

Building Strong Collaborative Relationships for a Sustainable Water Resources Future:

STATE OF UTAH

SUMMARY OF STATE WATER PLANNING

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The findings contained in this report are based on the information collected from the literature search and interviews for this initiative and should not be construed as an official Department of the Army position, policy or decision unless so designated by other official documentation.

STATE OF UTAH



1. RESPONSIBLE STATE AGENCIES/REGIONAL ENTITIES

The Division and Board of Water Resources, Department of Natural Resources <http://www.water.utah.gov/> is responsible for developing Utah's state water plan. The Division of Water Resources is one of seven agencies of the Utah Department of Natural Resources and is the water resources authority for the state of Utah. The Board is the policy-making body of the division.

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The Board of Water Resources has 9 members and includes the Director of the Division of Water Resources. The other 8 members are appointed by the governor with the consent

of the Senate to serve a four year term; no more than four members can be from the same political party.

The 1990 Utah State Water Plan was prepared in cooperation with the State Water Plan Coordinating Committee which included:

Department of Natural Resources, Division of Water Rights, Division of Parks and Recreation, Division of Wildlife Resources, Department of Environmental Quality, Division of Drinking Water, Division of Water Quality, Department of Agriculture and Food, Governor's Office of Planning and Budget, Division of Comprehensive Emergency Management, Utah Water Research Laboratory.

The Utah Department of Environmental Quality is responsible implementing the state's water quality programs. The mission of the Department of Environmental Quality is: *to safeguard human health and quality of life by protecting and enhancing the environment.*

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2. STATE/REGIONAL WATER PLANNING STATUS

The State of Utah has been actively engaged in water resource planning since it became a state. The authority for the Board and Division of Water Resources to undertake planning is found in Utah Code Annotated, Title 73, Chapter 10. Relevant sections of the Utah Code are provided below:

73-10-4. Powers and Duties of Board.

The board shall have the following powers and duties:

(1) To authorize studies, investigations, and plans for the full development, and utilization and promotion of the water and power resources of the state, including preliminary surveys, stream gauging, examinations, tests, and other estimates either separately or in consultation with federal, state and other agencies.

73-10-15. State water plan -- Agencies to cooperate in formulation of plan.

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.

73-10-16. State water plan -- Payment for special studies and investigations.

Special studies or investigations needed for development of a water plan which might be requested of other agencies, but not included in the budgets or the work programs of such agencies, may be paid for from funds hereby appropriated for the formulation of a state water plan.

73-10-17. State water plan -- Authority of other agencies not impaired.

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.

73-10-18. Division of Water Resources -- Creation -- Power and authority.

There is created the Division of Water Resources, which shall be within the Department of Natural Resources under the administration and general supervision of the executive director of natural resources and under the policy direction of the Board of Water Resources. The Division of Water Resources shall be the water resource(s) authority for the state of Utah, shall assume all of the functions, powers, duties, rights and responsibilities of the Utah water and power board except those which are delegated to the board by this act and is vested with such other functions, powers, duties, rights and responsibilities as provided in this act and other law.

Two additional provisions of Utah law that play an important role in water resource planning include: 73-10-32 – “Water Conservation Plan Required” and 73-15 – “Modification of Weather.”

In the early 1960s, the state began to focus more attention on preparing a statewide water plan to guide Utah’s water resources development. The Board of Water Resources and Division of Water Resources were established in 1967, and with that came an increased dedication to comprehensive statewide water planning. Between 1972 and 1985, the Division of Water Resources continued its comprehensive water planning efforts and published a series of documents entitled, “The State of Utah Water.” These reports provided refined water supply and use estimates. They also explored a wide range of possible uses of Utah’s remaining unused water supplies including the potential to redistribute water resources through large scale interbasin transfers and the development of water resources for mineral extraction.

The publication of the 1990 Utah State Water Plan was a significant accomplishment and established a comprehensive water plan and resource inventory for the state, and provided a basis for more detailed planning at the hydrologic river basin level. Subsequent plans for each of the state's basins have been completed. Each of the 11 river basin plans were developed between 1992 and 2001 (Note: one of the 11 river basin plans was updated in 2004 following the outline of the 2001 State Water Plan, and several others are currently being updated). Each plan provides an of inventory basin water supplies, provides current and future water use information, and addresses problems and issues facing local water resources stakeholders. These plans were developed to help local and statewide planners to make informed water resources decisions.

The overall 1990 State Water Plan was also updated in 2001 and along with information from the river basin plans provides the information contained in this summary of Utah's water resource planning. Both the state and basin water plans are updated on as needed basis as determined by the Board and Division of Water Resources.

3. WATER MANAGEMENT VISION AND GOALS

The Board and Division of Water Resources' overall mission is to:

Plan, Conserve, Develop, and Protect Utah's Water Resources

The Board and Division have adopted the following goals to help implement this mission:

Goals:

- Implement water education/conservation programs that encourage wise municipal, industrial, agricultural, and environmental water use.
- Defend and protect Utah's rights to develop and use its entitlement to interstate streams.
- Continue state water planning activities to identify future water needs and assist water entities in meeting those needs.
- Provide technical and financial assistance to encourage the highest beneficial uses of water consistent with economic, social, and environmental consideration.
- Maintain accurate and current water supply and land use data for each hydrologic basin in the state.
- Promote cloud seeding operational projects and research.

The Board and Division have identified the following objectives to help the state plan for and encourage the use of the state's water resources the:

- Help local, state and federal agencies coordinate water resources planning and development activities.

- Maintain programs with federal and state agencies to obtain streamflow, climatological, SNOTEL, water quality data, water-related land use and municipal and industrial water use data.
- Develop and maintain river basin models for state planning purposes and operational models for specific project feasibility and development studies.
- Study technologies and methods that will help meet future water resource needs.
- Continue to formulate and maintain both a State Water Plan and basin plans that: (1) identify and quantify existing and projected municipal, industrial, agricultural and environmental water use; (2) identifies and quantifies water supply sources; (3) identifies how much additional water will be needed and makes recommendations for meeting future needs; and (4) identifies and studies water-related topics and issues that must be considered in meeting future water needs.

The Planning Section of the Division of Water Resources has identified the following Vision and Mission Statements:

Vision: *Be recognized and respected as a leader in the water resources community and as a resource for data, information and technical assistance.*

Mission Statement: *Identify and implement water management, conservation and development strategies to satisfy future water needs.*

The preparation of the state water plan and the individual water plans for each of the state's 11 major hydrologic river basins involved several major data collection programs as well as extensive inter-agency and public outreach efforts. Through this process the state, local, and federal water planners and managers obtained valuable information for use in their programs and activities, and the public received the opportunity to provide meaningful input in improving the state's water resources stewardship. A stated goal of Utah's state planning effort is to help water managers, planners, legislators and other parties formulate the management strategies and policies needed to direct their efforts into the new century.

Based on the work to date the state believes that the future of Utah's water resources is bright. Cooperation, conservation and good management of the state's water resources will provide the foundation for a prosperous economy and high quality of life. Future water resource management will require a major conservation effort, a shift in water-use patterns, as well as continued investments in infrastructure and water development. To meet all future needs the state indicates that securing adequate water for the future will require water planners and managers to expand their planning and management efforts to effectively address water quality, environmental and other values.

Finally, Utah emphasizes that water agencies and institutions must fully integrate multiple strategies and policies into their operations to address future issues and needs. An important aspect of this endeavor will be to coordinate federal and state water resources efforts with localized needs. Proper coordination will allow solutions to be

tailored to local conditions and help maintain a constructive and open dialog among all water resources stakeholders.

4. SCOPE OF WATER RESOURCE PLANNING

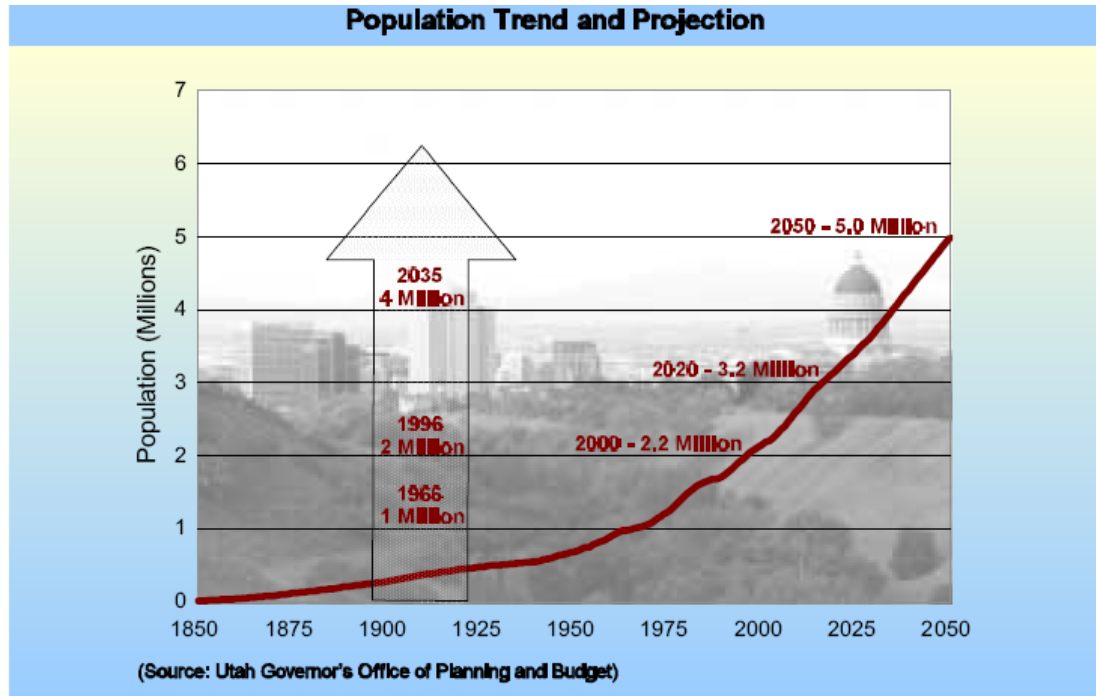
As previously mentioned, Utah's water planning effort includes both a statewide assessment/summary of resources which is outlined in the 1990 Water Plan and 11 basin specific summaries. An overview of the topics addressed in the 2001 Water Plan and some key statistics are provided below.

Utah State Water Plan

The following is the outline of *Utah's Water Resources - Planning for the Future*, May 2001

1. Introduction – provides the vision and purpose and overview of the planning process
2. Water Supply – summarizes climate, average, developable and variability in water supply
3. Population and Water Use Trends and Projections – summarizes recent water uses and estimates future water demands
4. Water Conservation – highlights the benefits of conservation, Utah's conservation measures and efforts
5. Water Transfers and Efficient Management of Developed Supplies – discusses the role agricultural transfers and efficiencies can play in meeting needs, conjunctive use of surface and groundwater, aquifer storage and recovery and reuse
6. Water Development – discusses water development projects, upgrading and enhancing existing infrastructure and weather modification
7. Water Quality, the Environment and Other Considerations – water quality and environmental considerations are presented along with information and issues associated with the Colorado River, land management and water yield, and reserved water rights
8. Conclusion: Putting the Pieces Together – provides a perspective on the importance of including local stakeholders, the role of the government and emphasizes cooperation as a key to meeting future challenges

In 2000, Utah's population was about 2.2 million. By 2020, the population is expected to increase to 3.2 million, and by 2050 it could more than double to about 5.0 million. The following figures show population and water use information (Figures are from the 2001 Utah State Water Plan).



Present and Projected Total M&I Water Use by Basin

Basin	(acre-feet/yr)		
	Present*	2020†	2050†
Jordan River	332,000	449,000	650,000
Weber River	170,000	267,000	358,000
Utah Lake	134,000	232,000	383,000
Bear River	50,000	71,000	103,000
West Colorado River	51,000	55,000	62,000
Sevier River	48,000	55,000	64,000
Kanab Creek/Virgin River	42,000	86,000	183,000
West Desert	24,000	35,000	53,000
Uintah	24,000	27,000	31,000
Cedar/Beaver	20,000	33,000	51,000
Southeast Colorado River	9,000	10,000	12,000
TOTAL	904,000	1,320,00	1,950,00

* The exact year of the data shown varies from 1992 to 1998, see Division of Water Resources, *Municipal and Industrial Water Supply and Uses*, (Salt Lake City: Department of Natural Resources, 2000).

† Projections represent future demands based on current use rates and future population projections from the Governor's Office of Planning and Budget. Actual demands will likely be less, depending on the level of conservation that can be achieved.

Present and Projected Irrigated Land and Agricultural Water Use by Basin

Basin	(acres)*			(acre-feet/yr)†		
	2000	2020	2050	2000	2020	2050
Sevier River	300,700	299,900	298,200	767,000	765,000	760,000
Bear River	291,700	286,600	277,400	858,000	843,000	816,000
Uintah	198,300	197,800	197,000	745,000	744,000	741,000
Utah Lake	146,800	132,200	101,100	523,000	471,000	360,000
Weber River	117,400	103,800	88,000	322,000	283,000	240,000
Cedar/Beaver	95,000	94,300	92,500	268,000	266,000	261,000
West Desert	86,200	85,100	82,900	204,000	202,000	196,000
West Colorado River	83,600	83,500	82,900	284,000	283,000	281,000
Jordan River	20,500	8,100	0	85,000	38,000	0
Kanab Creek/ Virgin River	19,100	17,700	14,500	92,000	85,000	70,000
Southeast Colorado River	18,600	18,500	18,200	73,000	73,000	72,000
TOTAL	1,377,900	1,327,500	1,252,700	4,221,000	4,053,000	3,797,000

* Acres were developed using a geo-spatial model and are based on land-use surveys conducted by the Division of Water Resources, population densities, and population estimates from the Governor's Office of Planning and Budget.

† Water use values were derived from previous water budgets conducted by the Division of Water Resources.

Municipal and Industrial Water Use

Estimates of present municipal and industrial water use by basin and future projections of water use in 2020 and 2050 (based on present use rates and future population) indicates that the largest volume increases in M&I water demand will occur in the Greater Wasatch area which includes the Jordan River Basin and portions of the Weber River, Utah Lake, West Desert and Bear River basins. The largest percentage increase in M&I water demand is expected to occur in the Kanab Creek/Virgin River Basin, where demand is expected to more than quadruple.

Irrigated Land and Agricultural Water Use

Agriculture is the major water use in Utah and in 2000 accounted for more than 80 percent of total water use. By 2050 agricultural water use is expected to decline by approximately 9 percent with the largest decreases occurring in the Utah Lake, Weber River, and Jordan River basins.

Water Management Strategies

While most of Utah's available water supply (7.3 million acre-feet per year) is already used, the Division of Water Resources estimates that 790,000 acre-feet per year can yet be developed based on current legal, political, economic and environmental constraints. Much of this developable water supply (420,000 acre-feet per year) is located in the Colorado River drainage. A large portion of this volume will likely be reserved for native American tribes located in the state.

As with much of the west and nation, the greatest increase in future water demands in Utah will be the result of population growth. These water needs will occur primarily in

the municipal and industrial sector, of which residential use is a significant component. Although urban water demands will drive many future water decisions, Utah indicates that it will strive to protect and sustain its rural heritage. The conversion of agricultural water supplies to municipal and industrial uses as farm land is urbanized will occur to satisfy some future water needs, particularly along the Wasatch Front. However, because these conversions will not always be sufficient to satisfy future demands, other means of securing adequate water supplies are necessary.

In order to meet all demands on Utah's water resources, a cooperative effort is emphasized to better use existing water supplies. Utah must promote water conservation measures and innovative water management technologies.

The state indicates that although these efforts may delay or partially reduce the need for costly new water developments, these measures alone will not satisfy all of Utah's future needs. New water development is also identified as a key strategy to meet future needs. The timing and size of this development will depend on the ability of water conservation and other water-saving strategies to reduce water demand.

Water Conservation

Utah has implemented requirements for water retailers and conservancy districts with more than 500 connections to prepare water conservation plans and submit them to the Division of Water Resources with updates every five years. This requirement covers a total of 150 utilities serving approximately 93 percent of Utah's population.

The Division of Water Resources has also set an M&I water conservation goal to reduce the per capita demand on public water supplies 25 percent by the year 2050. This goal will be achieved as water suppliers implement various conservation measures and programs that have proved effective. Among these are:

- Incentive pricing
- Outdoor watering and landscape guidelines and ordinances
- Water audits
- Meter installation on all water connections
- Rebates and other incentive programs and
- Leak detection and repair programs.

The state also indicates that in addition to these measures, a strong water conservation education program is vital to ensure long-term success.

Additional detail on current Utah's water conservation program and information is available at: <http://www.conservewater.utah.gov/>.

Water Transfers and Efficient Management of Developed Supplies

Water transfers and efficiencies are identified as important strategies to meet future needs including:

- Agricultural Water Transfers: converting agricultural water to M&I uses as the associated land changes from agricultural to urban.
- Agricultural Water-use Efficiency: implementing improved operating practices and irrigation technology to improve water use efficiency.
- Conjunctive Use: using surface and ground water supplies together instead of separately to optimize beneficial use.
- Aquifer Storage and Recovery: storing excess surface water in ground water reservoirs and retrieving it later.
- Secondary Water Systems: piping untreated water separately for use on outdoor landscapes, thereby preserving treated water for potable purposes.
- Cooperative Water Operating Agreements: contractual agreements between water suppliers to better meet needs within each system, often using facilities and resources jointly to meet peak or emergency demands.
- Water Reuse: recycling effluent from wastewater treatment facilities.

New Water Supply Development

Water development will continue to play an important role in meeting Utah's future water needs. Utah emphasizes that new project development should be based on sound engineering, economic and environmental principles.

The nearly completed Central Utah Project is identified as vital to help meet the needs of the Wasatch Front. The Bear River Project and Lake Powell Pipeline, currently in the feasibility stages, are two major projects that are being investigated to help meet the M&I needs of the Wasatch Front, and Washington and Kane counties, respectively. Numerous smaller projects will also be needed to satisfy the demands of growth in other areas.

One option that has long been recognized as a means of enhancing the water supply is a form of weather modification known as cloud seeding. Areas in Utah that actively practice cloud seeding have realized a 2 to 18 percent increase in April 1 snow water content, and a combined total increase in runoff of approximately 7 percent. The estimated cost of water developed in these areas by cloud seeding is about \$1.69 per acre-foot.

For additional detail please see <http://www.water.utah.gov/cloudseeding/CostRunoff/>.

In addition to new projects and weather modification, much of the existing infrastructure in Utah is old and not of sufficient capacity to meet projected needs. These systems will need to be upgraded and expanded as necessary.

Other Considerations

Other considerations that can affect local water resource management decisions that are identified in the water plan include: land management and water yield, reserved water rights, and the Colorado River.

Environment

Meeting Utah's future water needs includes addressing value such as water quality and the environment. Addressing Total Maximum Daily Load rules; maintaining the integrity of riparian and flood plain corridors; regulating storm water discharges; and addressing nutrient loading are identified as important goals in Utah's water plan. In addition, addressing endangered species; preserving wetlands; maintaining instream flows for fish, wildlife, and recreation; and assessing the impact of wild and scenic river designations are identified as both important and as having the potential to impact the ability to access and use certain water resources.

Recreation

Some of the most popular recreation activities in Utah are associated with waterways. These activities include boating, rafting, kayaking, swimming and stream fishing. The Green and Colorado rivers in Utah are internationally recognized recreational and scenic resources. These areas are an important element of the tourist economy and visitors travel thousands of miles to these rivers to float white water stretches, fish blue-ribbon trout streams, or participate in other recreational opportunities.

Flaming Gorge and Lake Powell National Recreation areas also generate millions of visitor days from in and out-of-state visitors. The state also has parks and recreational facilities on many reservoirs including Deer Creek, East Canyon, Echo, Jordanelle, Pineview, Quail Creek, Rockport, Willard Bay and others.

The state of Utah identifies the following issues that may affect future recreational opportunities:

- A growing population will increase the use of existing recreational facilities.
- Less than adequate boat ramps and parks.
- An effective decrease of reservoir surface areas as the reservoirs' operating conditions approach their intended use patterns.
- Increasing financial strain on managing entities.

Funding

The state indicates that funding will be a significant future challenge as water projects have become increasingly complex and expensive based on the following factors:

- The developable water is now farther away and deeper in the ground, and the available dam sites need more work to make them suitable.
- Projects in or near urban areas must work around existing features and pay a higher price for land purchases, easements and rights-of-way.
- Environmental considerations also add to project costs, as habitat and species protection must be considered in project planning, construction and operation.

Ultimately the state indicates that water users will bear these increased costs. The water funding programs administered by state and federal governments have been important in developing water projects and infrastructure and will be vital to meet future project funding needs. These programs are generally low-interest loans that, when repaid, fund other water projects through a revolving fund. The state notes that to meet all the above needs it is important that water-related funding keep pace with these needs so systems can operate efficiently and provide necessary safety to customers.

River Basin Studies

Following completion of the Utah State Water Plan in 1990, the Division completed 11 detailed basin plans covering the entire state. The plans describe water resource development opportunities and problems in the basins, identify options, and make recommendations for future actions. They also help coordinate the activities of local, state and federal water agencies within the river basins. Updates to the 11 previously published basin plans will be done on an as-needed basis. The Bear River Plan has been updated and work is being done to update the Weber River Basin Plan, a combined plan for the Cedar/Beaver and Kanab Creek/Virgin River basins, and the Jordan River and Utah Lake basin plans. The 11 basins and dates of each initial plan are provided below and they are available at:

<http://www.water.utah.gov/planning/waterplans.asp>

Bear River, February 2004; Cedar/Beaver River, April 1995; Kanab Creek/Virgin River, August 1993; Jordan River, September 1997; Sevier River, June 1999; Southeast Colorado River, October 2000; Utah Lake, December 1997; Uintah, December 1999; Weber River, May 1997; West Colorado River, August 2000; West Desert, April 2001

Upgrading and Enhancing Existing Infrastructure

The river basin plans, with a few exceptions, show that the drinking water systems in the state have sufficient water to meet needs through at least 2020. However, although there are sufficient water rights, many areas/providers do not have the capacity or facilities to actually divert and deliver this water.

In a 1999 survey of drinking water systems conducted by the Utah Division of Drinking Water, 91 percent of the respondents indicated that the overall physical condition of their system would need to be upgraded within the next 15 years, and 31 percent of the respondents indicated that their present system was deficient, particularly with respect to its ability to maintain minimum fire flows. Solutions to these problems include additional sources, new and enlarged piping, more storage reservoirs, and additional or larger water treatment facilities. The survey also revealed that 38 percent of systems do not collect enough revenue from water bills to meet the usual operation and maintenance expenses of their system, and only 30 percent of the systems collect sufficient funds to cover the costs of future improvements.

5. PARTNERSHIPS, STAKEHOLDER, AND PUBLIC INVOLVEMENT

The State of Utah has an inclusive planning process that involves a number of state agencies, local interests, and stakeholders. The state describes stakeholders as “.. any individuals or organizations that have an interest or role in water management activities. This includes people who live, work or recreate within the management area as well as local, state and federal agencies”. Utah’s planning process identifies the key role that state and federal agencies play in effective water resources planning and management; with an emphasis on supporting local decision-makers in their planning and management efforts.

Utah’s planning documents describe the value that state and federal agencies bring in terms of providing a wealth of technical data and knowledge regarding water resources and associated issues. The state indicates that these agencies need to continue to make this information readily available to local stakeholders who have neither the time nor the resources to collect and research such information. This allows stakeholders to make educated decisions based on sound scientific facts. The state also indicates that both state and federal agencies can foster a spirit of cooperation by attending local planning activities and meetings. Active participation by these agencies will also help ensure that local plans comply with state and federal laws and regulations.

Both the overall State Water Plan and Basin Plans are conducted with public outreach and involvement including formal public comments. Input into the planning process also occurs early on during actual plan development. Ongoing community and public education is identified as vital to helping identify and meet future water needs.

6. PLAN IMPLEMENTATION STRATEGY

Utah’s statewide and basin plans focus on providing the supporting technical, financial, and communication tools to support local decision makers in developing solutions at the local water provider level. The statewide and individual basin plans identify both current and future needs and water management challenges. Broad water management strategies are identified for further consideration and refinement and the local level. Financial resources in the form of loans are available to address local needs.

7. OUTCOMES AND ASSESSMENT

Utah monitors and assesses their overall agency progress through a “balance score card” process where they establish performance metrics for certain program areas (i.e. reduction in per capita water use). Specifically, in regard to water planning the state assesses progress more qualitatively as metrics are more difficult to establish and monitor, and the state does not always have direct implementation authority (more recently the state was given authority to construct two large water projects). The states planning process is focused on a bottom up approach with the state providing regional suggestions and local water providers and users implementing actions with technical and financial support provided by the state.

Utah also uses a survey process to determine the quality of their overall customer service, agency strengths, and areas of potential improvement.

8. NEEDS, CHALLENGES AND CRITICAL PRIORITIES - INTERVIEW INSIGHTS

The Utah Division of Water Resources works closely with regional and local water providers to address their planning and development needs. The Division provides valuable data and other planning services, including planning investigation funding when possible. The Utah Board of Water Resources provides low interest loans to build projects that are found to be feasible. The state is currently updating the 2001 Water Plan and anticipates an overall update in the next 2 to 3 years.

The preceding Water Plan summary provides a general overview of the state's needs, challenges and priorities. A short summary of some of this information is provided here and the reader is encouraged to review the summary and visit the state's website for more detailed information.

As is the case with much of the western United States, Utah is seeing significant population growth and more importance being placed on environmental and recreation uses of water. To address these challenges Utah is pursuing important water development projects such as the Bear River Project and Lake Powell Pipeline and is also placing significant emphasis on water conservation. Oil and gas exploration in recent years has placed new growth demands on certain areas, but none that cannot be accommodated within current water supply restraints. The potential for future oil shale and tar sands development may similarly impact water supplies in these same areas. Agriculture remains an important component to the state's economic and social future. The economics of farming and ranching coupled with increased competition for water supply is a future challenge.

An overview of select water resource activities and priorities is provided below:

- The utilization and management of the Colorado River is a vital part of Utah's future. This will include: addressing water supply shortages with other Colorado River Compact states; reaching agreement with Nevada on a proposed groundwater importation project for Las Vegas; resolving tribal water rights; and implementing Colorado River system water augmentation, Utah is a leader in the area of weather modification for system water supply augmentation. This is a significant emphasis in their planning.
- Addressing drought and hydrologic variability are important challenges. A better understanding of and addressing supply changes associated with drought and its potential impact on water supplies, and how it might affect demand is needed.
- Infrastructure upgrades, sharing of supplies will be increasingly important. In many cases there are those that have water and those that need water and increased cooperation will be needed especially for those with increasing water need lower

priority water rights, higher priority rights are not always motivated to share especially during drought times.

- Water reuse, aquifer storage and recovery may play a greater role in meeting future needs.
- Balancing the frequently conflicting desires of economic development proponents with those of the environmental community. This is not simply a question about whether or not we should continue to grow, but how resource intensive future growth will be.
- Addressing non-native plants such as tamarisk will be a challenge.
- Utah has a strong and positive relationship with the Bureau of Reclamation.
- Utah indicates in this time of change it is important to understand the need to protect critical reservoirs habitat for authorized purposes as other needs are brought to the table i.e., reservoirs sometimes conflict with wild and scenic rivers or other emerging uses.

In conclusion it is important to note that in order to address future challenges and opportunities it is important that the state maintain current and future funding sources to ensure that dollars are available to meet future needs. It is also important to understand the uniqueness of each state. Utah's planning process is adaptive and flexible; the state more often plays a support role, providing suggestions, ideas, and working collaboratively with local water users and providers when they are requested to participate. The state does not mandate what should be done.

9. REFERENCES

Much of the language and information in this summary comes directly from reports published by the Utah Division of Water Resources.

Utah State Water Plan - Utah's Water Resources - Planning for the Future, Utah Department of Natural Resources, Division of Water Resources, May 2001, available at <http://www.water.utah.gov/waterplan/>

Utah Basin Water Plans, Utah Department of Natural Resources, Division of Water Resources, multiple dates, available at <http://www.water.utah.gov/planning/waterplans.asp>

Water for Utah - A Review of Duties and Funding Programs of the Division and Board of Water Resources, Utah Department of Natural Resources, Division of Water Resources, January 2008