chapter has a corresponding chapter summary found at its beginning.

This audit was requested by the Legislative Audit Subcommittee.

We will be happy to meet with appropriate legislative committees, individual legislators, and other state officials to discuss any item contained in the report in order to facilitate the implementation of the recommendations.

Sincerely,

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Auditor General

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PERFORMANCE AUDIT

▶ AUDIT REQUEST

The Legislative Audit Subcommittee requested an audit of Utah's water usage, focusing on efficiency, data reliability, and opportunities for improved policies with Utah's water usage. The most recent audits on water prior to this report were in 2014, 2015, and 2017.

▶ BACKGROUND

Managing Utah's water resources is of crucial importance. This report focuses on improving water data and information, utilizing best practices for good government when administering water programs, and strengthening water planning. The report does not make recommendations dealing with long-established water law or water rights.

UTAH'S WATER MANAGEMENT



KEY FINDINGS

- ✓ 1.1 Water use accountability and transparency can be improved by increasing usability of water use data
- ✓ 1.3 Audit findings demonstrate need for DWRi to implement best practices for data management to improve effectiveness
- ✓ 2.1 Implementing best practices will allow the benefit of the Agriculture Optimization Program to be measured, maximized and targeted
- ✓ 2.3 Improved planning and monitoring is needed to ensure additional \$200 million is spent as required
- ✓ 3.1 Statutory strengthening is needed for more effective water planning to ensure the state's water future
- ✓ 3.2 Holistic statewide planning is needed to account for growth and future water use and needs



RECOMMENDATIONS

- ✓ 1.1 DWRi should continue to develop the Water Right Network so that data can be used in a wider scope of management needs.
- ✓ 1.5 DWRi should improve internal data evaluation and management by tying data to goals identified in the Division's seven focus areas and create a data map and data dictionary for their organization.
- ✓ 2.1 UDAF should develop a comprehensive strategic plan for the Agricultural Water Optimization Program.
- ✓ 2.3 UDAF should enforce its reporting requirements on all projects it has funded.
- ✓ 3.1 The Legislature should consider strengthening the current statute *Utah Code* 73-10-15 outlining cooperation with the DWRe in the formulation of a state water plan.



REPORT SUMMARY

Water Use Accountability and Transparency Can Be Improved by Increasing Usability of Water Use Data

There is an increase in need for water data that is structured in a way that can be publicly accessed and used to address a wider scope of management needs, such as distribution accountability and water use transparency.

Implementing Best Practices Will Allow the Benefit of the Agriculture Optimization Program to Be Measured, Maximized and Targeted

UDAF should do more to target optimization of water resources through a strategic plan which focuses on demonstrated progress, both individually and systemically.

Audit Findings Demonstrate Need for DWRi to Implement Best Practices for Data Management to Improve Effectiveness

Recently, DWRi has taken steps to improve internal data evaluation. As they internally address these issues, they can also be improved through better adherence to principles outlined in the evaluation chapter of our office's *Best Practice Handbook*.

Statutory Strengthening Needed for More Effective Water Planning

DWRe reports that coordination has been difficult. Statutory strengthening may help DWRe to better coordinate with water entities for a fully comprehensive water plan.

Lack of Coordination Has Led to Silos in Water Planning

Utah has many water reports and plans but there is not an overarching statewide water plan that reflects full collaboration with key water entities.



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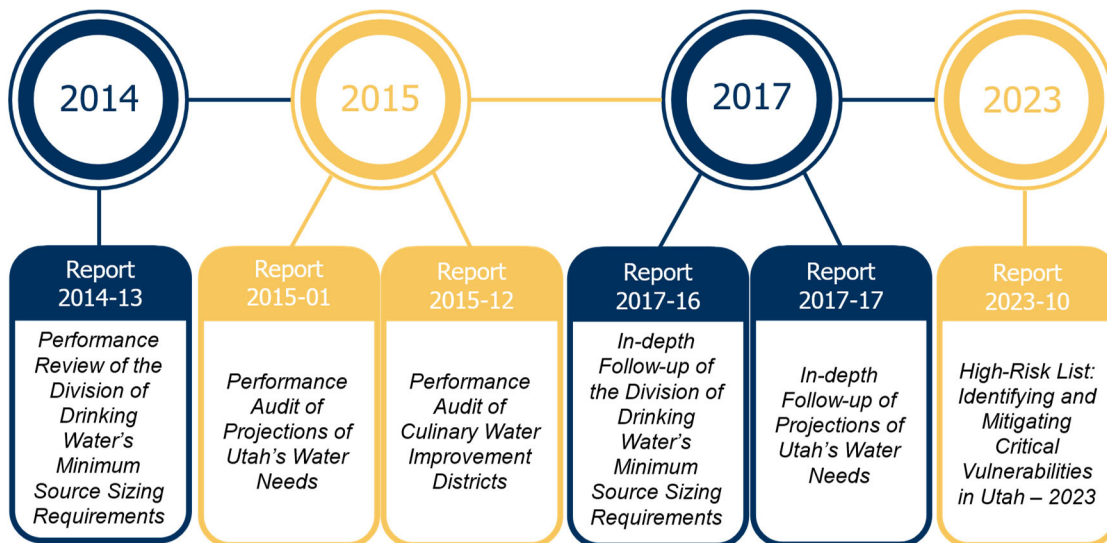




Introduction

Managing Utah’s water resources effectively is crucial. This report focuses on improving water data and information, utilizing best practices for good government when administering water programs, and strengthening water planning. The report does not make recommendations dealing with long-established water law or water rights.

Utah’s water use and water infrastructure needs are two of twelve high-risk areas identified in our office’s September release of *High-Risk List: Identifying and Mitigating Critical Vulnerabilities in Utah – 2023* (Report 2023-10). Over the past decade, our office has released multiple audits concerning water, as shown in the report timeline below. Most of the previous audit reports address the state’s municipal and industrial (M&I) water needs. In this audit, we include agricultural water use, which accounts for roughly 80 percent of the state’s water use.¹



Source: Auditor generated.

¹ Based on a ten-year average (2011-2020) of DWRe’s Water Budget data, about 75 percent of water diverted and about 80 percent of water depleted in Utah was for agriculture.



Utah Has Long-Established Water Law and Water Rights

Utah, like most western states, follows the Doctrine of Prior Appropriation. This is commonly referred to as “first-in-time, first-in-right,” which means that available water must be distributed according to a priority system where water is distributed first to the person with the oldest water right, then to the person with the next-oldest water right, and so forth. When water supply decreases, as in times of drought, those with junior water rights may receive a reduced distribution or no distribution at all. This audit report acknowledges the Prior Appropriation Doctrine but does not question or take a stance on its foundation or principles; nor do we make recommendations concerning the doctrine.

Prior Appropriation Doctrine – Utah Water Law:

In Utah water law, the right to divert and use water is based on the Prior Appropriation Doctrine. This doctrine is commonly referred to as “first-in-time, first-in-right,” which means that available water must be distributed according to a priority system where water is distributed first to the person with the oldest water right, then to the person with the next oldest water right, and so forth.

While Significant Efforts Have Been Made, Additional Opportunities Exist to Strengthen Water Oversight

Water has been a priority in the Legislature over the last few years, as Utah is the fastest-growing state in the nation and one of the driest. As the population continues to grow, so will the strains on the state’s water supply, making it imperative to effectively manage Utah’s limited water resources. State water entities have made improvements, including the following:

- The Division of Water Rights independently started to plan and carry out an internal data audit to review gaps in historic and current data, data tools, and needed resources (see Chapter 1).
- The Department of Agriculture and Food has established relationships with Utah’s agriculture community (see Chapter 2).
- The Division of Water Resources, along with other entities, has addressed different aspects of water planning in various reports and plans (see Chapter 3).

Still, there is a continued need for the state to assess, measure, conserve, and prioritize its water uses. This report makes recommendations to improve water



data collection and management, agricultural water optimization, and overall planning and coordination regarding Utah’s management of its water resources. The chapters of this report address the following topics.

- 1 Robust Data Management Should Be Prioritized to Effectively Monitor State Water
- 2 Implementation of Best Practices Needed to Ensure Maximum Success of the Agricultural Water Optimization Program
- 3 Need for a Coordinated Comprehensive Statewide Water Management Plan

Source: Auditor generated.





BACKGROUND

There is an increased need for water data that is structured in a way that can be publicly accessed and used to address a wider scope of management needs. Because Utah consistently ranks among the top five driest states in the country, and insufficient water availability can impede the State's growth, it's imperative that we are leaders in effective water management.

FINDING 1.1

Water Use
Accountability and
Transparency Can Be
Improved by
Increasing Usability
of Water Use Data

RECOMMENDATION 1.1

DWRi should continue to develop the Water Right Network so that data can be used in a wider scope of internal management needs and provide better transparency and accountability.

RECOMMENDATION 1.2

DWRi should continue its internal data audit to ensure it is accurate and complete and make improvements to the identified gaps or inaccuracies.

FINDING 1.2

Declines in
Groundwater
Highlight Need for
Improved Monitoring

RECOMMENDATION 1.3

DWRi should identify, meter and monitor supplemental wells in critical areas and implement a well management strategy plan that protects water users against interference from over-pumping and help to bring declining aquifers into balance.

FINDING 1.3

Audit Findings
Demonstrate Need
for DWRi to
Implement Best
Practices for Data
Management to
Improve
Effectiveness

RECOMMENDATION 1.4

DNR and DEQ's DDW should evaluate the resource needs of the Water Use Program and implement a new management strategy, based on best practices, that ensures the Program can wholly achieve its goals.

RECOMMENDATION 1.5

DWRi should improve internal data evaluation and management by:

- Complete gap analysis with the Utah State University
- Link data to goals identified in the Division's seven focus areas
- Create and update data tools, including a data map and data dictionary.



CONCLUSION

DWRi should prioritize excellence in data management to ensure state water data can be used effectively for a wide scope of management needs.





Chapter 1

DNR Should Prioritize Robust Data Management to Effectively Monitor State Water

1.1 Water Use Accountability and Transparency Can Be Improved by Increasing Usability of Water Use Data

The Division of Water Rights (DWRi) reports an increased public focus on understanding water use both statewide and under the Colorado River Compacts. In response, DWRi started working toward improvements in data collection, management, and accessibility of water use data. We are encouraged that DWRi is aware of some of their existing data issues and commend them for independently taking action to address those issues. Our audit team agrees that many of these improvements are needed, as we were unable to conduct various analyses over the course of our audit.²



There is an increased demand for water data to be organized to address a wider scope of management needs.

This finding focuses on the increasing need for water data that can be publicly accessed and used to address a wider scope of management needs, such as distribution accountability and water use transparency. Moreover, because Utah consistently ranks among the top five driest states in the country—and insufficient water availability can impede the State’s growth—it’s imperative that we are leaders in effective water management.

DWRi, which is part of the Department of Natural Resources (DNR), manages the state’s two major databases for tracking water use:

- Divert Database—used primarily by DWRi to manage real-time water distribution and captures most of the state’s water use.
- Water Use Program Database—used mostly by the Division of Water Resources (DWRe) for state water planning and the Department of Environmental Quality’s Division of Drinking Water (DDW) for drinking water sizing requirements; captures roughly 20 percent of the state’s water use.

² Finding 1.3 of this chapter discusses how other DWRi issues can be addressed through better internal data evaluation by following the principles outlined in our office’s recently developed *Best Practice Handbook*.



DWRi Is Actively Pursuing Data System Improvements

DWRi’s Divert Database was originally developed to keep an electronic record of water deliveries reported by river commissioners.³ DWRi is now developing the Water Right Network, a tool intended to make data from river commissioners



DWRi is presently developing data tools and conducting an internal data audit to improve the usefulness of their data.

easier to access and understand by linking the information to water right data and hydrographic information such as streams, canals, and irrigated land.

In addition, DWRi is conducting an internal audit on data from river commissioners to ensure that historic water use data and metadata describing measurement location, data collection method, and data type in its

Divert Database is accurate and complete. DWRi reports that they are tracking their progress and plans to complete the data audit by October 2024.

Restructuring Data from the Divert Database Would Provide Internal and External Benefits

The mission of DWRi is to provide order and certainty in the beneficial use of Utah’s water. This involves distributing surface water to the state’s major water users via a network of diverting works and measuring devices. This data in addition to collected data from river commissioners feed into DWRi’s Divert Database. Because the Divert Database was designed to manage this water distribution data, it was not necessarily structured for state water planning needs. For example, the Database cannot be used to easily summarize annual distribution records for the state’s major water users. While DWRi uses the Divert Database to collect the data necessary to assemble those records, they have not yet structured the data to meet this wider scope of management needs. Below are some examples of how this data could be used:

- **Improve state water planning.** Water planners in DWRe currently spend considerable time acquiring



Because DWRi’s Divert Database was designed to manage water distribution, it was not necessarily structured to address other water management needs.

³ River commissioners, appointed by the State Engineer, oversee the measurement and control of diverting works in a particular distribution region throughout most of the state. Not all areas have a commissioner.



data⁴ to account for water use within a basin. Restructuring data in the Divert Database would allow water planners quicker and simpler access to needed data.

- **Improve state oversight, accountability, and auditability of state water distribution.** Restructuring data from the Divert Database would increase transparency for Legislators, other water planners, water users, and the public.

Presently, the primary way to find and track annual distribution data is to piece together data manually from numerous annual river commissioner reports.



Public water suppliers and secondary water systems currently report annual water use data to DWRi. Most of the data is public, accessible, and able to be analyzed.

However, river commissioner reports frequently do not contain records for all relevant water users and do not provide sufficient context to interpret the data. DWRi staff informed us that data in river commissioner reports would need review from multiple levels of staff across the state to ensure that the data would be representative.

Public water suppliers and secondary water systems, although accounting for only one-fifth of the state's water use, are required to report annual water use data with a variety of relevant supplementary information. Most of the data they provide is public, accessible, and able to be analyzed. The information in the Divert Database should be addressed in a similar way, allowing for increased usability.

RECOMMENDATION 1.1

The Division of Water Rights should continue to develop the Water Right Network so that data can be used in a wider scope of internal management needs and provide better transparency and accountability.

⁴ DWRe currently pulls information from wherever it is available, such from DWRi, USGS monitoring stations, and by calling water companies.



RECOMMENDATION 1.2

The Division of Water Rights should continue its internal data audit to ensure its data is accurate and complete, and should make improvements based on gaps or inaccuracies identified in the internal audit.

1.2 Declines in Groundwater Highlight the Need for Improved Monitoring

Utah relies almost exclusively on annual mountain snowmelt for its water supply. Water that is not consumed by humans or the natural system on the surface infiltrates into underground water reserves in the valleys below, known as groundwater aquifers, which Utah's then rely on for water storage.

DWRi works with the United States Geological Survey (USGS) to collect data on statewide groundwater use and annually publishes total groundwater withdrawals for the hydrologic basins in the state. According to DWRi, this data is generated from records of power supplied to individual wells, and then aggregated by basin. While basin and statewide totals have been published for many decades, meter data for most individual wells are not available. However, DWRi states that water use from many wells can be estimated based on crop type and irrigated area.

While basin and statewide groundwater use totals have been published for many decades, metered data for most individual wells are not available.

In critical groundwater areas, water commissioners monitor groundwater use by annually mapping the irrigated acreages supplied by groundwater and crop

Statewide conjunctive management of surface and groundwater could be improved through a better understanding of users who utilize both groundwater and surface water.

type. However, DWRi reports that this method has limitations, especially when the groundwater is supplementing a less-dependable supply of surface water in the same area. According to DWRi, statewide conjunctive management of surface and groundwater could be improved through a better understanding of users who utilize both groundwater and surface water, as well as the impacts that groundwater pumping may have on surface water. To properly administer groundwater use, DWRi should meter and monitor supplemental wells in critical areas. DWRi

also acknowledges that proper metering and monitoring will help protect senior



water users against interference from over-pumping and help bring declining aquifers into balance.

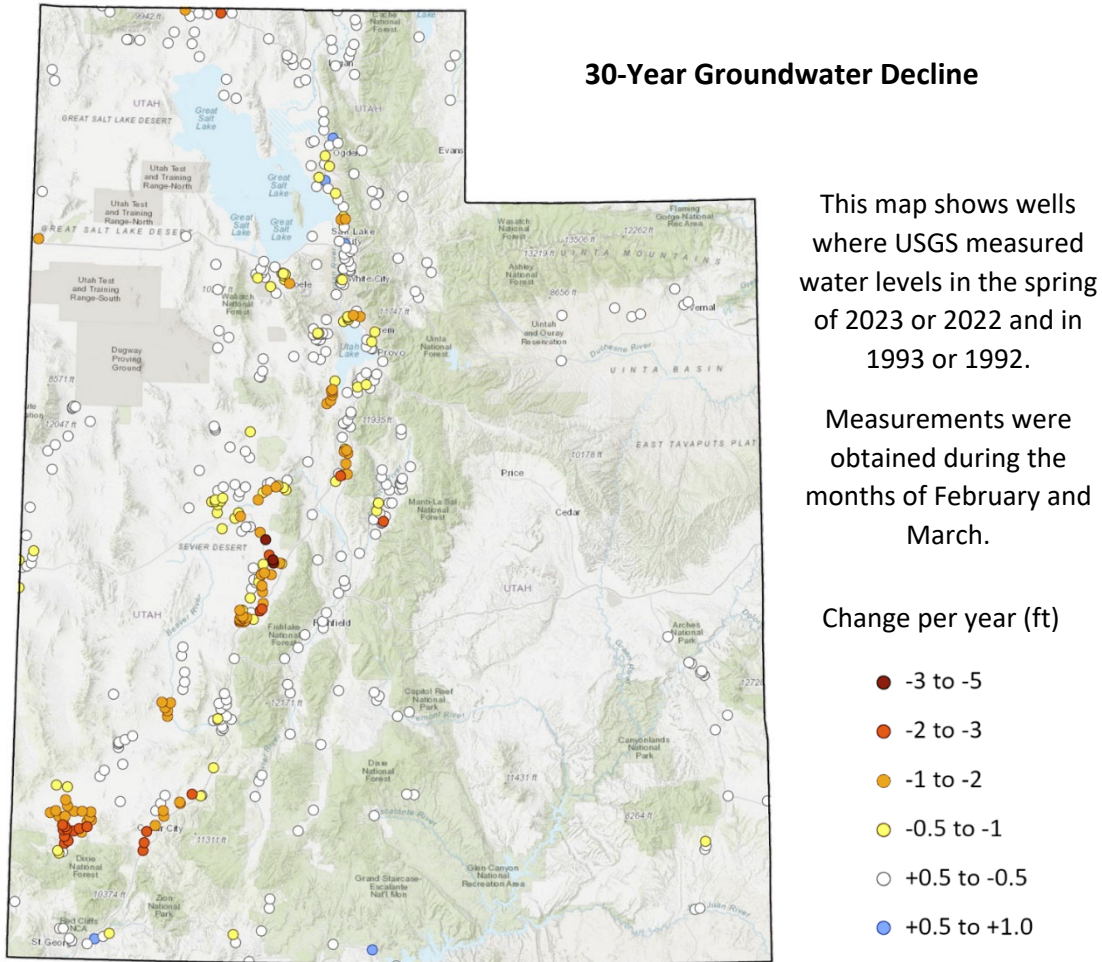
Declines in groundwater levels over time may indicate that water is being extracted faster than it is being replenished. Potential effects of this include:

- Risking Utah's long-term water security and growth potential through unsustainable water use
- Draining of surface water resources like rivers, lakes, reservoirs, irrigation canals, wetlands, and springs, which impairs the water rights of senior surface water users and negatively impacts the environment
- Increased costs for water users, as wells need to be drilled deeper and more energy is required for pumping
- Surface subsidence, which negatively impacts local infrastructure
- Reduced water quality as well depth increases, or the water table is lowered

Figure 1.1 shows declining groundwater levels over a thirty-year period in many of the wells monitored by USGS throughout the state. As a result, DWRi should do more to monitor and safeguard groundwater.



Figure 1.1 Statewide Changes in Groundwater Levels of USGS Monitoring Wells over the Past Thirty Years. Many wells throughout Utah show declining groundwater levels.



Source: Utah Division of Water Rights.

Additional groundwater metering, especially of supplemental wells in critical areas, is crucial for accurate management of groundwater. This data can then be used to inform groundwater management plans, improve state water planning, and help DWRI accurately regulate groundwater use.

RECOMMENDATION 1.3

The Division of Water Rights should identify, meter and monitor supplemental wells in critical areas and implement a well management plan to protect water users against interference from over-pumping and to bring declining aquifers into balance.



1.3 Audit Findings Demonstrate the Need for DWRI to Implement Best Practices for Data Management to Improve Effectiveness

We found that DWRI collects and stores substantial amounts of important water data but often does not organize and maintain the data effectively. Recently, DWRI has taken steps to improve internal data evaluation. As they work to address these issues internally, their efforts can be improved through better adherence to principles outlined in the evaluation chapter of our office’s *Best Practice Handbook*.⁵

OLAG Best Practice Handbook

“Evaluation should lead an organization to recalibrate processes, goals, and objectives to better advance its overarching mission, vision, and values.”

Because useful data is so important to achieving DWRI’s purpose, strong data management practices are essential. Goals direct an organization’s actions and performance measures are used to track progress toward those goals.

There are many performance measures to quantify success in data management. According to DWRI, they recently used goals from DNR’s Strategic Plan to create a more targeted Division Action Plan, which highlights seven focus areas to clarify and give transparency in DWRI’s data. DWRI also is conducting a gap analysis with Utah State University. A primary deliverable of the gap analysis will be a roadmap for implementing needed improvements, which DWRI states should be completed by the end of fiscal year 2024.



Because useful data is so important to achieving DWRI’s purpose, strong data management practices are essential.

While these important efforts continue, best practices can be utilized in improving data evaluation and management, as described in the following pages.

Data from Water Use Program Demonstrates Need for Improved Data Evaluation

As mentioned in Finding 1.1 of this chapter, the Water Use Program Database is the state’s other water use database, different from DWRI’s Divert Database. The Water Use Program (Program) is administered cooperatively between USGS, DWRe, DWRI, and DDW. However, DWRI directly operates the Program. The

⁵ Office of the Legislative Auditor General, State of Utah. *The Best Practice Handbook* (2023-05).



Program requires annual self-reporting of water use from M&I users,⁶ secondary water systems,⁷ and any individual water user required to report by state engineer order.⁸ DWRE and USGS use the data for state and federal water



Water Use Program data is used for state and federal water planning, regulating public water suppliers, and by professionals and the public.

planning, and DDW uses the data to regulate public water suppliers. The data is also used by professionals and the public for studies and to provide transparency in state water use. While many DNR employees reported positive changes following the major recommendations concerning data quality in our 2015 audit (see Appendix B), our current evaluation shows that further improvements could be made to the Program.

Concerns found with the Water Use Program and its Database:

- Data was not easily summarized or analyzed, or was incomplete.
- Data had inconsistent and poorly defined naming conventions.
- Sources lacked measuring devices.⁹
- Data was not adequately monitored.
- The Program may need additional resources.

Presently, the Program is operated by a single individual who is responsible for collecting water use data each year from 1,300 entities that have 4,800 individual sources. Moreover, the Program’s workload has been steadily increasing as the number of reporting entities grows—and may continue to grow with additional reporting from newly identified public water suppliers, secondary systems, and new orders of the state engineer.



The resource needs of the Program should be evaluated, and a new management strategy, based on best practices, should be implemented.

DNR and DDW should evaluate the resource needs of the Water Use Program and implement a new management

⁶ *Utah Code 19-4-104 (1)(c)(iv)*

⁷ *Utah Code 73-10-34 (3)(a)*

⁸ *Utah Administrative Rule R655-17-3*

⁹ Approximately 10 percent of M&I sources, 15 percent of secondary sources, and 49 percent of agricultural sources estimate their reported water use rather than using a measurement device.



strategy, based on best practices, that ensures the Program can wholly achieve its goals.

DWRi Does Not Maintain Adequate Data Tools for the Large Amount of Information It Manages.

Having data tools in place, such as a data map and data dictionary, is important because it makes finding, using, and preserving content easier by providing a standard mechanism and vocabulary, and a common understanding of the layout of a database. Data publishers are guided



DWRi can reduce risk and improve the usability of its data by developing metadata for all data and data tools.

to evaluate and develop their tools in accordance with FAIR, which means it should be findable, accessible, interoperable, and reusable.¹⁰

Without these tools, DWRi could be at risk as key employees retire or leave without documenting important internal knowledge. These tools can also help DNR employees better understand and access

existing data, increasing the usefulness of the data. To ensure DWRi can adequately sustain potential losses of institutional knowledge, and to bolster the usefulness of existing data, DWRi should develop and regularly update data tools, such as a data map and data dictionary.

RECOMMENDATION 1.4

The Department of Natural Resources and the Department of Environmental Quality’s Division of Drinking Water should evaluate the resource needs of the Water Use Program and implement a new management strategy, based on best practices, that ensures that the Program can wholly achieve its goals.

RECOMMENDATION 1.5

The Division of Water Rights should improve internal data evaluation and management through the following:

- Complete the gap analysis with Utah State University.
- Link data to goals identified in the Division’s seven focus areas.
- Create and update data tools, including a data map and data dictionary.

¹⁰ Mark D. Wilkinson, Michel Dumontier, IJsbrand Jan Aalbersberg, et al. “The FAIR Guiding Principles for Scientific Data Management and Stewardship.” *Scientific Data*. (March 15, 2016):1-9.





BACKGROUND

The Best Practice Handbook was released by our office in collaboration with GOPB and LFA to be a resource for all government organizations to strengthen their performance. We used this, in addition to GOPB's *Guide to Strategic Planning* to analyze the management and performance of the Agricultural Water Optimization Program, which received appropriations starting in FY2020, in addition to \$200 million in FY2024.

FINDING 2.1

Implementing Best Practices Will Allow Benefit of the Agriculture Optimization Program to Be Measured, Maximized and Targeted

NO RECOMMENDATION

FINDING 2.2

Improved Planning, Performance Measures, and Transparency of Information Can Help Ensure Effectiveness

RECOMMENDATION 2.1

UDAF should develop a comprehensive strategic plan for the Agricultural Water Optimization Program.

FINDING 2.3

Improved Planning and Monitoring is Needed to Ensure Additional \$200 Million is Spent as Required

RECOMMENDATION 2.2

UDAF should work with DNR and the Legislature to ensure the goals of the Agricultural Water Optimization Program are clear, as well as a clear awareness and understanding of what the Program should achieve and work towards those goals.

RECOMMENDATION 2.3

UDAF should enforce reporting requirements by collecting all annual reports, including prior water use data and savings, and other noted metrics, from all projects it has already funded.

RECOMMENDATION 2.4

UDAF should include an annual assessment of progress towards strategic plan goals and objectives.



CONCLUSION

Best practices of government should be employed to ensure public funds are maximized.





Chapter 2

UDAF's Agricultural Water Optimization Program Should Implement Best Practices to Help Ensure Maximum Success

2.1 Implementing Best Practices Will Allow Benefit of the Agriculture Optimization Program to Be Measured, Maximized, and Targeted

The Utah Department of Agriculture and Food (UDAF) was first appropriated funds during the 2019 General Session¹¹ for water optimization projects (see visual in Finding 2.2 for all appropriations). UDAF reports that the Program has evolved over time and notes that the original appropriations did not include limitations as to how the funding would be managed or guidance on whether the Program's focus should be on diversion or depletion.



UDAF reports that appropriations did not include limitations as to how the funding would be managed or guidance on the Program's focus.

It is incumbent on UDAF to manage public funds according to best practices so that those funds can be measured and maximized. However, this has not occurred in critical ways. This audit report makes no determination or recommendation as to the type of optimization efforts that should be employed. Instead, this report recommends UDAF follow best practices for good governance that all government entities in Utah are expected to follow. This chapter focuses on the importance of strategic planning to ensure elements of accountability and oversight are in place for the Program going forward.



This report focuses on the importance for UDAF to follow best practices for good governance, starting with strategic planning.

Strategic plans provide a structured and forward-looking approach to accomplishing a program's purpose and mission. These plans align and translate short-term actions into progress towards long-term goals while including performance metrics or accountability standards to measure success.

¹¹ Senate Bill 2 (2019 General Session).



Our office released *The Best Practice Handbook: A Practical Guide to Excellence for Utah Government*, which is meant to be a resource for all government organizations to align their performance. The handbook describes 12 best



“Effective strategic plans shape the vision of the organization and direct actions to provide reasonable assurance that objectives and goals are being met.”

practices that address 12 common pitfalls that our office has observed when auditing various organizations. The best practices are intended to improve effectiveness and efficiency by strengthening organizational cohesion and performance. By applying best practices, organizations can better serve the citizens of the state. Best practices often build on each other and are strategically aligned. Other best practices addressed in this chapter are establishing standards, implementing and calibrating policies and

procedures and then assuring compliance, exercising oversight, collecting data, communicating effectively, and balancing and evaluating performance measures.

Our office and the Governor’s Office of Planning and Budget (GOPB) emphasize the need for effective strategic plans. Our *Best Practice Handbook* states, “Effective strategic plans shape the vision of the organization and direct actions to provide reasonable assurance that objectives and goals are being met.” They serve as a crucial roadmap that guides an organization’s actions, decisions, and resource allocation. A strategic plan encourages a long-term perspective and can serve as a reference point for leaders when making decisions. When leaders are faced with choices and opportunities, a strategic plan can orient the leaders to the values of the organization and to the organization’s long-term goals and objectives, as noted by the Governmental Accountability Office.

Governmental Accountability Office:

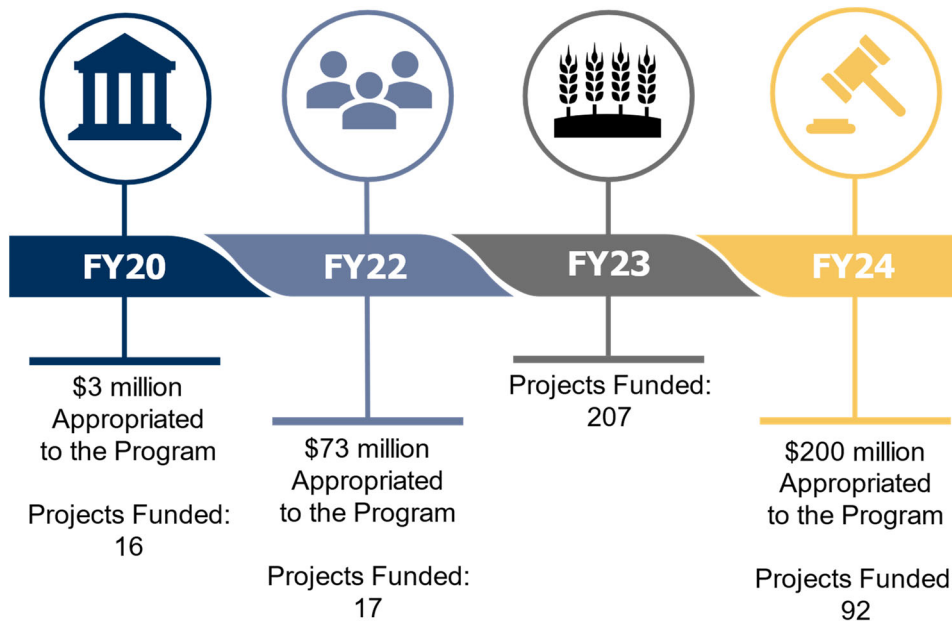
“Strategic plans are the starting point and basic underpinning for a system of program goal setting and performance measurement... A multi-year strategic plan articulates the fundamental mission (or missions) of an organization, and lays out its long-term general goals for implementing that mission, including the resources needed to reach these goals.”



2.2 Improved Planning, Performance Measures, and Transparency of Information Can Help Ensure Effectiveness

The Agricultural Water Optimization Program can improve by implementing a strategic plan, tracking key data, staying current on evidenced-based practices, and updating its processes. Improvement in these areas can help the Program’s ability to adopt strategies that drive outcomes in water optimization.¹²

The Program has funded 332 projects, totaling about \$65 million since Fiscal Year 2020. Our concern is not with the Program itself or the intent of the Program; rather, our focus is to evaluate whether the Program is utilizing best practices of government to ensure the goals and operations of the Program are being maximized. The following infographic depicts the timeline of appropriations and number of projects funded.¹³



Source: Auditor generated using Compendium of Budget Information and records obtained from UDAF.

UDAF could do more to target optimization of water resources through a strategic plan that focuses on demonstrated progress, both individually and systemically.

¹² *Water optimization* and *water conservation* are not interchangeable. Water conservation typically refers to a reduction in water use, either diversion or consumptive use, while water optimization can have a much broader meaning, including more productive water uses.

¹³ The appropriations are not directly tied to the projects funded in that same fiscal year. The purpose of this timeline is to provide context around the funding given to the Program over time and the number of projects they have funded in each fiscal year.



Ag Optimization Should Develop a Formal Strategic Plan to Set Clear Direction and Assess Progress



UDAF released its *Centennial Strategic Plan* in 2021 and its Conservation Division sets goals annually for the fiscal year.¹⁴ However, the Ag Optimization Program does not have a strategic plan. Best practices for strategic plans focus on improving performance and accountability. The Program should adopt these best practices into its strategic plan to increase its effectiveness and help target optimization practices.

GOPB created a guide to help executive branch agencies more effectively develop and use strategic plans. The infographic on the right shows the elements of a strategic plan, as outlined by the *GOPB Guide to Strategic Planning*. GOPB emphasizes the important relationships between these elements, “Each of these key elements should nest within one another, beginning with long-term desired outcomes, breaking down into actionable implementation steps, and then evaluation of agency progress to determine effectiveness.”



Source: *GOPB Guide to Strategic Planning by the Governor's Office of Planning and Budget.*

The infographic on the next page illustrates the Management Cycle, which is a continuous improvement framework that can be used to advance the Program’s goals and mission. The different elements of a strategic plan coincide with the different phases of the Management Cycle. The steps listed outside the cycle, which are key components of a strategic plan, appear next to the management phase they most closely relate to.

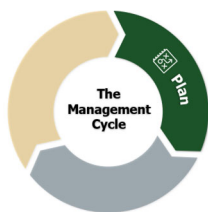
¹⁴ We did not evaluate the entirety of UDAF’s strategic plan; this chapter addresses only the portions relevant to the Ag Optimization Program.

The Program has not articulated its vision, values, and high-level goals stemming from those values—leaving the planning phase undeveloped. In addition, the Program lacks objectives, strategies, and performance metrics. This means the Program does not have a defined, short-term direction or a systematic ability to assess progress toward goals. It also means they are only engaging in pieces of the planning phase of the management cycle and neglecting the parts that require action. Each of these missing elements is discussed below, including why its absence is significant.



Source: *The Best Practice Handbook* by the Office of the Legislative Auditor General.

Ag Optimization Should Establish Core Values, Objectives, and Strategies Tied to Impact



As of late June 2023, the Ag Optimization Program added a statement to its website that could be considered a mission statement:

“At the Agricultural Water Optimization Program, we work with producers to help them optimize water use while maintaining or improving agriculture production.”

The Program also releases criteria sheets for each round of funding which outline general goals of the Program (see Appendix B). However, they do not appear to have objectives that serve as intermediate goals. GOPB defines an objective as a “[m]id-range target that creates a bridge between high-level goals and tactical strategies.” Objectives help an agency link goals to strategies. However, the Program’s goals tend to be general and lack direction on how they will be accomplished. The Program’s goals are discussed further in Finding 2.3 of this chapter.



Ag Optimization Should Measure Its Impact Through Targeted Performance Measures



Performance measures are important because they indicate the level of progress in accomplishing goals and objectives. According to GOPB, performance targets must have a clear relationship to long-term goals and objectives. GOPB also states, “A good performance measure evaluates the desired outcomes of the agency, how effectively the agency produces those outcomes, and how well each individual contributes to those outcomes.”

The Program does not have performance measures that assess progress toward goal accomplishment. While there are output performance measures to show basic program progress, such as the number of projects completed, it is unclear if and how these measures relate to short-term objectives and strategies.¹⁵ Another performance measure—reduction in water usage—is ambiguous and does not explain how this relates to diversion or depletion.¹⁶



The Program does not have performance measures to assess progress toward goal accomplishment, short-term objectives, or strategies.

In October 2021, our office released, *A Performance Audit of Social Service Agencies’ Performance Measures (2021-12)*. This audit report stated, “[Q]uality performance measures generate improvements that accomplish goals and objectives” and stressed the need for meaningful targets and specific plans for improvement. These concepts closely align with other best practices. The Ag Optimization Program should adopt performance measures for all areas and objectives.

We believe a comprehensive strategic plan can help the Ag Water Optimization Program more intentionally target priorities and areas for improvement. The Program should also take steps to make the plan accessible and transparent.

¹⁵ The Office of the Legislative Fiscal Analyst encouraged the collection of water use data (including savings) through assigning a line-item performance measure to the Resource Conservation Division starting in Fiscal Year 2021: “the percent reduction in water use that results from the implementation of each Water Optimization project (Target = 10% reduction in water use).” FY 2023 was the first year that any water savings data was reported, although funding was first received in FY 2020.

¹⁶ *Diversion* is the quantity of water removed from a natural source – some of which may be returned to the system. *Depletion, or consumptive use,* is the quantity of water taken from a diversion point that is not returned to the system, and is unavailable for reuse by downstream users. Depleted water does not return to the surface water sources or underground aquifers via seepage, drainage, etc. but is consumed in the growth of plants and animals, evaporation, and transmission away from the area.



Clear communication and accessibility, both internal and external to the Program, are key to successful implementation of a strategic plan.

RECOMMENDATION 2.1

The Department of Agriculture and Food should develop a comprehensive strategic plan for the Agricultural Water Optimization Program to include the following elements:

- Vision statement and core values
- Measurable outcomes of long-term objectives
- Strategies, best practices, and actionable steps fulfilling the Program’s vision
- Key data elements, including all prior data, to evaluate performance of measurable outcomes

2.3 Improved Planning and Monitoring is Needed to Ensure Additional \$200 Million is Spent as Required

The recent Senate Bill (S.B.) 277 of the 2023 General Session did many things for the Agricultural Water Optimization Program. It appropriated \$200 million and made significant changes to Utah Water Law. In addition, it moved the data collection of water use data to the hands of the water experts at the Department of Natural Resources (DNR) by requiring the grant recipient to report water diversion and use measurements to the State Engineer.¹⁷ S.B. 277 also requires¹⁸ that the Division of Water Resources (DWRe), in coordination with UDAF and DWRI, annually compile and publish a report on:

- Completed projects
- Saved water made available from ag water optimization projects
- The effectiveness of the ag water optimization funding programs

The Program should be able to demonstrate progress and impact before committing \$200 million to additional projects.

¹⁷ *Utah Code* 73-10g-205 (6)(a)(iv)

¹⁸ *Utah Code* 73-10g-207 (1)



Required Data Reporting Is Necessary for Program Evaluation



The Program’s purpose has been to:

“Improve water optimization by...reducing consumptive water use, while maintaining or even improving agriculture production and profitability, and provide increased operational flexibility for agriculture water users moving forward.”

Although the primary goal of the Program has been to reduce consumptive water use, according to the Program, they have largely funded and managed the Program for diversion savings. S.B. 277 took steps to help clarify the Program’s purpose when it codified the meaning of Agricultural Water Optimization, which focuses on reducing depletion.

Definition of Agricultural Water Optimization:

“... the implementation of agricultural and water management practices that maintain viable agriculture while reducing water depletion to enhance water availability and minimize impacts on water supply, water quality, and the environment.”

As auditors, we intended to evaluate the progress and impact of the Program. The Program did not enforce its own reporting requirements and, as a result, we were unable to evaluate if outcomes match the Program’s purpose, such as reduction in consumptive use, or other optimization measures such as improvement in agriculture production and profitability or increased operational flexibility.



Reporting requirements, pulled from *Administrative Rule R64-4-9* and the Program's funding criteria, outlined below, generally state that grantees are required to submit annual reports for three years once the project is completed.

Annual Reporting Requirements:

Annual report(s) are required to participate in this grant program and must be submitted each year for three years immediately following the date of project completion. The purpose of these reports is to verify that the project is functioning as planned and water optimization goals are being met. Each report shall include:

- *Water diverted (in CFS or acre foot) for irrigation season. May include: per irrigation watering, number of watering per crop, and per season.*
- *Irrigation season.*
- *Acres irrigated.*
- *Crop(s) irrigated.*
- *Production record: tons per acre, bushel per acre, and/or other, depending on crop type.*

If collected, these metrics could generate useful information, as they directly correspond to the goals outlined by the Program, as summarized below.

- Acres irrigated, crops irrigated, and production records help demonstrate agriculture production and profitability improvements.
- Operational flexibility may be captured in the details of the water diverted for the irrigation season with waterings per crop, and per irrigation watering.
- Improving water optimization, partially demonstrated by water diverted.

Despite *Administrative Rule* and funding criteria specifying annual reporting requirements for all optimization projects, it has not ensured that enough data was collected to evaluate or support preliminary claims of early success. Instead, it comes from estimations found in the original optimization project applications rather than actual data collection or analysis. As a result, from Fiscal Years 2020-2024, UDAF has spent \$65 million on projects without clear transparency on their purpose and outcomes. In order to demonstrate progress towards its goals and objectives and close this information gap, the Program should collect all prior water use data and savings, and other



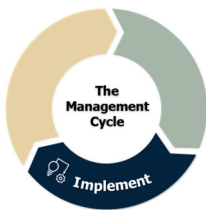
Because the Program has not collected enough information, it cannot demonstrate progress or impact based on actual data and analysis.



meaningful metrics, such as acres irrigated, from all projects it has already funded — as dictated by the Program’s requirements.

Again, we note, this report does not evaluate the substance of the Program’s goals. Our concern is that UDAF should adhere to best practices and manage the Program according to clear goals and metrics. Furthermore, the Program should exercise principles of good governance and annually assess progress towards its goals and objectives. This annual check-in should include an evaluation of performance measures and whether the Program is making sufficient progress.

Implementation of Best Practices Can Ensure Maximum Success Going Forward



Importantly, the Program’s purpose goes beyond water optimization and includes maintaining or improving agricultural production, viability, and flexibility (see Appendix B). We are not evaluating the substance of the Program’s goals but recognize the importance of being clear in its goals. When evaluating water optimization practices, it is necessary to consider both diversion savings and consumptive use savings because each impact basin hydrology and downstream water users differently, as seen in the principles provided below. If both approaches are not adequately considered, the state may invest significant amounts of money on projects that have little or no benefit toward the desired outcome.

Program Purpose and Desired Outcomes:

The following are examples of principles that should be considered when making water optimization decisions. Desired outcomes should be made clear and outlined in a strategic plan, as discussed in Finding 2.1:

- If reducing water use on a basin scale is the highest priority, then optimization practices should reduce consumptive use. [deficit irrigation, fallowing]*
- When the economic viability of agriculture is the primary goal, practices that increase flexibility and reduce labor costs are often important. [piping canals, installing center pivots]*
- If reducing reservoir releases or maintaining water supply security upstream of the diversion (or well) is prioritized, then optimization practices that reduce diversion are of most benefit. [canal lining/piping, changing to more efficient irrigation methods]*



New Statute Requiring Coordination May Help Hold Program Accountable



S.B. 277, effective July 1, 2023, requires that DWRe, in coordination with UDAF and DWRI, compile an annual report detailing the completed projects, the saved water made available from agricultural water optimization projects, and the effectiveness of the agricultural water optimization funding programs. We believe this is a necessary step for program accountability; however, for UDAF to report on program effectiveness, it is essential to define what type of water savings they are funding and to develop corresponding performance measures to ensure success. To mitigate water scarcity, water optimization must also be accompanied by robust water accounting and measurements, as discussed in Chapter 1 of this report.¹⁹

While the agricultural sector is important for the economy of Utah, especially in rural areas, it is often criticized because about 80 percent of the state’s water is used for agricultural purposes.²⁰ Our office recognizes that the Agricultural Water Optimization Program is a key piece in the state’s water evolution. So far, the Program has funded 332 projects, totaling \$65 million in five years, and was recently appropriated an additional \$200 million. Best practices of government, as outlined throughout this chapter, should be employed to ensure these public funds are maximized.

RECOMMENDATION 2.2

The Department of Agriculture and Food should work with the Department of Natural Resources and the Legislature to ensure the goals of the Agricultural Water Optimization Program are clear, as well as a clear awareness and understanding of what the Program should achieve and work towards those goals.

¹⁹ *The Paradox of Irrigation Efficiency* notes that water optimization must also be accompanied by robust water accounting and measurements, in addition to a cap on extractions; an assessment of uncertainties; the valuation of trade-offs; and a better understanding of the incentives and behavior of irrigators.

²⁰ Based on a ten-year average (2011-2020) of DWRe’s Water Budget data, about 75 percent of water diverted and about 80 percent of water depleted in Utah was for agriculture.



RECOMMENDATION 2.3

The Department of Agriculture and Food should enforce its reporting requirements by collecting all annual reports currently past due and those that will be due in the future, including prior water use data and savings, and other noted metrics in this Chapter, from all projects it has already funded.

RECOMMENDATION 2.4

The Department of Agriculture and Food, when developing the comprehensive strategic plan for the Agricultural Water Optimization Program, should also include an annual assessment of progress towards strategic plan goals and objectives.

**BACKGROUND**

Utah has different “water plans” from various entities. However, the Division of Water Resources is the statutorily appointed water planner. With many different plans in place, agencies have not adequately collaborated for effective water planning. Utah is at a crossroads with water, further indicating a great need for comprehensive and collaborative statewide water planning efforts.

FINDING 3.1

Statutory Strengthening
Needed for More Effective
Water Planning to Ensure
the State’s Water Future

RECOMMENDATION 3.1

The Legislature should consider strengthening the current statute *Utah Code 73-10-15* outlining cooperation with the Division of Water Resources in the formulation of a state water plan going forward by ensuring all other entities, institutions, and political subdivisions of the state cooperate in statewide planning, and address language which may prevent the Division from collecting the information needed for a comprehensive statewide water plan.

RECOMMENDATION 3.2

The Legislature should consider a comprehensive update of *Utah Code 73-10-15, 16, and 17* to ensure coordinated efforts in statewide water planning.

FINDING 3.2

Holistic Statewide
Planning Needed to
Account for Growth and
Future Water Use and
Needs

RECOMMENDATION 3.3

The Division of Water Resources should address coordination and collaboration by generating the relationships necessary with key water entities to effectively create comprehensive statewide water plan.

**CONCLUSION**

While we recommend statutory strengthening, the Division of Water Resources must then utilize its authority to ensure coordination and build relationships with all water entities necessary to produce a meaningful and comprehensive plan. Without comprehensive planning, the aspects of water discussed in other chapters of the report, may not be as effective.





Chapter 3

Utah Is at a Water Crossroads and Needs Comprehensive Water Planning to Meet Future Demands

3.1 Statutory Strengthening Needed for More Effective Water Planning to Ensure the State’s Water Future

The Division of Water Resources (DWRe) and many other entities in Utah have created water-related plans, which is encouraging. While we recognize the many different plans and multiple entities involved in water, our concern is that planning is not sufficiently coordinated, and goals vary. We acknowledge the work done toward water planning by entities like the Governor’s Office of Planning and Budget (GOPB) and Prepare60. We also acknowledge Utah’s existing state water policy²¹ which states:

Utah Code 73-1-21:

(1) *It is the policy of the state that:*

(a) *Utah shall pursue adequate, reliable, affordable, sustainable, and clean water resources, recognizing that Utah is one of the most arid states in the nation and as such, there is, and will continue to be, a need to ensure Utah’s finite water resources are used beneficially;*

(b) *Utah will promote:*

(i) *water conservation, efficiency, and the optimal use of water resources, while identifying intended and unintended consequences to ensure appropriate choice and implementation of particular strategies;*

[In addition to many others, such as] water pricing and funding mechanisms that provide revenue stability while encouraging conservation, efficiency... and optimization efforts...standards for accurate water use measurement, tracking, enforcement, and reporting... continued improvements in the management of water resources through protection, restoration, and science-based evaluation of Utah watersheds, increased reservoir capacity, and aquifer recharge or aquifer storage and recovery.

²¹ For the entire water policy - *Utah Code 73-1-21*, see Appendix D.



DWRe is statutorily tasked with the formulation and cooperation of other state agencies in a state water plan. However, coordination has been a challenge.

Utah Code 73-10-15:

“All other state agencies shall cooperate with the Division of Water Resources in the formulation of a state water plan and the division is to use information, including water resources data, which has been or will be assembled by other state agencies, the United States government, various colleges and universities of the state, or any other source which can profitably contribute to the development of a state water plan.”

Although DWRe produced the *Water Resources Plan*²² in 2021, the plan lacked the required cooperation with other state agencies and coordination of other water entities. Significantly, DWRe notes in the *Water Resources Plan* that the plan focuses only “...on the actions that are within the Division’s influence.” However, the Division acknowledges that coordination with others is imperative and beneficial: “We recognize that greater strides can be reached in conjunction with actions by regional water providers, organizations, municipalities, businesses, policy leaders and individuals.”

Although coordinating with many entities can be challenging, collaboration and coordination are vital to ensure comprehensive planning efforts and to avoid overlap. Going forward, the Legislature should consider strengthening the statute that outlines cooperation with DWRe in the formulation of a state water plan. Having a comprehensive plan will increase the effectiveness of the aspects discussed in other chapters of this report.



Collaboration and coordination are vital to ensure comprehensive planning efforts and to avoid overlap.

Specifically, *Utah Code 73-10-15* says that, “other state agencies shall cooperate.” This excludes water entities that are not state agencies but have an important role in water, such as water conservancy districts or other political subdivisions. Without a statutory requirement for these other entities to cooperate, DWRe may fail to successfully recruit the statewide support necessary to create a comprehensive state water plan.

²² *Water Resources Plan* (2021), Utah Department of Natural Resources’ Division of Water Resources.



In addition, *Utah Code 73-10-15* also requires DWRe to use sources of information that can “profitably contribute to the development of a state water plan.” This requirement applies to DWRe’s efforts in compiling the state water plan; however, it does not require state entities or political subdivisions to share their data with DWRe. Without express statutory authority for DWRe to collect such information, those state entities and political subdivisions may be reluctant to share their internal data.²³

Utah Code 73-10-17:

“Nothing contained herein shall be construed to impair or otherwise interfere with the authority heretofore granted to other agencies, institutions or subdivisions of the state of Utah.”

Utah Code 73-10-17 clarifies that DWRe’s authority to create the state water plan does not “impair or otherwise interfere with the authority” granted to state agencies, institutions or political subdivisions. Other entities might refuse to cooperate with DWRe, (despite the requirement to cooperate in *Utah Code 73-10-15*) by claiming DWRe’s requests impair or interfere with the authority of the state agency, institution, or political subdivision. Therefore, the language in this section of *Utah Code* may prevent DWRe from collecting the information it needs for the state water plan.

Furthermore, *Utah Code* sections relating to the state water plan—*Utah Code 73-10-15, 16, and 17*—have not changed since the 1960s. The Legislature may want to revisit these sections as part of a comprehensive update to ensure coordinated efforts.

RECOMMENDATION 3.1

The Legislature consider strengthening the current statute *Utah Code 73-10-15* outlining cooperation with the Division of Water Resources in the formulation of a state water plan going forward by ensuring all other entities, institutions, and political subdivisions of the state cooperate in statewide planning, and address language which may prevent the Division from collecting the information needed for a comprehensive statewide water plan.

²³ The Legislature also could clarify that the Government Records Access and Management Act (GRAMA) requires that information gathered by DWRe be protected.



RECOMMENDATION 3.2

The Legislature consider a comprehensive update of *Utah Code 73-10-15, 16, and 17* to ensure coordinated efforts in statewide water planning.

3.2 Holistic Statewide Planning Needed to Account for Growth and Future Water Use and Needs

Water is a critical resource, and planning has an important role in advancing sustainability and resiliency in water systems.²⁴ Without holistic statewide planning, Utah cannot account for our future population growth and the resulting increase in the needs of water. Our office recently highlighted this critical vulnerability, by naming “Utah’s Water Needs” as one of twelve high-risk areas in Utah.²⁵ Additionally, according to the American Planning Association (APA), water should be incorporated into all aspects of the built environment with an emphasis on integrated, regional water planning and partnerships between water resource managers and land use planners.



Comprehensive water plans allow states to evaluate their long-term goals, identify potential threats to water resources, and establish implementation recommendations to combat the threats.

APA states the importance of water and planning as,

“a central and essential organizing element in healthy environments along with the importance of planning to ensure that land-use, environmental and infrastructure planning for water will increase resilience to extreme events and climate change.”

Specifically, APA calls for planning that “employs an integrated, systems-oriented, comprehensive approach to water management.” APA also suggests that:

“The lack of water need not be total—in the absence of effective planning and action, a major drought can badly damage the economic and social underpinnings of affected areas, even though supplies might not entirely run out.”

Thus, it is imperative for Utah, a drought-prone state, to have a fully comprehensive water plan. Comprehensive water plans allow states to evaluate their long-term goals, identify potential threats to water resources, and establish

²⁴ *Planners and Water* (2017), American Planning Association.

²⁵ See *High-Risk List: Identifying and Mitigating Critical Vulnerabilities in Utah* — 2023 (Report No. 2023-10), Chapter 1.



implementation recommendations to combat the threats. Currently, Utah does not fully integrate regional planning in the state plan. DWRe should address the lack of coordination and collaboration with key water entities to create a comprehensive water plan that anticipates the state’s future water needs.

Lack of Coordination between Water Entities Has Led to Silos in Water Planning

While Utah has many water reports and plans, there is not an overarching statewide water plan that reflects full collaboration with key water entities. Over the past seven years, at least six water plans addressing various water aspects in Utah have been released by entities such as the Water Strategy Advisory Team, as seen in the visual below.²⁶ Regardless how each of these plans have been utilized, the individual efforts would be more effective as part of a holistic statewide plan.



Source: Auditor generated.

Additionally, in late 2022, in collaboration with multiple agencies, GOPB produced *Utah’s Coordinated Action Plan for Water*.²⁷ According to GOPB, agencies did not feel represented in DWRe’s 2021 *Water Resources Plan*, nor did the plan reflect the agencies’ needs, which emphasized having a coordinated plan. *Utah’s Coordinated Action Plan for Water* highlights some of the complex needs of Utah’s water. The action plan brought many entities to the process, allowing for a more focused and robust plan. However, GOPB did not include key entities, such as water conservation districts. Furthermore, the office is limited in its ability to effect greater

Agencies did not feel represented in DWRe’s 2021 *Water Resources Plan*, nor did the plan reflect the agencies’ needs.

²⁶ In 2013, the then governor Gary Herbert asked the Water Strategy Advisory Team to make recommendations for a 50-year state water strategy. In addition, Prepare60’s infrastructure plan was prepared by DWRe and seven of the water conservancy districts.

²⁷ *Utah’s Coordinated Action Plan for Water* (2022), Governor’s Office of Planning and Budget.



change for Utah’s water needs beyond tracking progress on action items outlined in the action plan.²⁸

Although GOPB pulled water entities together for *Utah’s Coordinated Action Plan for Water*, the office is not the authority on water and cannot be the driving force behind water planning. *Utah Code* gives DWRe the responsibility for water planning. Therefore, DWRe should lead the efforts by generating the relationships necessary to effectively coordinate and collaborate in the formulation of a statewide plan, in addition to the statutory authority discussed in Finding 3.1.

DWRe reports resource issues that have impacted its ability²⁹ to carry out the state water plan. In the 2023 General Session, DWRe requested and was funded for coordinated water planning and conservation, including a full-time equivalent and \$500,000 to assist cities, counties, districts, and water providers with coordinated water planning. DWRe acknowledges that the “*Water Resources Plan* is built on information and data provided by various state agencies, water districts, and water suppliers. In order to develop a more holistic plan, additional resources and efforts need to be made to develop relationships and coordinate with stakeholders.”

A Best Practice in Water Planning Is to Foster Collaborative Relationships, Including with Regional Agencies, to Ensure a Holistic Approach. Standardizing regional approaches can help advance regulation and legislation to support an integrated approach to water. APA suggests that planners need to operate at the community, regional, and watershed levels for integration in water planning. Other states place emphasis on regional planning, utilizing river basins and local planning to drive their state planning.³⁰



The American Planners Association recommends planners operate at the community, regional, and watershed levels for integration in water planning.

²⁸ GOPB compiled over 200 recommendations and actions that resulted from the various water planning work of the past decade.

²⁹ DWRe has not made progress in updating the Basin Plans despite recommendations made in our previous reports. See Appendix D for additional information.

³⁰ Other states have administrative rules governing water planning and coordination. For example, *Texas Administrative Rule*, 31 TAC §358, outlines how state water planning and regional planning should be carried out. The rule includes details on data collection from water entities and explains that those who fail to provide the requested information within a certain timeframe will not be eligible for funding.



DWRe could work with stakeholder groups, such as the Utah Watershed Council to improve coordination and incorporate local feedback. House Bill 166 of the 2020 General Session established the Utah Watersheds Council and directed it to:

- Serve as a forum to encourage and facilitate discussion and collaboration between stakeholders relative to the water-related interests of the state and the state’s people and institutions.
- Facilitate communication and coordination between the DNR, the Department of Agriculture and Food, the Department of Environmental Quality, and other state and federal agencies in the administration and implementation of water-related activities.

Holistic water planning, that includes collaborative relationships, is key in ensuring that Utah’s water is protected and prioritized.

RECOMMENDATION 3.3

The Division of Water Resources should address coordination and collaboration by generating necessary relationships with key water entities to effectively create a comprehensive statewide water plan.





Complete List of Audit Recommendations





Complete List of Audit Recommendations

This report made the following 12 recommendations. The numbering convention assigned to each recommendation consists of its chapter followed by a period and recommendation number within that chapter.

Recommendation 1.1

We recommend the Division of Water Rights should continue to develop the Water Right Network so that data can be used in a wider scope of internal management needs and provide better transparency and accountability.

Recommendation 1.2

We recommend the Division of Water Rights should continue its internal data audit to ensure its data is accurate and complete, and should make improvements based on gaps or inaccuracies identified in the internal audit.

Recommendation 1.3

We recommend the Division of Water Rights should identify, meter and monitor supplemental wells in critical areas and implement a well management plan to protect water users against interference from over-pumping and to bring declining aquifers into balance.

Recommendation 1.4

We recommend the Department of Natural Resources and the Department of Environmental Quality's Division of Drinking Water should evaluate the resource needs of the Water Use Program and implement a new management strategy, based on best practices, that ensures that the Program can wholly achieve its goals.

Recommendation 1.5

We recommend the Division of Water Rights should improve internal data evaluation and management through the following:

- Complete the gap analysis with Utah State University.
- Link data to goals identified in the Division's seven focus areas.
- Create and update data tools, including data map and data dictionary.

Recommendation 2.1

We recommend the Department of Agriculture and Food should develop a comprehensive strategic plan for the Agricultural Water Optimization Program to include the following elements:

- Vision statement and core values
- Measurable outcomes of long-term objectives
- Strategies, best practices, and actionable steps fulfilling the Program's vision
- Key data elements, including all prior data, to evaluate performance of measurable outcomes



Recommendation 2.2

We recommend the Department of Agriculture and Food should work with the Department of Natural Resources and the Legislature to ensure the goals of the Agricultural Water Optimization Program are clear, as well as a clear awareness and understanding of what the Program should achieve and work towards those goals.

Recommendation 2.3

We recommend the Department of Agriculture and Food should enforce its reporting requirements by collecting all annual reports currently past due and those that will be due in the future, including prior water use data and savings, and other noted metrics in this Chapter, from all projects it has already funded.

Recommendation 2.4

We recommend the Department of Agriculture and Food, when developing the comprehensive strategic plan for the Agricultural Water Optimization Program, should also include an annual assessment of progress towards strategic plan goals and objectives.

Recommendation 3.1

We recommend the Legislature consider strengthening the current statute *Utah Code 73-10-15* outlining cooperation with the Division of Water Resources in the formulation of a state water plan going forward by ensuring all other entities, institutions, and political subdivisions of the state cooperate in statewide planning, and address language which may prevent the Division from collecting the information needed for a comprehensive statewide water plan.

Recommendation 3.2

We recommend the Legislature consider a comprehensive update of *Utah Code 73-10-15, 16,* and *17* to ensure coordinated efforts in statewide water planning.

Recommendation 3.3

We recommend the Division of Water Resources should address coordination and collaboration by generating the relationships necessary with key water entities to effectively create a comprehensive statewide water plan.



Appendices





A. List of Audit Recommendations from *A Performance Audit of Projections of Utah's Water Needs (2015-01)* – Chapter II: Reliability of Water Use Data Needs to Improve.





As noted in Chapter 1 of this report, the Department of Natural Resources employees reported positive changes in the Water Use Program since our 2015 audit, *A Performance Audit of Projections of Utah's Water Needs (2015-01)*. Chapter II of that report, made major recommendations concerning data quality. However, our current evaluation shows that DNR should continue to improve the Program. Those 2015 recommendations are outlined below.

1. We recommend that the Division of Water Resources review water use data annually to perform trend analysis.
2. We recommend that the Department of Natural Resources work with state water agencies to develop an efficient and effective system of collecting accurate water use data from public water providers. Methods that should be considered include:
 - a. Making local water managers responsible for submitting accurate water use data more accountable by requiring them to sign their report and identify their position and credentials.
 - b. Incorporating a routine data edit check feature in the online data collection form that is used to validate the accuracy of the data submitted by public water providers.
 - c. Validating the accuracy of water use data by comparing it to other sources with similar information.
 - d. Conducting data validity checks, periodic audits, and training of local water systems to verify the accuracy of water supply and use data.
 - e. Committing additional staff and resources to improving the state's water use database.
3. We recommend that the Legislature consider giving statutory authority to the Division of Water Resources to validate the annual water use reported by public water providers.





B. History of the Agricultural Water Optimization Program's Purpose and Goals, Administrative Rule, and Utah Code





Throughout the Agricultural Water Optimization Program’s history, reducing consumptive use was the first and foremost goal, as defined by the Program, and then established in *Administrative Rule R64-4-3* in 2022. In the 2023 General Session, S.B. 277 codified the meaning of Agricultural Water Optimization, making “reducing water depletion” explicitly stated in statute. Despite the goal statement, the Program continued to primarily fund diversion savings projects. As a result, from 2019-2023, UDAF has spent \$65 million on projects without clear transparency on their purpose and outcomes.

Each of these goals and purposes are outlined below from either the Program’s own policy/funding criteria, Administrative Rule, or Utah Code.

Funding Criteria 2019:

- Water Optimization: reduce consumptive water use, while maintaining or even improving agriculture production and profitability, while providing increased operational flexibility for agriculture water users moving forward.
- Water Quantification: accurate real time measurement of diverted water will be an essential component in project ranking.

Funding Criteria 2022:

The purpose of this grant is to effectuate the following goals:

- Improve Water Optimization by the following methods: reduce consumptive water use while maintaining or improving agriculture production and profitability, and provide increased operational flexibility for agriculture water users moving forward.
- Improve Water Quantification: show accurate, real time measurement of diverted water to demonstrate actual water savings in CFS or acre foot.

Funding Criteria FY22 ARPA Spring:

The purpose of this grant is to effectuate the following goals:

- Improve Water Optimization by reducing consumptive water use while maintaining or improving agriculture production and profitability, and providing increased operational flexibility for agriculture water users moving forward.
- Improve Water Quantification by showing accurate, real-time measurement of diverted water to demonstrate actual water savings in CFS and acre foot.
- Document the availability of water after implementation of a Water Optimization Project.
- Improve and protect surface and ground water quality by reducing overwatering of crops.



Funding Criteria FY22 ARPA Fall:

The purpose of this grant is to effectuate the following goals:

- Improve Water Optimization by reducing consumptive water use while maintaining or improving agriculture production and profitability, and providing increased operational flexibility for agriculture water users moving forward.
- Improve Water Quantification by showing accurate, real-time measurement of diverted water to demonstrate actual water savings in CFS and acre foot.
- Document the availability of water after implementation of a Water Optimization Project.
- Improve and protect surface and ground water quality by reducing overwatering of crops.

Administrative Rule R64-4-3 (Effective 4/5/2022)

Under the Agricultural Water Optimization Program, grants may be awarded to fund projects that further the purposes of the program, which are to:

- (1) improve agricultural water optimization by:
 - (a) reducing consumptive water use while maintaining or improving agriculture production and profitability; and
 - (b) providing increased operational flexibility for agricultural water users;
- (2) improve agricultural water quantification by:
 - (a) showing accurate, real-time measurement of water diverted for funded projects; and
 - (b) documenting actual water savings in cubic feet per second and acre feet; and
- (3) improve and protect surface and ground water quality.

Funding Criteria FY23 ARPA Spring:

The purpose of this grant is to effectuate the following goals:

- Optimize water use while maintaining or improving agriculture production and profitability, and providing increased operational flexibility for agriculture water users moving forward.
- Improve water quantification by showing accurate, real-time measurement of diverted water to demonstrate actual water savings in CFS and acre foot.
- Document the availability of water after implementation of a Water Optimization Project.
- Improve and protect surface and ground water quality by reducing overwatering of crops.



Utah Code 73-10g-203.5(2) (effective 7/1/2023)

"Agricultural water optimization" means the implementation of agricultural and water management practices that maintain viable agriculture while reducing water depletion to enhance water availability and minimize impacts on water supply, water quality, and the environment.





C. State Water Policy *Utah Code 73-1-21*





Chapter 3, Finding 3.1 address statewide water planning and within that, we outline a subsection of the State water policy found in *Utah Code 73-1-21*. In order to provide the full context of the statute, the complete section is provided below.

Utah Code

Title 73 Water and Irrigation

Chapter 1 General Provisions

Section 21 State water policy.

(1) It is the policy of the state that:

- (a) Utah shall pursue adequate, reliable, affordable, sustainable, and clean water resources, recognizing that Utah is one of the most arid states in the nation and as such, there is, and will continue to be, a need to ensure Utah's finite water resources are used beneficially;
- (b) Utah will promote:
 - (i) water conservation, efficiency, and the optimal use of water resources, while identifying intended and unintended consequences to ensure appropriate choice and implementation of particular strategies;
 - (ii) water resource development and the creation of new water infrastructure necessary to meet the state's growing demand and promote economic development;
 - (iii) compliance with state statutes regarding Lake Powell pipeline development and Bear River development;
 - (iv) the timely replacement of aging or inefficient water resource, drinking water, wastewater, and storm water infrastructure;
 - (v) the optimal use of agricultural water to sustain and improve food production and the productive capacity of agricultural lands;
 - (vi) water quality in rivers and lakes that:
 - (A) complies with state clean water and safe drinking water statutes; and
 - (B) protects public health;
 - (vii) water pricing and funding mechanisms that:
 - (A) provide revenue stability while encouraging conservation, efficiency, and optimization efforts;
 - (B) adequately cover infrastructure needs; and
 - (C) balance social, economic, public interest, and environmental values;
 - (viii) respect for water rights;
 - (ix) standards for accurate water use measurement, tracking, enforcement, and reporting;



- (x) efforts to educate and engage the public in:
 - (A) individual actions that protect water quality, including preventing and mitigating water pollution; and
 - (B) conservation practices and the efficient and optimal use of water resources;
- (xi) the implementation of cyber security and physical security measures for water infrastructure;
- (xii) the study and consideration of mechanisms for increased flexibility in water use such as water banking and split season uses;
- (xiii) continued improvements in the management of water resources through protection, restoration, and science-based evaluation of Utah watersheds, increased reservoir capacity, and aquifer recharge or aquifer storage and recovery;
- (xiv) the development and beneficial use of Utah's allocated share of interstate rivers, including Utah's allocations under the 1922 and 1948 Colorado River Compacts and the 1980 Amended Bear River Compact;
- (xv) the study and development of strategies and practices necessary to address declining water levels and protect the water quality and quantity of the Great Salt Lake, Utah Lake, and Bear Lake, taking into consideration natural climate change, natural weather systems and patterns, and normal cyclic water level change over time, while balancing economic, social, and environmental needs;
- (xvi) regulations and practices, including voluntary practices, that maintain sufficient stream flows and lake levels to provide reasonable access to recreational activities and protect and restore water quality, quantity, and healthy ecosystems, including protecting groundwater and surface water sources from pollution;
- (xvii) equitable access to safe, affordable, and reliable drinking water to protect public health;
- (xviii) regulations and practices that encourage effective treatment of wastewater to maximize its availability for beneficial use and minimize depletion and the further degradation of other waters;
- (xix) the control of invasive species that threaten or degrade waters of the state;
- (xx) coordination among the state, water providers, water users, local governments, government agencies, and researchers in the study of ways weather and climate will impact future water supplies, demand, and quality;



(xxi) water laws, rules, and enforcement that are consistent with this Subsection (1) and encourage transparency, order, and certainty in the use of public water;

(xxii) the support and funding of research, science, and technology necessary to achieve the provisions of this Subsection (1); and

(xxiii) the collaboration, cooperation, and engagement of stakeholders in the identification and advancement of actions that support the provisions of this Subsection (1); and

(c) Utah supports the timely and appropriate negotiated settlement of federally reserved water right claims for both Native American trust lands and other existing federal reservations, and opposes any future designation of public lands that does not quantify any associated federally reserved water rights.

(2) State agencies are encouraged to conduct agency activities consistent with Subsection (1) and implement policies established by the Legislature that promote the near- and long-term stewardship of water quality and water resources.

(3) This section does not create a cause of action against the state's or a state agency's action that is inconsistent with Subsection (1) and does not waive governmental immunity under Title 63G, Chapter 7, Governmental Immunity Act of Utah.

(4) The Natural Resources, Agriculture, and Environment Interim Committee shall review the state water policy annually and recommend priority balancing and any other changes to the Legislature.





D. Recommendations Made in Previous Water Audits Concerning Basin Planning and Update





The following relates to planning efforts outlined in Chapter 3 of this report.

In 2015, our office released *A Performance Audit of Projections of Utah's Water Needs* (Report #2015-01) and made recommendations concerning the Division of Water Resources' (DWRe) basin plans. In Chapter 4, it notes that good basin plans should be the basis for better statewide planning. As with the statewide projections, most of the division's basin plans did not estimate the growth in the region's water supply and the basin plans also understated the amount of agriculture water available for municipal use. The report made the following recommendations.

1. We recommend that the Division of Water Resources update state and basin plans on a regular basis as new information is gathered to ensure plans are relevant.

During the 2017 follow-up, *An In-depth Follow-up of Projections of Utah's Water Needs* (Report #2017-17), DWRe stated that updated river basin plans were coming. At the time, three of Utah's 11 river basins had plans had not been updated since the 1990's. This includes the Kanab Creek/Virgin River basin plan that has not been updated and published recently. The lack of published up-to-date information impairs decision makers who do not have relevant data. According to DWRe, in 2017, they developed a schedule where all 11 basin plans will be updated over the following six years and the updates would commence once DWRe's statewide plan was complete in 2018. The report made the following recommendations.

1. We recommend that the Division of Water Resources continue developing the online format for state and basin plan reporting.
2. We recommend that the Division of Water Resources follow its draft schedule for producing updated basin plans for Utah's 11 basins over the next five years.

However, the Water Resources Plan was not completed until 2021 and the river basin plans have not been updated. As of August 2023, of Utah's 11 river basin plans, nine are over ten years old and of those, six are over 20 years old. This lag in local planning will make creative and innovative planning difficult, because it does not allow for comprehensive planning. DWRe reports that they plan to release the first of the updated plans at the end of 2023, with plans to release all the plans over the course of the next seven years.



One best practice in water planning is to foster collaborative relationships, including regional agencies in order to ensure a holistic approach to state planning. Standardizing regional approaches can help advance regulation and legislation to support an integrated approach to water. The American Planning Association (APA) suggests that planners should operate at the community, regional, and watershed levels for integration in water planning. Utah's regional planning is done through river basin plans, 11 in total, which can be found on DWRe's website.³¹ However, none of the basin plans were included in DWRe's *Water Resources Plan* of 2021, as many are outdated, the oldest from 1993.

According to DWRe, regional basin plans are not beneficial, as they exist now. However, two previous audits conducted by our office recognized the importance of using these plans to project future supply and water demand and recommended that they be updated.

According to DWRe, the lack of local collaboration for the plans hinder their ability to best understand each basin's needs. Additionally, they state that because DWRe doesn't have enforcement authority, they can't mandate recommendations for basins, and instead, can only implement what local communities are willing do.

Similar to their audit response in 2017, DWRe states they are in progress of creating new template for the Cedar/Beaver basin, to be completed by end of 2023 and then used for the other basins. However, DWRe projects that the other basin plans won't be updated until about 2029. While we recognize the challenge of river basin planning, it is concerning that in the six years since the last follow-up no progress has been made on the regional plans and this is problematic, as regional plans should be included in the statewide water plan.

³¹ <https://water.utah.gov/water-reports/>



Agency Response





Department of Natural Resources





SPENCER J. COX
Governor

DEIDRE M. HENDERSON
Lieutenant Governor

Department of Natural Resources

JOEL FERRY
Executive Director

November 6, 2023

Kade R. Minchey
Legislative Auditor General
House Building Capitol Complex
Salt Lake City, Utah 84114

Dear Mr. Minchey:

The Utah Department of Natural Resources, the Division of Water Resources and the Division of Water Rights are grateful for the time and effort the Legislative Auditor’s Office has dedicated to studying Utah’s water management. Water is complex, and we appreciate their thoroughness and willingness to coordinate with us on these critical issues.

We have reviewed and provided comments and feedback on the performance audit, “Utah’s Water Management: Ensuring Data Integrity, Program Best Practices, and Comprehensive Water Planning” #2023-15. DNR supports the recommendations outlined in this audit and believes these efforts will improve our water data management, comprehensive water planning and the Agriculture Water Optimization Program. While the Department of Agriculture and Food will respond to Chapter 2 of the audit, DNR appreciates the changes to the Agriculture Water Optimization Program brought on by SB277 during the 2023 legislative session and looks forward to contributing to its success.

Tools, resources and support are needed to meet ongoing water demands. Good policies, practices and planning derive from access to accurate and robust data and information. This audit, coupled with September’s high-risk assessment audit that prioritized ongoing water needs and water infrastructure, highlights the significance of water-related challenges facing Utah. Meeting these challenges and implementing these recommendations will require additional staff and financial investment from the Legislature.

As a department, we are already integrating changes. In addressing the growing needs and use of the data collected, Water Rights began an internal assessment of its data. This internal process is a detailed strategic action plan to address best management practices



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and identify funding needs. We recognize it will take additional funding to address this critical and growing need for good water data.

Additionally, state water planning is critical to ensuring the state’s water security and increasing drought resiliency. Strengthening the current statute will help ensure all entities cooperate in the state water planning process. We believe a comprehensive update to 73-10-15, 16 and 17 is warranted and that Water Resources can best address coordination and collaboration by generating the relationships necessary with key water entities.

We appreciate the good work, coordination and professionalism provided by the auditors, and we look forward to working with the Department of Agriculture and Food, Legislature and the Legislative Auditor’s Office moving forward.

Sincerely,



Joel Ferry
Executive Director



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Department of Agriculture and Food





State of Utah

SPENCER J. COX
Governor

DIEDRE M. HENDERSON
Lieutenant Governor

Department of Agriculture and Food

CRAIG W. BUTTARS
Commissioner

KELLY PEHRSON
Deputy Commissioner

November 6, 2023

Auditor General Kade R. Minchey
Office of the Legislative Auditor General
Utah State Capitol Complex
W315 House Building
Salt Lake City, UT 84114

Dear Auditor General Minchey,

The following letter is in response to your recent audit entitled, "Utah's Water Management: Ensuring Data Integrity, Program Best Practices, and Comprehensive Water Planning," and specifically Chapter Two, "UDAF's Agricultural Water Optimization Program Should Implement Best Practices to Help Ensure Maximum Success."

We agree with the recommendations identified in Chapter Two and will take the steps necessary to create, implement, and evaluate a strategic plan for the Agricultural Water Optimization Program that incorporates best practices to ensure the program's success in the future. Please see attached, specific responses to each recommendation made in the audit.

I want to thank you for your efforts to review the operations of the Agricultural Water Optimization Program.

Thank you,

A handwritten signature in blue ink that reads "Craig W Buttars".

Craig W Buttars,
Commissioner, Utah Department of Agriculture and Food

Chapter 2: UDAF's Agricultural Water Optimization Program Should Implement Best Practices to Ensure Maximum Success

General Response:

Finding 2.1 Implementing Best Practices will allow Benefit of the Agriculture Optimization Program to be Measured, Maximized, and Targeted

Recommendations: No Recommendations

Finding 2.2 Improved Planning, Performance Measures, and Transparency of Information can help Ensure Effectiveness

Recommendation 2.1: UDAF develop a comprehensive strategic plan for the Agricultural Water Optimization Program.

Response: The Department agrees with Recommendation 2.1 and will put together a strategic plan for the program. As recommended in the audit report, the plan will focus on demonstrated progress, both individually and systematically, and will incorporate the best practices for good governance recommended in the Best Practice Handbook created by the Office of the Legislative Auditor General in collaboration with GOPB and LFA. The Department intends to have staff put an initial draft of a strategic plan together, and then have the plan reviewed by the Agricultural Water Optimization Committee created in Section 73-10g-205. Involving the committee will increase transparency and accountability as the Department implements the strategic plan and evaluates progress with the plan to ensure that both long term goals and short-term and mid-range objectives are met.

Implementation Date: October 31, 2024

Finding 2.3 Improved Planning and Monitoring is Needed to Ensure Additional \$200 Million is Spent as Required

Response to Finding: While Finding 2.3 does not include a recommendation in itself, the Department feels that additional and ongoing research is a necessary element to improving planning and monitoring under the Agricultural Water Optimization Program and ensuring the additional \$200 million is spent as required. As the Department and Agricultural Water Optimization Committee seek to implement the statutory changes required under SB 277, a lack of research related to measuring depletion (consumptive use), the new statutorily required focus of the program, poses a significant challenge because the Department has a limited ability to ensure that the new program goals of reducing depletion through water optimization projects are achieved. Additional research is needed in order for the program to be successful.

Recommendation 2.2: UDAF work with the DNR and the Legislature to ensure the goals of the Agricultural Water Optimization Program are clear, as well as a clear awareness and understanding of what the Program should achieve and work towards them.

Response: The Department agrees with this recommendation. Through the strategic planning process recommended in Recommendation 2.2, the Department will work with DNR and the

Legislature to articulate the vision, values, and goals of the Agricultural Water Optimization Program, create strategies to achieve them, and create performance metrics to assess progress towards our goals. As part of goal planning the Department intends to work with the Agricultural Water Optimization Committee and researchers at Utah State University to create a matrix to evaluate the goals and outcomes. We plan to use the matrix to evaluate new projects as well as past projects as resources allow. It is important to recognize, however, that accuracy of data reported under the program will be limited until the technology used to measure consumptive use is improved. This is part of the reason why research is so important. The Department intends to utilize the data collected by the DWRi during the now required pre-consultations to evaluate projects as well.

In the narrative to Finding 2.3, the Report points out an apparent discrepancy between the goals articulated by the program prior to the passage of SB 277, and the Department's management, and notes that the primary goal was to reduce consumptive use while the program has been largely funded and managed for diversion savings. While the Department does not dispute this discrepancy we feel it is important to highlight the value of the diversion reducing projects that have been put in place. Optimizing irrigation practices to reduce diversion of water benefits the hydrologic system in general, benefits water right users downstream who have not previously been able to use their full water rights, and has allowed agricultural producers to create on demand irrigation systems that increased their ability to control the water they use. In some areas of the state, reduced diversions have increased in-stream flow and led to slower reductions in reservoir storage.

Implementation Date: October 31, 2024

Recommendation 2.3: UDAF enforce reporting requirements by collecting all annual reports, including prior water use data and savings, and other noted metrics, from all projects it has already funded.

Response: The Department fully intends to enforce all of the reporting requirements for the Agricultural Water Optimization program going forward. As part of this effort, the Department will do our best to collect outstanding reports from previously implemented projects although we note that some older irrigation records may not be available.

The Department fully acknowledges that staffing limitations led to the inability of the program to follow up sufficiently to enforce the annual report requirement. However, we also note that based on project timelines, annual reports were sometimes not required until 2-3 years from when funds were awarded because they required not only the completion of project construction but also a full irrigation season during which data was collected. This context could provide some insight into some of the lack of annual reports.

It is also important to note that even when annual reports are collected as required, their value will be somewhat limited due to a lack of baseline data. The ability to determine whether water savings goals are met requires baseline data regarding on-farm water usage which simply does not exist. The Department previously recognized the challenge of reporting project outcomes without baseline data and unsuccessfully sought that data from the Department of Natural Resources.

Implementation Date: March 31, 2024

Recommendation 2.4: UDAF include an annual assessment of progress towards strategic plan goals and objectives.

Response: The Department agrees with this finding and will build an annual assessment or progress requirement into the strategic plan that we implement for the Agricultural Water Optimization program.

Implementation Date: October 31, 2024



Department of Environmental Quality





State of Utah

SPENCER J. COX
Governor

DEIDRE HENDERSON
Lieutenant Governor

Department of
Environmental Quality

Kimberly D. Shelley
Executive Director

Ty L. Howard
Deputy Director

November 6, 2023

Kade Minchey, CIA, CFE, Auditor General
Office of Utah Legislative Auditor General
PO Box 145315
Salt Lake City, UT 84114
Via Email

Dear Mr. Minchey,

Thank you for the opportunity to provide input on Chapter 1 of Report #2023 - 15 "A Performance Audit of Utah's Water Management: Ensuring Data Integrity, Program Best Practices, and Comprehensive Water Planning".

The Department of Environmental Quality through our Division of Drinking Water works closely with the Division of Water Rights on source water use data. The Division of Drinking Water uses this data to regulate public water systems to help ensure they have adequate source capacity to meet current and future needs.

The Department of Environmental Quality supports the recommendation that "DNR and DDW should evaluate the Water Use Program and implement a new management strategy to achieve its goals."

The Division of Drinking Water will work closely with the Division of Water Rights to evaluate the Water Use Program needs and capacity for both divisions and for public water systems across Utah. We are committed to using this information to help develop and implement a new management strategy.

Sincerely,

A handwritten signature in cursive script that reads "Kimberly D. Shelley".

Kimberly D. Shelley
Executive Director

KDS/blj





Office of the Legislative Auditor General

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