Utah Division of Water Resources

Plan | Conserve | Develop | Protect Utah's Water Resources

Water for Utah

2020

www.water.utah.gov

Plan
Conserve
Develop
Protect

Utah's Water Resources

CONTENT

Director's Message

Utah Division of Water Resources

Planning for the state's water future is an exciting challenge the Utah Division of Water Resources embraces as a leader in Utah's water future. Back in 1967 when the Utah Legislature created the Department of Natural Resources, only about 1 million people lived in our great state. Today, that number is over 3 million, and it's expected to double by 2065.

Utah is a semi-arid state and one of the driest in the nation. Planning to meet Utah's projected growth is one of the most significant challenges we face. In order to meet future water needs, the Division seeks a balanced approach that includes water conservation, improved optimization and efficiency projects, water use conversion from agriculture to municipal and industrial through willing buyer / willing seller, and development of new water projects.

I have been with the Division of Water Resources for 29 years. I am both honored and humbled for this opportunity as I have transitioned into my role as director. I look forward to building on the important work that has already been done. The work we do at Water Resources is crucial to Utah's future success, and we have the best team to accomplish it.

Todd D. Adams, **Director**

"Water planning for Utah's projected growth is one of the most significant challenges we face."

Todd Adams, Director
Utah Division of Water Resources

Board of Water Resources

Over the past 70 years, the Board of Water Resources has provided financial assistance to over 1,485 private water companies, irrigation companies, municipalities and water districts. The Board is comprised of eight appointed individuals who represent the eight river districts in Utah. The Board has specific powers and duties which include approving projects, administering funding, contracting with agencies at the local, state and federal levels.

In 2019, 28 projects were contracted, with a total contribution from the Board of just over $39 million. These projects included:

- 11 small agricultural efficiency and improvement projects
- 9 dam safety projects
- 5 large agricultural efficiency and improvement projects
- 2 secondary irrigation projects
- 1 municipal water delivery project

$519M
in
Water Development
Loans

70 Years
1485
Projects

The Board

Blaine Ipson, Chair

Millard, Sanpete, Sevier, Piute & Wayne Counties

Kyle Stephens, Co-Chair

Weber, Davis & Summit Counties

Charles Holmgren

Box Elder, Cache & Rich Counties

Randy Crozier

Daggett, Duchesne & Uintah Counties

Juliette Tennert

Salt Lake & Tooele Counties

Norm Johnson

Carbon, Emery, Grand & San Juan Counties

Jim Lemmon

Beaver, Garfield, Iron, Washington & Kane Counties

Wayne Andersen

Juab, Utah & Wasatch Counties

Board of Water Resources

Legislative Authority

Protect Utah's rights to interstate waters

Direct comprehensive water planning

Manage Utah's construction programs and provide funding for Dam Safety Compliance

Oversee compliance with water conservation plan requirements

Statutory Authority
Utah Division of Water Resources

Colorado River Compact (Utah Code 73-12a-1/3)

Provides for equitable division of use of the waters of the Colorado River System

Modification of Weather (Utah Code 73-15-1/8)

Research, evaluate and implement cloud seeding projects

Water Conservation Plan Act
(Utah Code 73-10-32)

State Water Plan
(Utah Code 73-10-15)

Colorado River Compact
(Utah Code 73-12A-1/3)

Bear River Development Act
(Utah Code 73-26)

Lake Powell Pipeline Development Act
(Utah Code 73-28-101/105; 201/203; 301/302; 401/405)

Water Development Coordinating Council
(Utah Code 73-10c-1/9)

Privatization Projects
(Utah Code 73-10d-1/9)

Amended Bear River Compact
(Utah Code 73-16-1/5)

Columbia Interstate Compact
(Utah Code 73-19-1/20)

Emergency Water Resources
(Utah Code 73-20-1/11)

Agricultural Water Optimization Task Force
(Utah Code 73-10g-202)

Secondary Water Metering
(Utah Code 13-10-34)

Water Conveyance Facilities Safety Act
(Utah Code 73-10-33)

Water Infrastructure Restricted Account
(Utah Code 73-10g-104)

West Desert Pumping Project
(Utah Code 73-23-1/6)

Dam Safety

Funding

The Legislature has appropriated grant funding since 1992 for dam safety projects.

From 1997 to 2007, ~$4.3 million was appropriated per year. In 2008, it was reduced to ~$700,000.

From 2009 to present, funding has been $3.8 million per year.

$3.8M

High-hazard

Homes are being built closer to dams, creating "hazard creep," which creates additional urgency to ensure dams meet safety standards.

Classification of high hazard dams is the risk of loss of

- Life
- Property

100+

Timetable

In order for the remaining high hazard dams to be brought up to minimum safety standards, an estimated $250 million is needed.

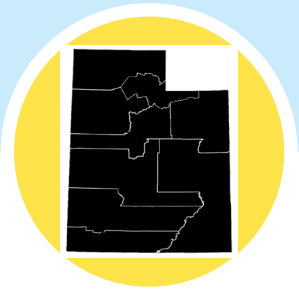
At the current funding rate, it's estimated to take 66 years to bring dams up to safety standards.

66 years

Transparency Accessibility Engagement

The Division strives to improve the discoverability and transparency of data maintained by the state. Through the development of interactive apps, maps and data visualizations, staff at the Division facilitates public engagement with water data, making water issues more relevant and accessible.

Given Utah's diverse geography, establishing region-specific water conservation goals makes sense.



9 REGIONS

In 2019, the Division finalized the state's first-ever regional water conservation goals. Goals were established for nine regions around the state for municipal and industrial water conservation. These goals exclude agriculture, mining, and power generation water use.

IT TAKES EVERYONE TO BE SUCCESSFUL

The 2030 water conservation goals will require significant effort, increased attention, participation and funding from the legislature, state agencies, municipal water retailers, local elected officials, wholesale public water suppliers and citizens of Utah.

ENHANCED WATER CONSERVATION EFFORTS

As recommended by the 2015 Legislative Audit, 2017 Follow-up Audit, Third-Party Review, and 2017 Recommended State Water Strategy, regional water conservation goals were developed to enhance water conservation efforts around the state.

Water Conservation & Education

The water conservation and education programs are focused on activities and programs to help Utahns reduce their per capita municipal and industrial water use. Available tools and programs include:

State Water Plan 2020

The State Water Plan is comprised of a series of documents, including basin plans, water budget summaries, municipal and industrial water use reports, special topic reports, as well as the state-wide water plan.

The Division is working with the State Water Plan Advisory Committee and other agencies to publish a new State Water Plan in 2020. The purpose of the plan is to provide a comprehensive evaluation of Utah's water resources, commit to Division actions, and make recommendations. The plan recognizes the importance of coordinated watershed planning and recounts the challenges facing the state. The plan includes an analysis of the following:

- Municipal and Industrial water use and supply
- Agricultural water use
- Water use demand projections
- Effects of climate change

Planning

The Division is responsible for planning for the state's water resources–including all of the different water sources (surface, ground, spring and reservoir) that are used to meet water demands.

Division staff works to direct Utah water planning and policy. By striving to balance competing interests that results in a healthy environment, economy, and quality of life.

WATER USE REPORTING

Division staff compiles metered water use data provided to the Utah Division of Water Rights.

Secondary water is still largely unmetered and the Division estimates this use with industry approved methods.

WATERSHED PLANNING

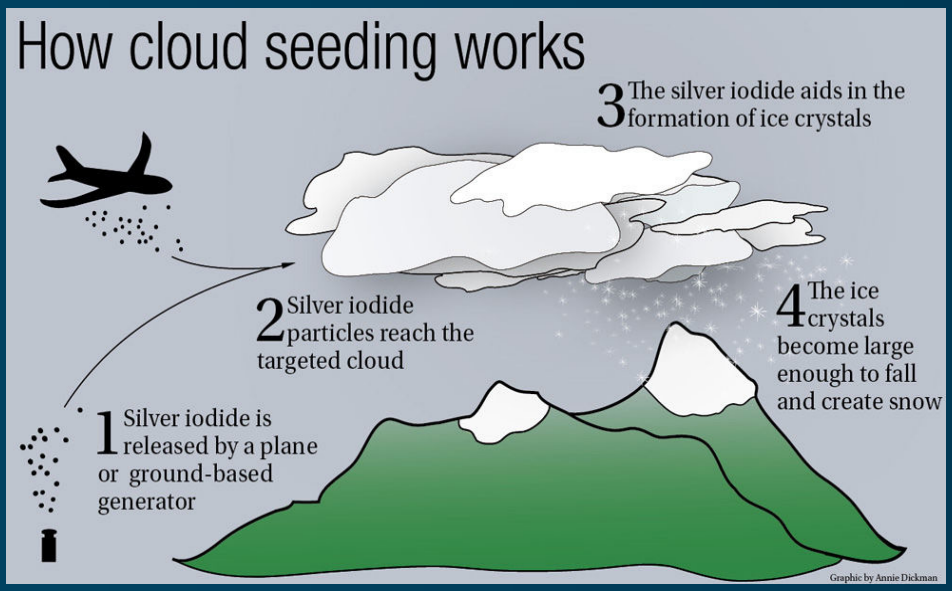
The Division is developing a program to establish regional watershed councils.

Coordinating with local stakeholders is essential to holistic watershed planning and management.

DROUGHT PLAN

With Utah being one of the driest states in the nation, it's imperitive to have quality drought plans that will help local and state agencies prepare and responsibly address drought conditions.

Cloud seeding



Snowpack is Utah's largest reservoir!

CLOUD SEEDING **INCREASES** PRECIPITATION ON AVERAGE

▲5% – 15%

Cloud seeding has long been recognized by water professionals as a feasible means to augment the natural water supply. Conditions are especially favorable in Utah where topography, climate and water storage reservoirs make winter snowpack enhancement cost-effective.

The Division provides $300,000 in matching funds

Utah enacted weather modification legislation in 1973, and an operational cloud seeding program was funded in 1976. The field program runs November to April and is funded jointly by the state and local water interests. Statistical analysis shows an average increase in precipitation of 5% to 15% in seeded areas at a cost of about $2.27 per acre-foot for the additional water.

Great Salt Lake

AVIAN LIFE

The Great Salt Lake is the largest salt-water lake in the Western Hemisphere. It is designated the **"Western Hemispheric Shorebird Reserve"** because of the abundant avian habitat.

HUMAN IMPACTS

Recent studies suggest that *human* water use has lowered the lake by approximately **11 feet** since the valley was setteled in 1847, exposing submerged lakebed.

AIR QUALITY

Strong winds can erode the exposed lakebed and lift toxic dust into the local air effecting the Wasatch Front's air quality and nearby snowpack.

GSLIM

The Great Salt Lake Integrated Model (GSLIM) is being used to study the impacts that may effect the lake.

Water Development Projects

Water will be provided to **13 communities**

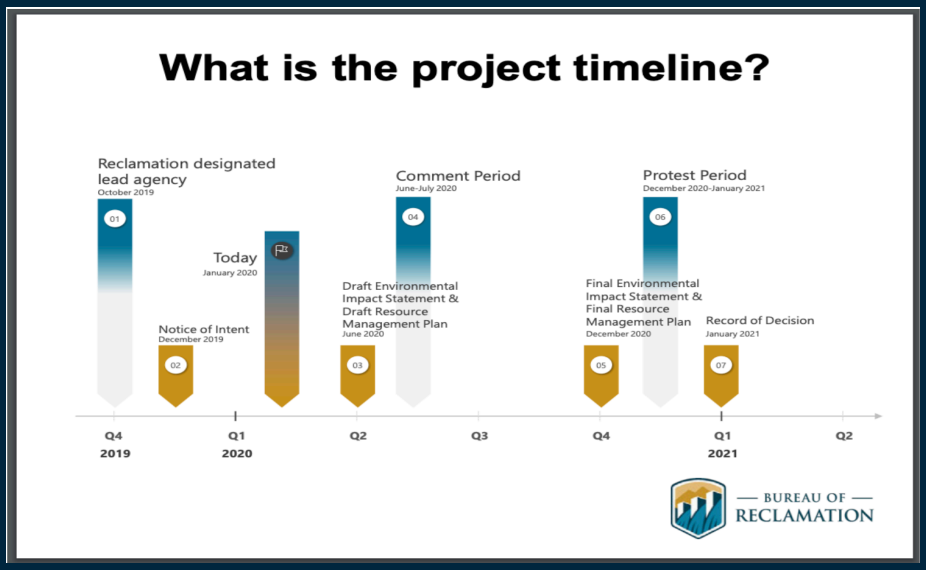
Lake Powell Pipeline

The Lake Powell Pipeline (LPP) is a proposed 140-mile water delivery pipeline that begins at Lake Powell near Glen Canyon Dam and ends at Sand Hollow Reservoir near St. George. The pipeline would deliver 86,249 acre feet of water annually to 13 rapidly growing communities in Kane and Washington counties. The pipeline would help meet future water demands, diversify the regional water supply, and enhance the water supply reliability, which currently relies on the Virgin River.

LPP diversifies the regional water supply

The Bureau of Reclamation was assigned to lead the project in October 2019 after the project was simplified by eliminating two reservoirs that would generate hydropower. The modifications reduced project costs by more than $100 million, aligned with regulatory changes and reduced environmental impacts.

Reduced project cost **~$100M** with lead agency change



13 CONCEPTUAL PROJECT DESIGNS

UPDATED COST ESTIMATES **$1.5–2.8B**

Bear River Development

The 2019 Bear River Feasibility Study was released and shows that it is feasible to accomplish this project via storage development. The study includes 13 potential reservoir combinations, pipeline alignments, as well as an updated cost estimate.

Planning for the development or storage of the Bear River has been ongoing for several decades. The Division has been working with Bowen Collins & Associates to update and refine the findings of the 2014 Pipeline Concept Report for a conceptual Bear River Development (BRD) project.

In 1991, the Utah Legislature passed the Bear River Development Act, which authorizes and directs the Division of Water Resources to "…develop the surface waters of the Bear River and its tributaries through the planning and construction of reservoirs and associated facilities…"

Colorado River

DCPs

In May 2019, the seven Colorado River Basin states signed **Drought Contingency Plans**.

The states worked with the Department of Interior and Mexico to develop the DCPs which, if implemented, would reduce the risk of Colorado River reservoirs from declining to critically low levels.

Demand Management

One of the primary focuses of the DCPs is to further explore the concept of **Demand Management**, which is the activity of paying Colorado River water users on a **temporary** and **voluntary** basis to suspend water use. Developing a Demand Management program is in the early stages.

Law of the River

The Law of the River requires the **Upper Basin** states to send **75 million acre-feet** of water on a 10-year rolling average to the lower basin states (1922 Colorado River Compact).

During the last 10 years, which includes some of the driest years in recorded history, the **Upper Basin** has delivered **92 million acre-feet** of water to the Lower Basin.

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