

# UTAH Statewide Water Marketing Development Strategy



Photo Credit: USGS



**Applicant:**  
Utah Department of Natural Resources  
Division of Water Resources  
1594 W North Temple, Suite 55, Box 5555  
Salt Lake City UT, 84114

**Project Manager:**  
Candice Hasenyager  
Utah Division of Water Resources  
1594 W North Temple, Suite 55, Box 5555  
Salt Lake City UT, 84114  
(801) 538-7278  
candicehasenyager@utah.gov

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## TECHNICAL PROPOSAL

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### Executive Summary

**Date:** July 31, 2019  
**Applicant Name:** Utah Department of Natural Resources, Division of Water Resources  
**City, County and State:** Salt Lake City, Salt Lake County, Utah

The proposed project will develop a Statewide Water Marketing Strategy for Utah through the development and application of water banking concepts, significant technical analysis and outreach efforts, and continued collaboration between diverse stakeholders. The proposed project builds upon a significant two-year effort to develop water marketing ideas and concepts that fit the goals and desires of local water users. A Working Group of over 50 participants and representing diverse interests and economic sectors was formed in 2017. The Working Group has identified the concept of local water banks as a preferred strategy for promoting the development of water marketing tools. Sub-Committees were formed to advance certain aspects of the conceptual model. A Legislative Sub-Committee is reviewing existing state laws and working on legislation to support flexible water right administration. Draft water banking legislation has been prepared and is anticipated to be approved in the 2020 legislative session. A Pilot Project Sub-Committee is working to develop and implement pilot projects to test the conceptual model.

An important objective of the WaterSMART Water Marketing Strategy Grant is to provide Federal funding to test the efficacy of the draft water banking legislation by establishing and assessing pilot water banks in key study areas with known water deficiencies. At the conclusion of the grant period, the pilot water banks will be assessed against evaluation criteria such as ease of use, success and scope of market transactions, and remedying water deficiencies. Based on these findings, the project team will work to develop a Statewide Water Marketing Strategy which will provide a roadmap for Utah to utilize as it continues to improve water management. The Strategy will be based on the pilot project findings, further scoping work, and significant outreach and education efforts across the state.

As detailed in this grant application, the commitment and level of effort already shown by the project applicant and other Utah stakeholders to develop market-based strategies to improve water management is unique and significant. The proposed project represents a logical and necessary next step to see water marketing opportunities increase in Utah.

### Proposal for Funding Group 2

**Project Timeline:** 36 months

**Estimated Completion Date:** September 2022

#### Reclamation Projects:

- *In Pilot Project Areas:* Weber Basin Project, Weber River Project, Scofield Project
- *Elsewhere in Utah:* Central Utah Project, Provo River Project, Sanpete Project, Strawberry Valley Project, Moon Lake Project, Newton Project, Hyrum Project, Emery County Project, Ogden River Project



## Background Data & Information

The State of Utah faces significant water resource management challenges in the coming decades. Water supplies are stressed by the impacts of climate change, and water demands are increasing to meet the needs of municipal growth, a vibrant economy, and a healthy environment. The State is facing these challenges proactively with collaborative efforts by water users, legislators, and government agency staff to both define promising strategies and implement those strategies with adequate resources and initiative.

Water marketing has been identified as an important tool for Utah to meet its water management challenges and is in active development. Stakeholders representing agricultural, municipal, industrial, and environmental interests, and staff from several state agencies, have been actively engaged over the past two years in developing a structure to promote greater local development of water marketing tools. The proposed project represents a continuation of these robust efforts and will leverage the important work that has been done to date. While significant work has been completed, the proposed project represents the necessary next steps to provide the State of Utah with a comprehensive strategy for utilizing market-based tools to address water shortages and conflict in the future by increasing flexibility through the current water right process.

### **Statewide Water Uses**

Utah has a rich history of pioneering water management and engineering solutions for broad economic benefits. This history is rooted in early irrigation projects and prior-appropriation water right structures and has grown into basin-scale planning and water infrastructure projects. Irrigated agriculture makes up about 80% of statewide total water diversions, followed by municipal (public supply) demands at about 15% and other uses at 5%. The trend over the past decade has been a dramatic decrease in irrigation diversions, likely due to agricultural water efficiency improvements and also the transfer of water rights from agriculture to municipal uses. In total, freshwater withdrawals in Utah are estimated to total approximately 4.3 million acre-feet per year. The most recent 2017 Census of Agriculture reports nearly 1.1 million irrigated acres in Utah with a market value of about \$1.8 billion.

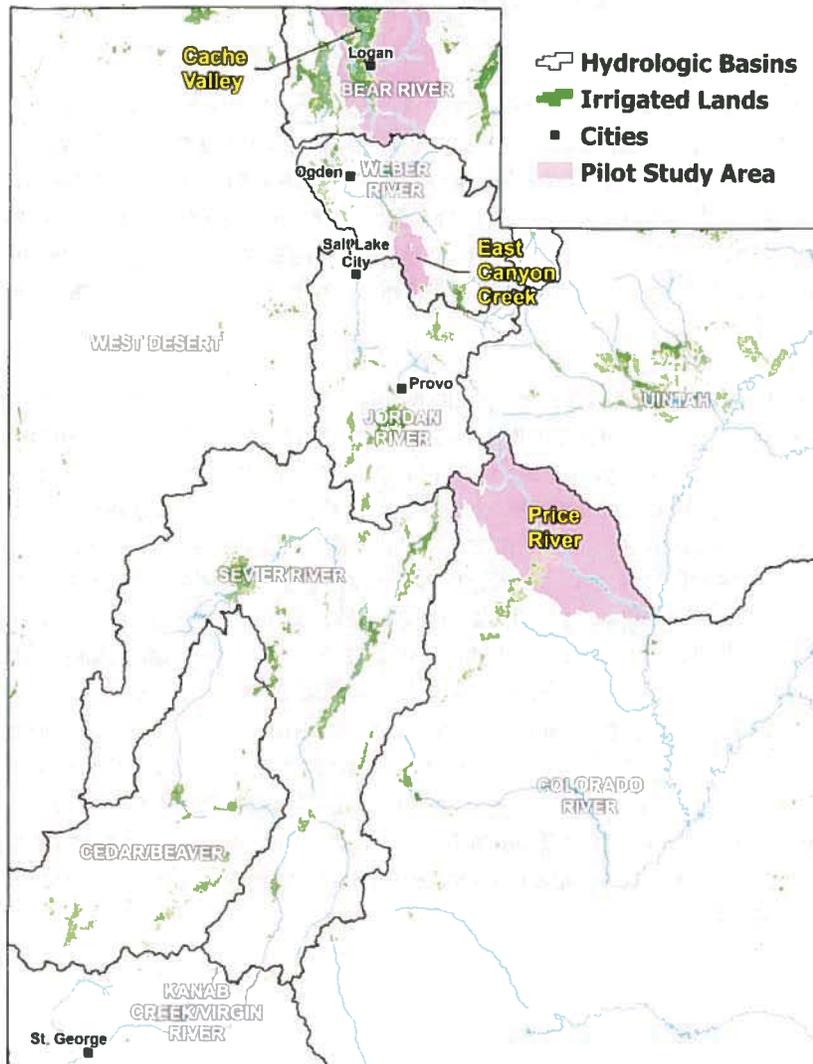
### **Statewide Water Challenges**

Population growth, climate change, agricultural sustainability, and environmental health are four of the most pressing challenges faced in the State of Utah, and these challenges are best understood at local river basin scales. The State is divided into 9 planning regions, defined by hydrologic boundaries (see **Figure 2**). As shown in **Table 1**, each area of the State faces pressure from population growth and economic development and at the same time must address environmental threats and improve environmental conditions. Across Utah, the State faces an additional municipal and industrial demand of over 750,000 acre-feet, which is roughly double current municipal-sector water use, and an associated capital infrastructure cost of close to \$15 billion by 2060. The agricultural sector may see the greatest impact from this growth, with the Wasatch Front projected to see more than 60,000 acres convert out of agricultural use due to development and water transfers. Many agricultural areas in Utah are subject to natural flow variations and experience deficit irrigation conditions in many years. This variability and the associated water supply shortages are expected to increase in the future under a changing climate. Municipal water demands are expected to grow substantially, and current municipal supplies are insufficient to meet the projected demands. Compiling data from the various basin plans, the municipal sector is estimated to have a supply shortage of 346,000 acre-feet by 2060 across over 110 separate water systems. Utah is also home to unique and important environmental concerns, including threatened and endangered (T&E) fish species, Upper Colorado River Basin endangered fish recovery efforts, and sustaining the rich habitat of the Great Salt Lake ecosystem. A variety of tools and strategies will be needed in Utah to address these challenges, including water marketing.

**Table 1: Summary of Local River Basin Challenges in Utah**

River Basin	2010 State Water Infrastructure Plan		Local Basin Plans (1993-2016)	
	Additional M&I Water Demand by 2060 (AFY)	Estimated Water Supply Infrastructure Costs (\$mil)	Environmental Threats	Projected Shortages
Bear	43,000	\$534.2	5 T&E species	11,000 AF in 19 areas by 2050
Cedar	24,000	\$611.7	4 T&E species.	44,000 AF in Ag. No M&I with projects.
Jordan	366,000	\$5,416.2	4 T&E species. Great Salt Lake	241,000 AF in 25 areas by 2060
Kanab	143,000	\$3,758.0	9 T&E species	19,000 AF in agriculture
Sevier	10,000	\$598.9	12 T&E species	None with planned projects
Colorado	3,000	\$188.8	10 T&E species. Recovery	264,000 AF in Ag. No M&I by 2020.
Uintah	4,000	\$769.5	36 species. Recovery Program	4,500 AF in 12 areas by 2060
Weber	136,000	\$2,719.3	3 T&E species. Great Salt Lake	90,000 AF in 52 areas by 2060
W. Desert	28,000	\$291.7	9 T&E species. Great Salt Lake	310 AF in 3 areas by 2020
<b>TOTAL</b>	<b>757,000</b>	<b>\$14,888.3</b>		

**Figure 2: Utah Major River Basins**



### **Statewide Water Strategy**

Understanding these water challenges, Governor Herbert convened a diverse group of 41 water stakeholders to form the State Water Strategy Advisory Team in 2013. The Strategy Team was tasked with developing recommendations for a 50-year water plan. Over a 4-year effort, the Strategy Team developed the **Recommended State Water Strategy** that lays the foundation for water policy dialogue and collaborative decision-making. The following recommendations from the Strategy highlight water marketing:

- **3.4.** Establish basin-level councils to create benefits for farmers who help to optimize regional water supplies, conserve instream flows, or enhance water quality, and **3.5.** Create mechanisms that help agricultural water users contribute to improving water quantity and quality management.
- **4.2.** Expand tools to protect instream flows, **4.3.** Facilitate creation of a state water trust to acquire rights for instream flows, and **4.5.** Facilitate development of environmental water markets.
- **9.5.** Facilitate temporary transfers of water, **9.6.** Allow water right holders to subordinate water rights, and **9.7.** Review constitutional requirements that preclude cities from selling surplus water.
- **10.5.** Accelerate funding for adjudication of water rights in order to provide greater certainty and marketability of rights.

In addition, the preservation of agricultural lands and changing the trend of continued dry-up of irrigated lands to support municipal growth was a recurring theme in the Strategy Team recommendations. **The Strategy Team recommendations are being used to develop a 50-year water plan that is currently in progress.**

### **Water Bank Working Group**

A Working Group was initially convened under a 2017 Joint Resolution of the Utah Legislature to study expanding instream flow rights to address environmental and municipal needs. However, the focus of this Working Group quickly transitioned to a broader study of water banking and water marketing, as a means to fulfill both instream flow needs and other goals from the Statewide Strategy. **The Working Group has grown to over 50 participants representing environmental, municipal, state agency, agriculture, and other water user interests.** A detailed account of the Working Group activities over the past two years is available online (see the **References** section).

To start exploring water banking, the Working Group reviewed water banks in surrounding states and talked with select Utah water users to discuss existing water markets in Utah, barriers to greater water marketing efforts, and key considerations needed to realize participation in water banks. Based on these discussions, the Working Group spent a year developing a conceptual model for water banking in Utah. **The primary goal of this effort is to create a system that is voluntary, locally-driven, and facilitates temporary water transfers while maintaining low transaction costs.** To do so, the conceptual model empowers local water users to determine what specific water marketing tools would meet local needs, and then to design and operate a water bank capable of facilitating those transactions (see below for additional details). To move beyond the concept phase, starting in July 2018, the Working Group divided efforts into two Sub-Committees:

- **Legislative Sub-Committee:** examine how the conceptual water bank can be implemented within existing Utah water law, draft changes to Utah water law to support the concept, pursue state appropriations to support the project, and shepherd pilot water bank legislation in 2020.
- **Case Study & Pilot Project Sub-Committee:** facilitate the testing of the water bank legislation and concepts to inform a more permanent water marketing strategy in Utah, including the pursuit of grant funds to assist the State.



Collectively, the Water Bank Working Group and sub-committees have held over 50 meetings and members are in frequent contact to refine the project. The Working Group has made significant progress, which to date has included:

- Collaborative planning and convening multiple stakeholder interests around water marketing
- Passage of Joint Resolution 1 in 2019, supporting water banking and appropriating \$400,000 in state funding towards water banking. This state appropriation and in-kind services will be used to provide matching funds under this application.
- Developing consensus-based draft legislation to modify Utah laws to allow for water banking (see below). In 2019, this draft legislation will continue to be vetted by diverse stakeholders. The final draft legislation will be introduced at the start of the 2020 legislative session and letters of support from the legislative sponsors and supporters are included in this application.
- Introducing the water banking concept to the broader water user community, including conference presentations, a website to distribute information, and articles in water-sector periodicals.
- Specific outreach to key stakeholders, as part of this grant application, to support the development of three pilot projects to test the new water banking legislation and water marketing potential in Utah.

### **Water Bank Legislation**

While water right transactions currently occur in Utah, the Working Group's initial outreach determined these efforts were limited and additional state legislation was needed to address barriers to greater water marketing. Key principles voiced by members of the Water Bank Working Group and local water users include: (1) **voluntary** participation by any water right holder, (2) **temporary** changes to water right uses, and (3) **local** development and management of water banks. A copy of the draft legislation is attached to this application. The draft legislation may change under public review, but the framework provides for the following:

- The legislation anticipates that local stakeholders will expend significant time identifying and developing a water bank structure that facilitates desired water transactions. A significant portion of the proposed project will be to assist local water users in this pre-application development stage.
- A water bank is approved for use under the legislation by submitting an application to the Utah Board of Water Resources (UBWR). The application is intended to provide the public with detailed information on how the bank will operate, such as a geographic boundary for the water bank, information on the governance structure, and procedures on how the water bank will function. Following public review, the UBWR will approve or deny the application.
- Existing water rights may be deposited into the water bank pursuant to an approved change application filed with the Utah Division of Water Rights. This change application process will use existing law to assess water right validity, set conditions to ensure non-impairment, and determine any physical constraints to a transfer. An approved water bank right can extend until December 31, 2030 and will not be subject to beneficial use requirements while in the bank.
- Local water users can access banked water rights by submitting delivery requests to the water bank. Approved delivery requests will be transferred in the water bank service area in coordination with the local river commissioner and State Engineer's Office.
- An active water bank must track water transfers through the water bank and will be required to submit an annual report to the UBWR documenting water bank activity.
- The legislation has a 10-year sunset provision, ending in 2030, with the ability to extend.

### **Moving Forward**

The State of Utah, along with many stakeholders who have written letters of support for this grant application, is looking to continue progress made over the past two years by developing a Statewide Water Marketing



Strategy. Water marketing represents an important tool for Utah water interests to address known challenges, and the proposed project is the logical next step in the development of a well-informed and comprehensive statewide strategy for implementing water marketing.

### ***Past Work with Reclamation***

The State of Utah, through its agencies, has a long track-record of successfully working with the Bureau of Reclamation on water planning and infrastructure projects. In recent years, UDWR has partnered with Reclamation on several large water projects, including the Green River water rights exchange agreement, Lake Powell Pipeline, Provo River Canal Enclosure, and Starvation Reservoir bathymetric survey. UDWR and Reclamation have also partnered on RiverWare training classes in Provo. From 2012 to 2019, UDWR has been a funding partner with Reclamation on 26 separate WaterSMART efficiency projects.

## **Project Description**

The Statewide Water Marketing Strategy is a comprehensive effort to define how market-based water management tools will be developed in Utah. The Strategy will include the required elements listed in the FOA, specifically: (1) an implementation plan defining what actions need to be taken and assigning responsibilities for these actions, (2) a legal framework which outlines how the proposed water marketing activities (such as water banking) fit within Utah water laws and what legal changes may be necessary to fully implement the planned activities, (3) a monitoring plan that describes the planned approach to track water marketing transactions and ensure the physical delivery of water while protecting existing water right holders, and (4) an outreach plan that will describe the public input and outreach efforts proposed to be undertaken during this project, as well as the ongoing efforts to gather feedback as the water marketing activities are implemented.

All of these required elements of the Strategy will be informed by three concurrent pilot projects in Utah. The pilot projects will test the efficacy of the draft water bank legislation by working with local water users to identify and develop market-based tools, designing a local water bank capable of facilitating the desired transactions, and operating the water bank. This test will provide valuable new information to inform each element of the Statewide Water Marketing Strategy. The following sections describe the proposed project in more detail. This application is requesting Reclamation funding assistance under Funding Group 2.

### ***Project Applicant***

The Utah Division of Water Resources (UDWR), under the Utah Department of Natural Resources, is the applicant and will manage the proposed project. UDWR has been an active participant in the Working Group and is a trusted manager and neutral voice among diverse water stakeholders in Utah. There is widespread support for UDWR to continue its leadership role in developing water marketing strategies in Utah.

### ***Project Locations***

The proposed project will span the entire State of Utah in development of the Statewide Water Marketing Strategy. The project Work Plan includes local meetings and outreach efforts to every part of the state to gather feedback and public input on the draft strategy. A critical element of the conceptual water banking model developed by the Working Group is that water marketing decisions originate with local water users. Therefore, the Statewide Water Marketing Strategy will not determine and dictate the specific activities that will occur in each region of the state but will provide recommendations and state agency support for water marketing efforts. The project will use three targeted pilot projects to evaluate and address potential issues of statewide concern. The three pilot areas were selected by the Working Group, in coordination with water



users and managers in the pilot areas, because each area presents an interesting case study of water marketing to inform a statewide strategy. Representatives from each of the pilot project areas have been involved in the Working Group and a summary of findings regarding local water banks in each area is attached to this application. More information on the pilot locations is provided in **Table 2** and summarized below.

**Table 2: Challenges and Marketing Potential in Pilot Project Locations**

Location	Supply / Demand Issues	Water Marketing Objectives		
		Agriculture	Municipal	Environmental
Cache Valley	Lack of storage to buffer against variability. Complications in change applications due to large number (130+) of canal companies.	Provide improved water reliability through water trading.	Promote development of secondary water systems.	Enhance flows in 3-4 tributary rivers with dry reaches in most years.
Price River Basin	Insufficient physical water storage. Connected to broader Colorado River Basin supply concerns. Critical flow needs in lower river.	Ability to market between ditch companies. Continued use of short-term leases.	Ability to lease excess supplies. Access to dry-year supplies.	Enhance flows in dry reaches of Price River to recover ESA species.
East Canyon Creek	Insufficient streamflow during late summer months to meet water quality targets and habitat goals. Continued population growth and water demand pressure.	Dry-year water transfers to reduce regulatory risk of impaired streams.	Access to water supplies for mitigating new well development.	Boost low flows in tributary creeks. Central broker to provide info on available water.

**Cache Valley:** The Cache Valley has 130 different canal companies who primarily rely upon direct flow water diversions. The natural variability in direct flow supplies and the lack of reservoir storage produces dry-year shortages in the valley. Most municipal entities do not foresee a water supply shortage but there are opportunities for more secondary (non-potable) development in partnership with irrigation companies. The main water shortages are in the agriculture and environmental sectors. The valley has 3 to 4 dry river reaches in most years. There are a few existing water transfer agreements in place between canal companies, focused in the lower part of the valley where small reservoir storage exists.

**Price River Basin:** The Price River Basin has experienced shortages in dry years and is considered to be in need of reservoir storage to alleviate such shortages. Water marketing activities could offset the need or scale of a proposed reservoir project. The municipal sector is not growing rapidly in this area, and so the demand for reliable and improved water supplies is coming from the agriculture and environment sectors. The municipal sector will likely participate as a source of leased water supply. The Price River Basin has had past water leasing activity, mostly consisting of annual unused storage rights leased to the agriculture sector. Water marketing within canal companies is also fairly common, but inter-organization water marketing is not common. Environmental concerns are currently focused on the recovery of several endangered fish species, such as the Colorado pikeminnow. There is also a direct link between the Price River and the development of demand management and Drought Contingency Plan policies in the broader Colorado River Basin. The pilot project will focus efforts locally while understanding and addressing the broader Colorado River Basin issues as they continue to develop.

**East Canyon Creek Basin:** The East Canyon Creek Basin is a relatively small watershed with substantial local engagement to address present and future water management issues. The Basin has seen active water exchange trading in recent years as new wells require a source of mitigation supply, and local stakeholders



have made great strides since 2011 (and after a decade of lawsuits) in cooperating on water management challenges associated with municipal growth. Since the early 1990s, the East Canyon Watershed Committee has been working to improve water quality and instream habitat in the basin and represents 14 stakeholders with diverse water interests. Since 2005, these stakeholders have been considering market-based water transfers to provide flow augmentation to the local creeks. The proposed pilot project will provide important resources and administrative ability to move market-based concepts forward into action.

### ***Proposed Work Plan***

Many Utah stakeholders assisted in developing a project approach that would both leverage the Working Group's existing work and use the WaterSMART grant framework as a tool to further develop water marketing solutions in Utah. The Work Plan described below provides a detailed description of the planned tasks under each project component. **Figure 3** shows how this project approach aligns with the required project components listed in the FOA. The proposed project has extensive outreach efforts, detailed scoping activities that include three actual water marketing pilots, and the development of a comprehensive strategy document. In this Work Plan, tasks are numbered in the order in which they will be completed. **Figure 3** illustrates the organization of the Work Plan and project tasks.

### ***Task 1 – Project Inception***

This first task is included to lay the groundwork for a successful project. As stated previously, the Working Group has been actively working to develop water bank legislation and is conducting outreach to stakeholders. Pilot development has already begun, and the applicant is proposing to leverage the important work completed since January 2019 as part of the overall project.

#### Tasks 1.1 – Draft Legislation

The Working Group has developed draft water banking legislation in 2019 based on significant collaboration and outreach efforts. A working draft of the legislation is attached to this grant application. This task represents a significant milestone and a necessary first step in pilot-testing the water banking concept developed by the Working Group. The draft legislation will continue to be developed in 2019 and is planned for introduction in the 2020 legislative session.

#### Task 1.2 – Stakeholder Outreach

The Working Group has realized that significant outreach is necessary to introduce water banking and water marketing concepts to Utah water users and stakeholders. This task has been on-going for the past two years and significant communication and education efforts continue. This task includes the outreach efforts to date in 2019 and additional outreach which will be necessary to successfully enact the proposed water banking legislation in 2020 in order to pilot test the Working Group concepts.

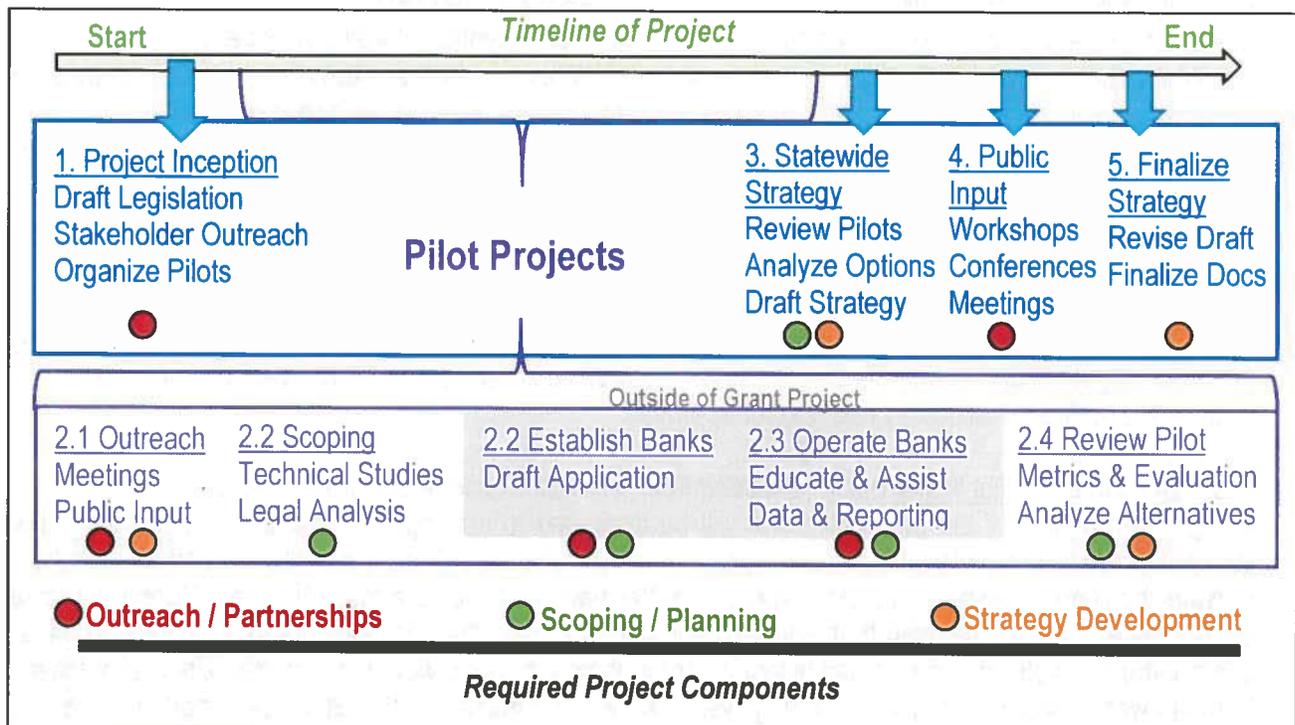
#### Tasks 1.3 – Kickoff Meeting

A kickoff meeting will be held with the Water Bank Working Group members (50+) and any interested members of the public. The kickoff meeting will solicit comment on successfully completing the project and be a continuation of building relationships for public outreach during the project.

#### Task 1.4 – Organize Pilot Projects

The project manager will work with local water users, selected contractors, and other stakeholders to define schedules and expectations for each study area. Specific work plans for each pilot project will be developed for public review.

Figure 3: Organization of Project Work Plan



### Task 2 – Pilot Projects

The proposed pilot projects are much more than physically transferring water through a water bank service area, as they will involve extensive development of market-based tools under a water bank structure. The proposed pilot projects will develop original and valuable information on the need, effectiveness, and challenges of water marketing in three specific study areas in Utah. The pilot projects are the logical next step building from the work completed to date. The following sub-tasks define the proposed work plan for each of the three pilot projects. It is expected that each pilot project will follow the same organizational structure defined below. It is important to note that Tasks 2.3 and 2.4 will be funded using only State of Utah funds and therefore are excluded from the project seeking Reclamation grant funds.

#### Task 2.1 – Initial Outreach

This task will be an important first step in scoping and operating a successful pilot water bank. Meetings will be scheduled with local stakeholders in the study area. Stakeholders will include water right holders (including canal companies and municipal water providers), environmental groups, industry representatives, state agencies, and local governments. The purpose of the meetings will be to educate stakeholders on the opportunities created by the water bank and collect input on the required elements (governance, procedures, etc.) to establish the water bank. In addition to public meetings, individual meetings will take place with key stakeholders to gather feedback on water bank establishment and operations. Results of this outreach effort will be compiled and applied in subsequent tasks.

#### Task 2.2 – Establish Pilot Water Banks *(excluded from proposed Reclamation grant project)*

The required elements and process for establishing a water bank will be defined in the final Water Banking Act. The current draft legislation provides requirements for governance, record-tracking, and procedures of

a water bank. This task will start by conducting several scoping and planning analyses to inform the required elements of water bank establishment. The following analyses are proposed:

- *Economic Analysis* to provide pricing perspective and consideration of water bank benefits
- *Water Rights Analysis* to describe how water bank rights can be transferred in the basin study area without injury to other water right holders and considering current water management abilities
- *Hydrology Analysis* to determine wet and dry year cycles and predict marketable volumes of water for water bank participants
- *Regulatory Analysis* to define the local regulatory impediments to transferring water supplies.

#### Task 2.3 – Establish Pilot Water Banks *(excluded from proposed Reclamation grant project)*

Following the technical analyses outlined above, a draft water bank application will be developed and provided for public review. After responding to comments, the water bank application will be submitted to the Utah Board of Water Resources (UBWR) for approval.

#### Task 2.4 – Operate Pilot Water Bank *(excluded from proposed Reclamation grant project)*

A significant portion of the project timeline will be dedicated to running the three pilot water banks. It is important to provide time to educate local water users once the water bank is established and allow interest in water banking activities to develop. The pilot water banks will operate for 18 months. During this time period, state funds will be used by the water bank operator and other stakeholders to educate local water users through meetings and workshops, assist water users with paperwork to make deposits into or leases from the water bank, set up a data tracking system for water transfers, and draft annual reports required for submittal to the UBWR.

#### Task 2.5 – Review Pilot Projects

After the pilot water banks have operated for 18 months, several technical analyses will be undertaken as a review of the pilot:

- *Scoring Review* involving the establishment of important data metrics that gauge the level of success seen during the pilot period. Metrics will likely include items such as ease of use, scope of market transactions, and success in remedying local water shortages.
- *Alternatives Analysis* will look at water marketing strategies that complement or add to the strategies developed under the pilots. The alternatives analysis will build from the scoring review and develop specific recommendations on how water marketing can best service the pilot study areas.

A pilot project report will be created that summarizes the results of the scoring review and alternatives analysis. The pilot project report will be a stand-alone work product that represents a water marketing strategy for each of the study areas. These findings will help shape the Statewide Water Marketing Strategy.

### ***Task 3 – Statewide Water Marketing Strategy Development***

The development of a Statewide Water Marketing Strategy will be influenced by multiple factors that are aligned with the FOA and purpose of the WaterSMART grant program. The process to develop the Statewide Water Marketing Strategy is defined in the sub-tasks below.

#### Task 3.1 – Review Pilot Project Reports

The pilot project reports will be reviewed by the Working Group and project contractors to develop a set of recommendations for statewide water marketing strategies. This task will provide funding to conduct the review and hold meetings between Working Group members, contractors and stakeholders involved in the pilot projects.



### Task 3.2 – Analyze Water Marketing Strategies

This task will build upon the findings and information developed under Tasks 2.2 and 2.5 for each of the three pilot project areas. This task will conduct a cursory analysis for the different river basin areas in Utah to develop general water marketing strategies for each basin based on findings from the pilot projects. The results of this analysis will identify potential marketing opportunities, marketing volumes, and local benefits for each major river basin area (see **Figure 2**). The findings from this analysis will help to form specific strategy recommendations for each basin.

### Task 3.3 – Draft Statewide Strategy

A Statewide Water Marketing Strategy will be drafted based on the above sub-tasks. The Strategy document will contain an implementation plan, monitoring plan, legal analysis, and outreach plan as required by the FOA. The Strategy will be developed as both a narrative document and a presentation slide-deck for use in communicating with stakeholders and the general public.

## **Task 4 – Public Outreach**

Once a draft Statewide Water Marketing Strategy is developed, it will then be widely communicated throughout Utah for the purpose of soliciting feedback and making improvements. The following sub-tasks outline the planned approach to gathering feedback on the Strategy.

### Task 4.1 – Public Workshops

A series of 9 public workshops will be hosted by UDWR, one in each major river basin in the state. The public workshops will start with a presentation of the Strategy by UDWR staff, followed by an open opportunity to provide comments and ideas. The feedback received during these public workshops will be documented and will form part of the Final Project Report.

### Task 4.2 – Individual Meetings

The experience of the Working Group over the past two years is that individual meetings are a critical component of educating water users, addressing questions and concerns regarding water marketing strategies, and gaining insight on strategy development and improvement. This task provides resources to conduct these critical one-on-one meetings with Utah water leaders, water users, and stakeholder groups.

### Task 4.3 – State Agency Workshops & Conference Presentations

A set of 2 state agency workshops will be hosted by UDWR, to gather feedback on the Strategy from agencies managing water rights, wildlife, natural resources, agriculture, land, and other state resources and programs. It will also be important to gather feedback on the Strategy from water professionals. The conference presentations will solicit feedback and open a line of communication with the professional community.

### Task 4.4 – Legislative Briefings

The Utah State Legislature has been very supportive of pursuing water marketing strategies and will continue to be engaged as a Statewide Water Marketing Strategy is developed. This task provides funding to provide regular briefings and updates to legislators, building a foundation for the eventual approval of the Strategy by state lawmakers.



### **Task 5 – Finalize Strategy**

The public outreach task will be used to improve and refine the draft Statewide Water Marketing Strategy. This task will produce a final Strategy document, incorporating feedback and correcting errors in the draft. The final Strategy document will contain the required elements listed in the FOA and will form the basis for broader implementation of water marketing activities in Utah. The final Strategy will be published in multiple forms to reach multiple audiences, including a narrative report, presentation slide-deck, and a website dedicated to the strategy.

### **Task 6 – Grant Administration**

This task is dedicated to ensuring the project is well managed and meets all of the requirements of the grant agreement with Reclamation. Activities to be completed under this task include developing a work plan for approval by Reclamation at the outset of the project, providing interim performance reports every 6 months, and developing a comprehensive Final Project Report. The Report will be submitted in draft form for Reclamation review and a final Report will address comments and corrections.

## **Evaluation Criteria**

The proposed project meets all of the stated goals and objectives of the Water Marketing Strategy grant program listed in the FOA. The overall objective of the State of Utah is to develop a framework for implementing water marketing activities across the state. **This is a known need in Utah, as expressed by the Governor's State Water Strategy and evidenced by state legislative support.** In evaluating the proposed project, it is important to understand that Utah has already committed to creating and testing local water banks as a new water market strategy, representing the result of 2 years of effort by a Working Group over 50 stakeholders. The proposed project will test the efficacy of local water banks as a strategy while conducting outreach and scoping analysis to ultimately develop a Statewide Water Market Strategy.

### **Evaluation Criterion A: Water Marketing Benefits**

1) *Explain whether the water market/activity will address a specific water supply shortfall and describe the extent of benefits to different sectors, including agricultural, municipal/industrial, tribal and environmental sectors, including:*

a. *Will the water marketing strategy address a specific water supply shortfall?*

Yes, the project will address specific water supply shortfalls that are predicted for the three pilot project areas, and for Utah statewide. The specific shortfalls in the three pilot areas and for other areas in Utah are defined below (response b). The shortfalls affect multiple sectors including municipal, agricultural, and environmental.

b. *What is the nature and severity of the shortfall and which sectors are affected?*

As shown in **Table 1**, Utah is expected to see future (2060) municipal shortfalls of 346,000 acre-feet and has long experienced agricultural shortfalls of 327,000 acre-feet in the form of deficit irrigation. Shortfalls in the environmental sector are not well quantified, but are significant, as evidenced by the number of threatened and endangered species, the continued work under the Upper Colorado River recovery program, and the mounting challenges associated with wetlands and bird habitat in the Great Salt Lake.

For the Cache Valley pilot project area, water shortfalls are quantified in a 2013 Water Master Plan report as follows:

- **Agricultural Sector:** 30,000 acre-feet per year of shortage for approximately 60,000 critical acres that are currently deficit irrigated due to lack of adequate water supply. Over 100,000 acre-feet per year of shortage if all currently irrigated lands are provided an ideal crop water supply. Current irrigation



diversions total approximately 184,000 acre-feet per year and ideal demand is estimated to be approximately 300,000 acre-feet per year for 100,000 irrigated acres.

- **Municipal Sector:** Current (2013) average supply surplus of 29,000 acre-feet but future projections to 2060 indicate a supply deficit for 12 communities totaling approximately 7,900 acre-feet per year, even with a state conservation goal of 18% reduction in place. It is worthwhile to note that the basin as a whole is expected to retain an average municipal supply surplus of 1,000 acre-feet even to 2060, indicating that projected municipal shortfalls might be alleviated by encouraging water sharing and market mechanisms.
- **Environmental Sector:** Specific shortfall quantities were not identified in the plan, but there are known to be about 4 common dry-up points on tributary river systems in the Cache Valley.

Water banking mechanisms were explored by Utah State University as part of the Cache Water Master Plan and continue to have interest from local stakeholders.

For the Price River Basin pilot project area, the 2000 plan for the West Colorado River Basin shows that the area is over-appropriated with 144,700 acre-feet of decreed water rights and an estimated basin-yield of 138,000 acre-feet. Current agricultural and municipal (culinary and secondary) water diversions represent 70% of this estimated basin yield, leaving minimal reliable supply for future uses.

- **Agricultural Sector:** Shortfalls in the agricultural sector are due to hydrologic variability as most (90%) irrigation diversions are from surface water sources without significant reservoir storage. An informal water lease market of approximately 2,500 acre-feet per year has recently developed in Scofield Reservoir to assist the agricultural sector in addressing shortfalls.
- **Environmental Sector:** Environmental shortfalls are evidenced by low-flow (less than 5 cfs) conditions in the Price River at the Woodside streamflow gage. The river regularly experiences 15-20 low-flow days each year with 2004 and 2016 conditions resulting in approximately 50 low-flow days. The equivalent shortage volume is estimated to be approximately 200 acre-feet per year in average years and 500 to 1,000 acre-feet per year in dry years.

For the East Canyon Creek Basin, water shortfalls have been quite common for decades, but the solutions have been varied across sectors, as described below:

- **Municipal Sector:** Moratoriums were effectively put in place on new surface water appropriations in 1937 and on new groundwater appropriations in 1973. As a result, an active water market exists for new groundwater wells to purchase small-volume exchange rights from the Weber Basin Water Conservancy District (WCD) water holdings in East Canyon Reservoir. Moving forward, the reliability of this exchange market is questionable as Weber Basin WCD meets new demands and non-impairment requirements of the exchange prove harder to satisfy. The expected shortfall has not been quantified exactly but is expected that total water demands will exceed local water supplies by roughly 100% as the population is projected to triple by 2050.
- **Environmental Sector:** A flow augmentation feasibility study in 2005 quantified the minimum streamflow shortfall in meeting water quality and habitat goals as approximately 300 acre-feet over a critical 3-month period in late summer. This shortfall is expected to increase to 1,100 acre-feet with supply and demand changes since 2005.

*c. How and to what extent will the water market/water marketing activities, once implemented, address the shortfall?*

The Statewide Water Marketing Strategy is intended to provide a new and useful tool for local basins to address water shortfalls, such as those described in the preceding response. The Strategy will provide a more flexible method of allowing valid water rights to be utilized for new uses, which is expected to reduce



water supply shortfalls during dry-year periods and enhance the resiliency of local water systems. For the municipal and agricultural sectors, these types of flexible water marketing arrangements are in high demand as water providers struggle with the costs and regulatory timelines of new capital projects. The successful exchange market that has recently developed in East Canyon Creek Basin is an example of how market-based strategies can alleviate shortfalls. For the environmental sector, the quantified shortfalls will be very difficult to address without a Strategy because transferring water for instream flow uses is difficult to accomplish under current Utah water laws. The environmental shortfalls may not be fully reduced in any local area, but significant progress can be made toward reducing environmental shortages at critical locations and during critical periods. The pilot projects are expected to provide Utah stakeholders with a better and more definitive picture of what can be accomplished with tailored water marketing strategies in local areas.

*d. Will the water market/water marketing strategy activities benefit multiple sectors and/or types of water uses? If so, to what extent and which sectors and water users will benefit?*

A hallmark of the work done to date by the Working Group and an intentional attribute of the proposed project is that it will benefit multiple water use sectors. As shown in **Table 2**, each of the three pilot study areas has notable agricultural, municipal, and environmental water supply needs that water banks and other marketing strategies hope to fulfill. The proposed water bank structure is intended to broaden the types of uses and sectors that can benefit from temporary water transfers, which greatly expands the potential environmental benefits compared to present-day conditions. Agricultural benefits are found in providing an ability to generate revenue from leasing water rights and also better allocating available water supplies to support agricultural operations. Municipal benefits include improving water supply reliability and facilitating the lease-back of water to the agricultural sector in some years. Beyond the pilot projects, Utah water leaders remain committed to preserving agriculture, enhancing the environment, and meeting the municipal growth challenges as water marketing activities are implemented.

*2) Explain how and to what extent the proposed water market or water marketing activities will improve water supply reliability in general in the area upon implementation of the strategy (address all that apply):*

*a. Reducing the likelihood of conflicts over water*

Conflicts over water often emerge or intensify during drought periods, as supplies fall short of meeting all desired demands. Therefore, it is inherent that building flexibility and improving reliability of water supplies will help to reduce conflicts over water. A major water management challenge in each of the three pilot project areas is the lack of water supply reliability in drought years. The pilot testing of local water banks and the development of water marketing strategies are intended to improve water supply reliability for water users in these areas and eventually across the State of Utah. In addition, conflicts are often tied to municipal growth which causes agricultural “buy and dry” and to low streamflow conditions that imperil important species. The water marketing strategies that will be tested, evaluated, and recommended under this project are intended to help reduce these types of conflicts as well, by providing flexibility and an alternative water supply source that presently is not available to municipal and environmental stakeholders.

*b. Increasing resiliency to drought*

Drought resiliency is the leading motivator for water market development in the three pilot project areas. Local water users see water banks and other market strategies as serving an important role in their water portfolios. The expense and delay in developing new water supply infrastructure has motivated many water users to look at local water transfers as the most viable short-term opportunity to increase drought resiliency. In particular, the dry-year shortfalls described above for the pilot project areas are a primary target for the pilot projects and the Statewide Water Marketing Strategy.



c. *Sustaining agricultural communities*

The Statewide Water Marketing Strategy is considered an important piece of how agriculture is sustained in Utah amidst economic challenges and continued pressure from municipal growth. This is evidenced by the support of water banking and this grant application by the Utah Farm Bureau and the Utah Department of Agriculture. Water marketing is expected to provide an important source of revenue in some areas to balance with crop sales and to alleviate some of the “buy and dry” pressures facing farmlands along the Wasatch Front. In addition, water marketing strategies can help the agricultural sector manage hydrologic variability, such as in the Cache Valley pilot project area.

d. *Demonstrating a water marketing approach that is innovative and which may be applied by others*

The Working Group has spent significant time and effort to understand what water marketing strategies other states and water districts have developed and adopted. The Idaho Statewide Water Bank has been reviewed as an example of what might be developed in Utah. At this time, the Working Group has identified three principles for water marketing: (1) voluntary, (2) temporary, and (3) local. The conceptual water bank structure created by the proposed legislation will be innovative in that it represents one of the only known attempts to create a truly flexible water right that (once quantified and approved) can be used for a variety of uses without further administrative oversight. If successful, this water bank approach could be a model for other states and water districts to consider and learn from. It is also worth noting that several Utah stakeholders outside of the pilot project areas have expressed an interest in water banking strategies.

e. *Providing instream flows for species, recreation, or water quality objectives*

Instream flows continue to be threatened by hydrologic changes and water diversions. The current regulatory environment in Utah does not allow for water transfers to instream flow uses except under specific circumstances. The Statewide Water Marketing Strategy and this grant application have received extensive support from the environmental community because they are both seen as critical steps towards instream flow enhancement projects in Utah. The Strategy may represent a fundamental change and important milestone to meeting the environmental shortfalls outlined above.

3) *Explain the extent to which the water market/activity will be ready to proceed upon completion of the strategy, addressing each of the following:*

a. *Describe your plans and timeline for implementing the strategy upon its completion.*

Implementation of the Statewide Water Marketing Strategy will be defined as part of the strategy, in the required implementation plan component. Although specific implementation plans and timelines will depend on the strategy to be developed, the State of Utah will be in a good position to act quickly due to the political and administrative support that water marketing efforts have received to date. Passage of water banking legislation and pilot testing the concepts to be completed during the project provide the ability to immediately spread water marketing to other river basins in Utah. More specifically, immediately upon completion of the project, the Working Group will meet with the Utah Water Task Force to plan on next steps and define action items for water marketing strategy implementation.

b. *Are there complex issues, including issues of law or policy, that would need to be resolved before the strategy could be implemented?*

A significant component of the proposed project will be to pilot test new water banking legislation, and to use the results to inform a broader Statewide Water Marketing Strategy. The State of Utah is taking a significant step in the passage of the new water banking legislation to resolve issues of law and policy at the outset of the project. There may be unforeseen legal or policy issues that arise but the efforts of the Working Group over the past 2 years have been explicit about clearing issues to allow this project to move forward.



*c. Explain whether previous planning, outreach and/or water marketing activities have been completed.*

Significant and unparalleled planning and outreach have been completed in preparation for the proposed project. The Working Group representing approximately 50 stakeholders with water interests has met 50 times over the past two years and devoted an estimated 1,500 hours to developing a successful water marketing concept. The proposed project is really at the mid-point of a broader effort to develop a Statewide Water Marketing Strategy. The May 2018 findings of the Working Group are attached to this grant application as a summary of these efforts. For each of the pilot project areas, local planning efforts and outreach activities are also notable. In the Cache Valley, there has been significant investment to develop a Master Plan (2013) and establish a local Cache Water District to address present and future water challenges. In the Price River Basin, agricultural and environmental interests have been communicating for the past several years about market-based strategies to both improve agricultural operations and enhance environmental flows. Over the period 2016-2018, close to 20 different agricultural operations participating in the Colorado River System Conservation Pilot Program to test compensated demand management strategies. In East Canyon Creek, collaborative solutions have stemmed from the 2015 Master Agreement and the area is ripe for exploring flexible solutions through water marketing strategies.

**Evaluation Criterion B: Level of Stakeholder Support and Involvement**

*1) Identify stakeholders in the planning area who have committed to be involved in the planning process.*

*a. Describe their commitment, e.g., will they contribute funding or in-kind services or otherwise engage in the planning process?*

The proposed project has a long list of stakeholders who have committed to be involved and engaged in the planning process. The letters of support attached to this grant application are evidence of this commitment. **Table 3** summarizes the committed stakeholders. The funding contribution (cost-share) for the project will come from UDWR and other stakeholders will be providing in-kind services to the project.

*b. Please explain whether the project is supported by a diverse set of stakeholders. For example, is the project supported by entities representing environmental, agricultural, municipal, tribal, or recreation uses?*

The proposed project is supported by a diverse set of stakeholders covering all aspects of water. This diversity in stakeholder support is summarized in **Table 3**.

**Table 3: Stakeholders Committed to the Project**

State Agencies	Local Water Districts	Municipal Sector	Environmental Sector	Other Sectors
Utah Division of Water Resources	Central Utah Water Conservancy District	Price River Water Improvement District	The Nature Conservancy	PacifiCorp
Utah Division of Water Rights	Weber Basin Water Conservancy District	Price City	Trout Unlimited	Utah State University
Utah Department of Agriculture	Price River Water Users Association		Audubon Society	State Rep. Hawkes
Utah Division of Water Quality	Cache Water District			Smith Hartvigsen
	Carbon Water Conservancy District			State Sen. Iwamoto

Colors: **Green** – applicant committing funding and in-kind services; **Yellow** – stakeholder committing in-kind services



*2) Describe stakeholders in the planning area who have expressed their support for the planning process, whether or not they have committed to participate.*

**Table 3** summarizes stakeholders who have expressed support for the project, and their letters of support are attached to this grant application. To date, all stakeholders have both supported the planning process and indicated a commitment to participate in the planning process.

*3) Is there opposition to the proposed strategy? If so, describe the opposition and explain how it will be addressed. Opposition will not necessarily result in fewer points.*

Currently, the Working Group is not aware of any opposition to the proposed project. Several stakeholders have expressed normal concerns about the protection of water rights and uses as the water banking concept is further developed and implemented. The questions and desire to understand more about water banking are a driving reason that the Working Group is seeking to complete the proposed project.

*4) Do any separate planning efforts express support for the proposed water market/transaction? Or, will the proposed water marketing strategy complement other ongoing or recent planning efforts within the area?*

As described in the Background section, the proposed project complements the Governor's State Water Strategy and has received political support in the 2019 Legislative Joint Resolution. In the pilot project areas, water marketing activities are supported by the Cache Water Master Plan (2013) and East Canyon Creek Flow Augmentation Feasibility Study (2005).

*5) Describe any relevant planning efforts, including who is undertaking these efforts and whether they support or are complemented by the proposed water marketing strategy. Explain how the proposed water marketing strategy will avoid duplication or complication of other ongoing planning efforts.*

Relevant planning efforts can be summarized by geography. At the statewide level, UDWR is developing a State Water Plan based on the Governor's Water Strategy, and the proposed project will complement this statewide planning effort by providing practical experience on water marketing strategies recommended by the Strategy (see Background section). In the Cache Valley, Utah State University is evaluating water banking and marketing concepts which will complement and be utilized by the project team in developing the form of the pilot water bank. In the Price River Basin, several water users have participated in the System Conservation Pilot Project (SCPP) which has generated local interest and discussion on water marketing strategies, and interest in pilot testing strategies under the proposed project. In East Canyon Creek area, no active water market planning efforts are underway although many stakeholders have been interested in developing more market-based solutions in these areas.

*6) Describe what efforts that you will undertake to ensure participation by a diverse array of stakeholders in developing the water marketing strategy.*

The proposed project is built around ensuring diverse stakeholder participation. First, the Working Group has already set a firm foundation by bringing together varied interests in a 2-year discussion of water marketing. Second, the three pilot projects were selected, in part, because they represent different economic and cultural sectors of the state. Third, the outreach components of the Work Plan, in both the pilot projects and as part of developing the Statewide Water Marketing Strategy, are robust and intended to broadly communicate with all water interests in the State.

### **Evaluation Criterion C: Ability to Meet Program Requirements**

*1) Describe how the three required components of a water marketing strategy will be addressed within the required timeframe. Please include an estimated project schedule that shows the stages and duration of the proposed work including major tasks, milestones, and dates.*



The proposed project is estimated to require 3 years to complete. A detailed project schedule following the Work Plan and description of project components is provided in **Figure 4**. Major milestones are highlighted. Specific dates can be defined upon award and completion of contracting. The project will include efforts already undertaken in 2019 to conduct outreach and develop draft water banking legislation. After award of the grant contract, the proposed schedule is 12 months to develop and establish the pilot water banks, 18 months to run the pilots, and 6 months to evaluate strategies and conduct statewide public outreach to develop a final Statewide Water Marketing Strategy.

*2) Describe the availability and quality of existing data and models applicable to the proposed water marketing strategy.*

A variety of existing data and models will be applied in the proposed project. Most of the data analysis required for the project will be focused on the pilot projects and particularly during establishment of the pilot water bank procedures. Existing data and models include a central database of water rights and water distribution models maintained by the Utah Division of Water Rights and hydrologic models maintained by UDWR.

*3) Identify staff with appropriate technical expertise and describe their qualifications.*

The Utah Division of Water Resources is one of the seven divisions housed within the Department of Natural Resources. Tasked with planning, conserving, developing and protecting Utah's water resources, the Division earnestly strives to be Utah's water steward through a combination of multi-faceted solutions that include conservation, efficiency, optimization, agriculture conversion and water development. Candice Hasenyager (project manager) is the Assistant Director of the Planning Branch at UDWR. She oversees statewide water planning efforts, hydrology, modeling and the technical needs of Water Resources. Candice has worked on water resource and planning projects for the last 12 years. Lacey Moore is a GIS Analyst at UDWR with experience in water marketing and water resource economics. For the last year, both Candice and Lacey have been actively involved in the Water Bank Working Group. Technical expertise will also be brought by the contractor teams selected by UDWR through an RFP process.

*4) For pilot activities*

*a. Describe any permits or approvals that will be required, along with the process for obtaining such permits or approvals*

The primary approvals required for the proposed pilot projects are: (1) legislation providing for the establishment of water banks, and (2) approval of the pilot water banks by the Utah Board of Water Resources. Regarding the first point, the Working Group is confident that the required legislation will be passed in early 2020. The State's Utah Water Task Force is supportive of this proposed legislation and 90% of bills that receive support from the Task Force successfully become law. Regarding the second point, stakeholders in the three pilot areas have already been engaged and there is significant commitment as evidenced by the letters of support. Funds are included to provide contractor support for developing the water bank application and establishing the pilot water banks.

*b. Identify and describe any engineering or design work performed specifically in support of the proposed pilot activities. No engineering or design work has been completed and no such work is anticipated to be necessary.*

*c. Describe how the environmental compliance estimate was developed. Has the compliance cost been discussed with the local Reclamation office?*

The environmental compliance estimate was developed based on direct communication with environmental compliance staff in the Provo Area Office of Reclamation.

**Table 4: Proposed Project Schedule and Milestones**

Task	Sub-Tasks	Pre-Contract 2019				Year 1				Year 2				Year 3			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1. Pilot Development	Draft legislation																
	Public outreach																
	Kickoff meeting																
	Organize pilot projects																
2. Pilot Projects	Initial Outreach																
	Scoping Analysis																
	Establish Pilots																
	Operate Pilots																
	Review Pilots																
	Enviro. compliance																
3. Statewide Strategy	Review pilot reports																
	Analyze strategies																
	Develop draft strategy																
	Public workshops (8)																
4. Public Outreach	Individual meetings																
	Workshop & Conf.																
	Leg. briefings (2)																
5. Finalize Strategy	Revise draft strategy																
	Finalize strategy																
6. Grant Administration	Develop work plan																
	Interim reports																
	Final project report																

*Water bank applications approved by UBWR and banks established, including environmental & cultural compliance*

*Findings & strategy reports for pilot study areas*

*Draft Statewide Water Strategy completed*

*Final Statewide Water Strategy completed based on outreach*

**Addressing Required Project Components:**

- Outreach & Partnership Building: Public input in Task 2.1, Public assistance in Task 2.3, Workshops in Task 4.1, Conferences in Task 4.3
- Scoping & Planning Activities: Pilot projects in Task 2, specifically technical analyses in Tasks 2.2 and 2.3, Analysis in Task 3.2
- Water Marketing Strategy Development: Pilot strategies in Task 2.4, Statewide strategy in Tasks 3.3 and 5.



### ***Evaluation Criterion D: Department of Interior Priorities***

The proposed project will support current priorities of the Department of the Interior as described below:

#### ***1) Creating a conservation stewardship legacy second only to Roosevelt***

The proposed project meets a number of the Department's conservation priorities. The proposed project is based on market-based strategies, which is widely considered to be a balanced approach to water resource management. The Working Group has fostered and the project will continue to develop relationships with conservation organizations committed to agricultural and environmental objectives.

#### ***2) Utilizing our natural resources***

The proposed project seeks to better utilize water resources in Utah by developing a water marketing strategy that allows for the market-based reallocation of water under the principles of voluntary, temporary, and local. The market-based reallocation of water supplies is critical to sustaining existing economic sectors, allowing for the development of new sectors, such as energy and industry, and maintaining a stewardship of the environment.

#### ***3) Restoring trust with local communities***

The proposed project is built on a Working Group platform that has open lines of communication between diverse water interests. The pilot projects will test market concepts in rural and urban areas, and the planned outreach will bring the water marketing strategy to all corners of the state. A fundamental aspect of the conceptual water bank approach is that it will be locally developed, providing an ability of local communities to design and implement the water marketing strategy that best suits their local needs.

#### ***4) Striking a regulatory balance***

The conceptual water banking legislation is intended to reduce the administrative burden of completing temporary water transfers, while still protecting water users and right holders. This intention is important and critical to the successful implementation of water marketing in Utah.

#### ***5) Modernizing our infrastructure***

Funding is probably the primary impediment to modernizing and developing new infrastructure for many Utah stakeholders. The objective of the proposed project is to facilitate market-based water transfers, which has the opportunity to provide the necessary funding for local organizations to move planned projects forward. The agricultural sector has been hit hard in recent years, and water marketing has the potential to provide much-needed funding to canal companies and irrigation districts to invest in their infrastructure. In addition, flexible water marketing approaches are a critical component of any modern infrastructure project, allowing for the highest and best use of the project-developed water supplies.



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## BUDGET PROPOSAL

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### Project Budget

The Utah Division of Water Resources (UDWR) is proud of the steps taken to date to advance water marketing in Utah. The State of Utah, acting through the Legislature, has committed funds to cover 28% of the project budget and an additional 24% of the project budget will be covered through in-kind services. This grant application is requesting \$400,000 in Federal funds to cover 48% of the project budget.

The overall project budget of \$960,652 to complete the Work Plan defined in this grant application is divided into two components: (1) the grant-funded project budget of \$838,252 which encompasses the majority of the Work Plan but specifically excludes the establishment and operation of the pilot water banks, and (2) the state-funded budget of \$122,400 to establish and operate the pilot water banks in the three pilot areas. These budgets are detailed in **Table 7** below. The second component utilizing only state funds is considered to fall outside of the project for which grant funding assistance is sought by Reclamation such that the \$122,400 budget amount is not being applied as a component of the cost-share requirement.

The grant project which is the subject of this application has a total budget of **\$838,252**. Approximately 48% of this total grant project budget, equal to **\$400,000** is proposed for reimbursement through this WaterSMART grant application. The remaining 52% equal to **\$438,252** will be provided by UDWR funds and in-kind services from both UDWR and local stakeholders, as detailed below.

### Funding Plan

The non-Federal cost share will be provided through UDWR funding and in-kind services. In 2019, the Utah Legislature passed Joint Resolution 1 provided up to \$400,000 in state funding to advance water marketing efforts. The letters of support attached to this grant application include letters from two Utah legislators who approved this 2019 legislation and who support the use of state funds for the proposed project. UDWR is committing \$237,020 towards completion of the proposed project, representing 28% of the project budget.

In addition to direct funding, UDWR and multiple stakeholders will be committing in-kind services towards the completion of project tasks. In total, UDWR and stakeholders are committing over 1,700 hours of in-kind service valued at \$201,232. The value of these in-kind services represents 24% of the project budget, and 46% of the cost-share requirement under the grant. It should also be noted that the State and other Working Group members have invested significant time and effort over the past two years in developing relationships and evaluating strategies to advance water marketing in Utah. The Working Group members have committed roughly 1,500 hours to this effort, which is in addition to the cost-share funding and in-kind services being committed by UDWR and other stakeholders as part of the project.



## Budget Proposal

The project budget is summarized in **Table 5** below:

**Table 5: Summary of Project Budget**

SOURCE	AMOUNT
Costs to be reimbursed with the requested Federal funding	\$400,000
Costs to be paid by the applicant	\$237,020
Value of third-party in-kind contributions	\$201,232
<b>TOTAL PROJECT COST</b>	<b>\$838,252</b>

### ***Budget Narrative***

The project budget represents a combination of contractor awards and in-kind service contributions from UDWR (the applicant) and third-party stakeholders. Details regarding these two components of the budget are provided below. No UDWR staff time will be paid from Federal funds in completing the proposed project. All requested Federal funding will be used to award contracts for the completion of the project.

#### Salaries & Wages

No salaries or wages are included in the project budget.

#### Fringe Benefits

No salaries or wages are included in the project budget.

#### Travel

Travel costs are included in the Contractor section below. No travel costs are included in the project budget outside of travel costs included in contractor awards.

#### Equipment

No equipment purchases are planned as part of the proposed project and no equipment purchases are included in the project budget.

#### Materials & Supplies

No significant materials and supplies, beyond standard office supplies, are anticipated to be required for the planned project and no costs are included in the project budget.

#### Contractual

The entire project budget (with the exception of in-kind services) will be utilized for third-party contractors. UDWR staff will manage the contractor selection and awards under a competitive procurement process as defined in Utah Code R33 – *Administrative Services, Purchasing, and General Services*. UDWR will issue an open Request For Proposals (RFP) for each separate contract and will include price / cost of providing services as a primary criterion for scoring proposals responding to the RFP.

The project Work Plan was organized to easily identify the aspects that will be accomplished by third-party contractors. Contractor work under the proposed project will include:

- One RFP and award for assisting UDWR and providing services for the entire project period but excluding the three pilot projects.



- Three separate RFPs and awards for each of the three pilot projects.

Tables 7 and 8 provide a more detailed breakdown of the applicant and contractor work efforts.

For the project budget, contractor billing rates and hours were estimated based on the collective experience of the Working Group members. These billing rates are supported by a review of typical billing rates under the Contract Awarded Labor Category (CALC) search tool maintained by the General Services Administration (GSA), as shown in Table 6. A blended hourly rate of \$170 per hour was applied for all contractor hours to estimate the project budget, with the understanding that each proposal responding to the UDWR RFP process will represent a unique blend of job categories, positions, and billing rates.

UDWR believes that the project will benefit from including contractor labor, and from organizing the Work Plan and budget in this manner. Consultants and/or consulting teams will bring extensive experience and knowledge relevant to water marketing, water management, and public engagement. Local expertise and knowledge can be brought to each pilot project which carries significant value for efficiently establishing the pilot water banks.

**Table 6: Calculation of a Blended Hourly Rate for Estimating Contractor Budget**

Job Category	Position Title	CALC Hourly Bill Rate			% of Project	Weighted Hourly Rate
		Low	Average	High		
Engineer	Principal Engineer	\$151	\$185	\$218	20%	\$37
	Associate Engineer	\$69	\$97	\$126	20%	\$19
Attorney	Partner	\$190	\$277	\$364	15%	\$42
	Associate Attorney	\$151	\$187	\$222	20%	\$37
Other	Project Manager	\$108	\$150	\$193	5%	\$8
	Environmental Planner	\$76	\$122	\$167	5%	\$6
	Economist	\$76	\$234	\$392	5%	\$12
	GIS Technician	\$53	\$97	\$141	5%	\$5
	Administrative Assistant	\$59	\$86	\$114	5%	\$4
<b>Weighted Average</b>					<b>100%</b>	<b>\$170</b>

Third-Party In-Kind Contributions

A significant portion of the project budget will be provided by in-kind services. This cost allocation and commitment by stakeholders reflects a continuation of the collaborative efforts of the Working Group over the past two years. The total value of in-kind contributions to the project are listed by task in Table 7. Letters from the stakeholders supporting these commitments to the project are attached to this grant application.

Environmental & Regulatory Compliance Costs

Environmental and regulatory compliance costs are estimated to be minimal. The planning, review, and outreach activities are considered to fall under Categorical Exclusion B1 for routine planning work based on communication with the local Provo Reclamation office. The applicant has structured the Work Plan and excluded the establishment and operation of the pilot projects in order to reduce environmental and regulatory compliance costs associated with the proposed project utilizing Federal funding.

Indirect Costs

No indirect costs are included in the project budget.



**Table 7: Project Budget Details**

Task	Sub-Tasks	Lumped Hours	Blended Rate	Contractor Costs	In-Kind Services	Total Grant Project Cost	Non-Grant Project Costs	Total Cost
1. Pilot Development	Draft legislation	0	\$170	\$0	\$31,835	\$31,835		\$31,835
	Public outreach	0	\$170	\$0	\$66,827	\$66,827		\$66,827
	Kickoff meeting	10	\$170	\$1,700	\$2,307	\$4,007		\$4,007
	Organize pilot projects	40	\$170	\$6,800	\$3,274	\$10,074		\$10,074
2. Pilot Projects	Initial Outreach	(see pilot project table)		\$122,400	\$10,753	\$133,153		\$133,153
	Scoping Analysis	(see pilot project table)		\$81,600	\$6,910	\$88,510		\$88,510
	Establish Pilots	(see pilot project table)				\$0	\$25,500	\$25,500
	Operate Pilots	(see pilot project table)				\$0	\$96,900	\$96,900
	Review Pilots	(see pilot project table)		\$107,100	\$6,634	\$113,734		\$113,734
	Environmental Compliance	(see pilot project table)		\$3,000	\$1,250	\$4,250		\$4,250
3. Statewide Strategy	Review pilot reports	20	\$170	\$3,400	\$3,546	\$6,946		\$6,946
	Analyze strategies	100	\$170	\$17,000	\$5,650	\$22,650		\$22,650
	Develop draft statewide strategy	80	\$170	\$13,600	\$10,977	\$24,577		\$24,577
4. Public Outreach	Public workshops (8 around state)	120	\$170	\$20,400	\$9,413	\$29,813		\$29,813
	Individual meetings	120	\$170	\$20,400	\$13,426	\$33,826		\$33,826
	Workshops & Conferences	60	\$170	\$10,200	\$9,277	\$19,477		\$19,477
	Legislative briefings (2)	40	\$170	\$6,800	\$5,978	\$12,778		\$12,778
5. Finalize Strategy	Revise draft strategy	40	\$170	\$6,800	\$7,328	\$14,128		\$14,128
	Finalize strategy document	80	\$170	\$13,600	\$5,847	\$19,447		\$19,447
6. Grant Administration	Develop work plan	10	\$170	\$1,700		\$1,700		\$1,700
	Interim performance reports	30	\$170	\$5,100		\$5,100		\$5,100
	Final project report	100	\$170	\$17,000		\$17,000		\$17,000
<b>Sub-Total</b>				<b>\$458,600</b>	<b>\$201,232</b>	<b>\$659,832</b>	<b>\$122,400</b>	<b>\$782,232</b>
Travel & Admin Costs (Pilot Projects)		(see pilot project table)		\$86,700		\$86,700		\$86,700
Travel & Admin Costs (Strategy Development)		20%		\$91,720		\$91,720		\$91,720
<b>TOTAL PROJECT</b>				<b>\$637,020</b>	<b>\$201,232</b>	<b>\$838,252</b>	<b>\$122,400</b>	<b>\$960,652</b>
<b>In-Kind Services</b>					<b>\$201,232</b>			<b>\$201,232</b>
<b>State Funding</b>				<b>\$237,020</b>	<b>\$0</b>		<b>\$122,400</b>	<b>\$359,420</b>
<b>Federal Funding</b>				<b>\$400,000</b>	<b>\$0</b>		<b>\$0</b>	<b>\$400,000</b>



**Table 8: Pilot Project Budget Details**

Task	Sub-Task	Price River			Cache Valley			Weber Basin		
		Lumped Hours	Blended Rate	Cost	Lumped Hours	Blended Rate	Cost	Lumped Hours	Blended Rate	Cost
Initial Outreach	Meetings & Outreach	120	\$170	\$20,400	120	\$170	\$20,400	120	\$170	\$20,400
	Compile input Identify bank transactions	20	\$170	\$3,400	20	\$170	\$3,400	20	\$170	\$3,400
Scoping Analysis	Economic analysis	100	\$170	\$17,000	100	\$170	\$17,000	100	\$170	\$17,000
	Water rights analysis	40	\$170	\$6,800	40	\$170	\$6,800	40	\$170	\$6,800
	Hydrology analysis	40	\$170	\$6,800	40	\$170	\$6,800	40	\$170	\$6,800
	Regulatory analysis	40	\$170	\$6,800	40	\$170	\$6,800	40	\$170	\$6,800
	Draft application	40	\$170	\$6,800	40	\$170	\$6,800	40	\$170	\$6,800
Establish Pilot Water Banks	Respond / Revise	10	\$170	\$1,700	10	\$170	\$1,700	10	\$170	\$1,700
	Educate water users Assist with transactions	30	\$170	\$5,100	30	\$170	\$5,100	30	\$170	\$5,100
Operate Pilot Water Bank	Operate Pilot Water Bank	40	\$170	\$6,800	40	\$170	\$6,800	40	\$170	\$6,800
	Data management	80	\$170	\$13,600	80	\$170	\$13,600	80	\$170	\$13,600
Review Pilot	Reporting	40	\$170	\$6,800	40	\$170	\$6,800	40	\$170	\$6,800
	Establish metrics	10	\$170	\$1,700	10	\$170	\$1,700	10	\$170	\$1,700
	Evaluate pilots	40	\$170	\$6,800	40	\$170	\$6,800	40	\$170	\$6,800
	Analyze alternatives	100	\$170	\$17,000	100	\$170	\$17,000	100	\$170	\$17,000
	Pilot project report	60	\$170	\$10,200	60	\$170	\$10,200	60	\$170	\$10,200
<b>SUB-TOTAL</b>				\$144,500			\$144,500			\$144,500
Environmental Compliance Costs				\$1,000			\$1,000			\$1,000
Travel & Admin Costs		20%		\$28,900	20%		\$28,900	20%		\$28,900
<b>TOTAL</b>				\$174,400			\$174,400			\$174,400



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## ADDITIONAL INFORMATION

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### Environmental & Cultural Resource Compliance

The proposed project is not anticipated to result in any environmental or cultural resource impacts, as detailed in the responses below. The project applicant will commit its own state funding resources to establish and operate the pilot water banks outside of the proposed grant-funded project, and therefore the proposed project is limited to planning type studies which fall under Categorical Exclusion B1. Therefore, the responses below are representative of the grant-funded project and not the operation of the three pilot water banks. Compliance will be further evaluated and documented as part of the project (see **Table 8** above).

- 1) *Will the proposed project impact the surrounding environment? Describe all earth-disturbing work and any work that will affect the air, water, or animal habitat in the project area.*

The proposed project will not impact the surrounding environment.

- 2) *Are you aware of any species listed or proposed to be listed as a Federal threatened or endangered species, or designated critical habitat in the project area? If so, would they be affected by any activities associated with the proposed project?*

The proposed project area encompasses the entire State of Utah. There are 42 threatened or endangered species in Utah. The proposed project activities will not affect these species.

- 3) *Are there wetlands or other surface waters inside the project boundaries that potentially fall under CWA jurisdiction? If so, please describe and estimate any impacts the proposed project may have.*

The proposed project area encompasses the entire State of Utah, which contains a vast number of jurisdictional waters under the Clean Water Act. The proposed project will not impact these jurisdictional waters.

- 4) *When was the water delivery system constructed?*

The proposed project is not focused on any one particular water delivery system.

- 5) *Will the proposed project result in any modification of or effects to individual features of an irrigation system?*

The proposed project will not result in modifications or effects to an irrigation system.

- 6) *Are there any buildings, structures, or features listed or eligible for listing on the National Register of Historic Places?*

The proposed project encompasses the entire State of Utah, which contains many features eligible for listing on the National Register of Historic Places. The planning studies included in the project will not cause any impact to such features.

- 7) *Are there any known archeological sites in the proposed project area?*

The proposed project area encompasses the entire State of Utah, which contains many known archaeological sites. The planning studies included in the project will not cause any impact to such sites.



8) *Will the proposed project have a disproportionately high and adverse effect on low income or minority populations?*

The proposed project will not have a disproportionately high and adverse effect on low income or minority populations.

9) *Will the proposed project limit access to and ceremonial use of Indian sacred sites or result in other impacts on tribal lands?*

The proposed project will not limit access to or ceremonial use of Indian sacred sites or result in any impacts to Tribal lands.

10) *Will the proposed project contribute to the introduction, continued existence, or spread of noxious weeds or non-native species known to occur in the area?*

The proposed project will not contribute to the introduction, existence, or spread of noxious weeds or non-native species.

## Required Permits & Approvals

The proposed project will not require any further approvals to be initiated. The State Legislature has already appropriated state funds to ensure the successful study and implementation of water banking efforts. The pilot projects will require approval of the draft water bank legislation in early 2020. Please see response to Evaluation Criteria C.4.

## Existing Analysis Contributing to the Strategy

There is a significant body of work that precedes and supports this grant application and the proposed project. Attached to this application are several important references that contribute to the project approach and Work Plan, as well as to the Statewide Water Marketing Strategy to be developed. The attachments include:

- Summary of Water Banking Sub-Group Findings, dated May 29, 2018
- Utah State Legislature, 2019 legislative session, Joint Resolution 1
- Working draft of the proposed Water Banking Act to be introduced in the 2020 legislative session





## Online References & Information

### Utah State Agency Resources:

Utah Division of Water Rights. Study Committee Meetings.  
<https://www.waterrights.utah.gov/meetinfo/studycommittees.asp>

Envision Utah. Statewide Water Strategy  
<https://www.envisionutah.org/projects/utah-water-strategy>

Utah Water Banking Website  
<https://utahwaterbank.org/>

### News Articles & Media:

Deseret News. *Drought stricken Utah explores water banking*  
<https://www.deseretnews.com/article/900042133/drought-stricken-utah-explores-water-banking.html>

Utah Farm Bureau. *Draft Water Banking Legislation Gearing Up for 2020 Utah Legislative Session.*  
<https://www.utahfarmbureau.org/Article/Draft-Water-Banking-Legislation-Gearing-Up-for-2020-Utah-Legislative-Session>

Salt Lake City Tribune. *As Utah dries up, lawmakers look for smarter ways to transfer, use - and not use — water.* <https://www.sltrib.com/news/environment/2019/01/28/utah-dries-up-lawmakers/>

Audubon Western Water News. *How Flexible Water Management Could Benefit both People and Birds*  
<https://www.audubon.org/news/how-flexible-water-management-could-benefit-both-people-and-birds>

# ADDENDUM 1

## **BEAR RIVER WATER BANKING**

### **Our Approach**

A two-pronged approach:

- 1) Create a “tributary” water bank
- 2) Create a water leasing pilot within the Bear River Canal Company Service Area

### **Rationale**

The Bear River is a highly managed system with a long history governing water<sup>1</sup>. At this time, the major constraints in operating a main stem river water bank are the following:

1) During the irrigation season PacifiCorp provides the Bear River Canal Company up to 900 cfs of water, which irrigates 66,000 acres. The obligation is first met with natural flow and if there aren't sufficient natural flows in the river, this obligation is met out of Bear Lake storage water.

2) In accord with the Bear Lake Settlement Agreement (2004), irrigation storage water use (for all users) is rationed based on the level of Bear Lake. Depending on the water year – more or less water will be needed out of storage for PacifiCorp to meet its delivery obligation.

3) The Bear River Compact specifies the irrigation reserve at 5914.61 feet. The amount of water above that level is considered as storage and may be used for irrigation, power and “other beneficial uses”; water below that level is released **exclusively irrigation**. (Any environmental benefit from such a release are ancillary or incidental to the primary purpose.) This limits the ability of Bear Lake storage water to be banked or released for any other purpose. However, in the state of Utah, urban secondary water systems used for outdoor watering are considered irrigation. So that could be a potential change in use under a water banking scenario.

4) Under the 2004 Bear Lake Settlement Agreement, PacifiCorp makes annual storage water allocations from Bear Lake in April of each year to its contract holders in Idaho and Utah. The water users adjust their planting based on this allocation amount. All users have both natural flow water rights with various priority dates. Water obligations are met first by natural flows, then by storage. This works well when there is no change in usage and the cropping patterns are relatively static. However, if any Canal Company changes or expands their usage and uses their full allocation in a year when they otherwise would not have, now or in the future under a leasing/banking program, other canal companies would be affected because of the reduced storage in Bear Lake by diminishing the amount of storage water that could be used in future years. In essence, there already exists a community water bank in Bear Lake for

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<sup>1</sup> 1912 U&I Sugar Company Conveyance and Agreement; 1916 through 1919 three additional irrigation agreements; 1968 Bear Lake National Wildlife Refuge agreement; 1955 Bear River Compact (Irrigation Reserve); 1980 Amended Bear River Compact; 1989-1990 Original Small Pumper Agreements; 1995 Bear Lake Settlement Agreement; 1999/2000 Agreements between PacificCorp, Utah, Idaho and Wyoming to maintain historic operations of Bear Lake with hydro generation as an incidental use of Bear Lake water with a description of flood control operations and targets; 2004 Amended and Restated Bear Lake Settlement Agreement.

the current contract holders because the 2004 Bear Lake Settlement Agreement specifies that any storage water not used in any year increases the allocation for the following year because Bear Lake levels are higher due to the unused storage water.

5) The State Engineer has allowed the Bear River Canal Company the flexibility to “move water around” within their service area, i.e., if a shareholder wants to forego use of their water they may rent it to another user in the service area.

#### **Advantages of Recommended Two-Pronged Approach**

1) A program on the tributaries would not be as complicated as the main stem. Environmental flow needs have been documented for a number of tributaries.

2) The Bear River Canal Company already has the authority to manage water within its service area. The need for additional water for Great Salt Lake has been documented. A model for this program could be the Grand Valley Water Bank Pilot – a demand management program based on reduced agricultural depletion by temporarily drying up land, freeing up water for environmental uses.<sup>2</sup> Alternatively, shares could be redirected to irrigate wetland areas near the Great Salt Lake within the service area instead of agricultural land, thereby increasing habitat area with excess water flowing into the Great Salt Lake.

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<sup>2</sup> PacifiCorp delivers water to Bear River Canal Company at Cutler Reservoir. Hypothetically, a shareholder within BRCC or BRCC could lease water (delivered from Cutler to the Bear River Canal Company service area) to a duck club or other entity that wants to apply the water to irrigate wetlands type habitat. As such, there could be some related environmental benefit that accrues as part of the transaction.

## **Bear River Water Bank – Cache County Tributary Pilot Project**

### **Place**

Would largely be focused in Cache Valley

### **Water Source**

It was the consensus that since most of the water used in Cache Valley is for irrigation, and most of that water use is under water rights held by irrigation and canal companies, that a water bank based upon banked shares of irrigation company stock be tried as a pilot project. Certainly, appropriated surface and groundwater rights owned by private individuals could also be considered. Banking individually owned appropriated rights would be the easiest to administer.

### **Priority Date and Pricing**

It was concluded that the underlying priority date of the water right placed in the water bank would need to be retained. Especially in times of shortage, priority is critical in the administration of water rights, and in particular when water rights are transferred upstream. The market would dictate price.

### **Beneficial Use**

It was concluded that water deposited in to the bank could be used for any purpose, including instream use, and that the use of water under the water right withdrawn from the water bank would not necessarily need to match the authorized use of the water right deposited in to the bank including instream use. There does, however, need to be a mechanism in place to assure that there is no enlargement of water right by virtue of its passing through the bank. The consumptive use of the right or portion of the right leased from the bank could not be increased. In other words, if agricultural water deposited into the bank is leased from the bank for industrial purposes, the total consumption under industrial consumptive use would have to match, or could not exceed, the authorized consumptive use under the agricultural right deposited into the bank; otherwise, there would be an unlawful enlargement of the water right deposited into the bank - upon which the lease out of the bank is based.

### **Storage**

On the Bear River tributaries there is an opportunity for some storage, e.g., Hyrum dam, Porcupine Reservoir, small dams on the Logan. Where storage is not an option or needed, the leases could be executed through paper transfers.

### **State Oversight/Involvement**

An important role for the State/Regional Engineer is to assure that the movement of a water right through the water bank will not impair any downstream users, e.g., the holders of water rights in Box Elder County. Any change to any element of the water right deposited into the water bank which is leased out of the bank would require administration and oversight from the Division of Water Rights. There may also be a role for the new Cache County Water Conservancy District to manage relations among canal companies in Cache County.

**Enforcement/Shepherding**

A monitoring / measuring system would need to be established, and ditch-riders or other officials employed, with authority from the Division of Water Rights, to enforce the authorized uses of the water under the water rights leased out of the bank, as approved by the Division of Water Rights. For instream flows, it will undoubtedly take a paradigm change in the minds of water users to get comfortable with the idea of water running in the stream with no one diverting and using it!

**Recommendation**

To answer many of the remaining questions on priority for banked water, economic incentives, ground water, mechanics for putting water into/taking out of the bank, quantity impairment/non-use (forfeiture), it is recommended to that a pilot project with a single canal company, dealing with shares on a specific stretch of a tributary river, as an experiment in determining how to work out the details.

## SUMMARY OF FINDINGS

To: Senator Jani Iwamoto

From: Price River Water Banking Subgroup – Sue Bellagamba, Nathan Bracken, Wendy Crowther, Peter Gessel, Jordan Nielsen, and Marc Stilson

Date: March 26, 2018

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### **I. Introduction**

As you know, the larger water banking group agreed to divide into subgroups to explore how water banking may work in a different basins throughout Utah. The purpose of this scoping effort was to identify the incentives, barriers, and other issues in specific basins that the larger group should consider when drafting legislation that will authorize water users in different parts of the state to create water banks to serve the needs of their basin, drainage, or local area. Ideally, by looking at a number of different basins, the group will be able to craft legislation that provides the necessary regulatory framework but also provide each bank with sufficient flexibility to account for its local needs.

We agreed to study the Colorado River Basin. Given the size of the Basin, however, we narrowed our focus to the Price River Drainage. In studying the Price Drainage we conducted outreach with key stakeholders, such as Bill Butcher with the Price River Conservancy District, Kevin Cotner of the Carbon Canal Company, and Regional State Engineer Marc Stilson, who has joined our subgroup.

Our findings and recommendations are as follows.

### **II. Legislation should enable local interests to build upon or improve existing efforts to lease, trade, or share water**

A form of water banking or exchange is already taking place in the Price to some extent through leases that are negotiated between parties. Many of these leases also rely on an established pricing structure. There is not, however, a central authority for parties interested in leasing water to learn about willing lessors and lessees or to gather information on water pricing.

1. Local banking should build on and support current water sharing practices and pricing structures used for leases in the Price, which means that any banking legislation cannot mandate a specific pricing regime.
2. Pricing in a local bank in Price will likely be different than in other areas, further illustrating the need for the legislation to give each bank some level of discretion to determine pricing for its service area.

**III. Legislation should allow each local bank sufficient flexibility to create a governance structure that corresponds to its specific circumstances**

A transparent central banking authority could help smooth out some of the tensions between local water interests, provided that the bank is transparent and representative of the water interests in the area:

1. Some of the larger entities in the Price will likely require a greater role or say in how the local bank operates, while smaller entities will need to have some assurance that they will have an influence in the bank.
2. A centralized banking structure could help facilitate a market and access to available water but could also increase prices by facilitating competition, further illustrating the need for each bank to have flexibility to establish its own pricing.
3. The Regional State Engineer's Office is well-respected in the Price and is seen by many as an independent and competent intermediary capable of resolving conflicts between the different water interests. Because of this, our outreach indicated that the Office, and Marc in particular, would likely need to play an integral role in the operations of the bank. Other areas in Utah may differ on this point, however, in which case any statewide legislation authorizing banking will likely need to afford flexibility in how each bank coordinates with the Division of Water Rights and the Regional State Engineer.
4. Local banks will also likely need sufficient flexibility to determine how best to interface and coordinate with distribution systems and water commissioners within their service areas.

**IV. Water distribution systems may provide a good starting point for the process needed to create local banks**

Section R655-15-1, et seq. of the Utah Administrative Code sets forth a process by which water right owners within a river system, a portion of a river system, or a hydrologic unit may organize as a distribution system to be regulated by one or more water commissioners. The process that governs the creation of a distribution system is locally driven and provides a significant amount of flexibility that allows those local interests to create distribution systems that are tailored to their specific circumstances. Although this process is not completely applicable to local banks and it is unlikely that distribution systems could take on banking responsibilities, there are procedural aspects that may serve as a model or as a starting point for a process to create a local water bank, including the following:

1. R655-15-5 sets forth the process by which water users in a specific area may request that the State Engineer create a water distribution, as well as the process the State Engineer will play in creating a distribution system pursuant to such a request. This process requires public meetings, the solicitation and review of public comments, the establishment of boundaries, and other to organize a distribution system in an open and transparent manner subject to the State Engineer's ultimate approval.

2. R655-15-6 sets forth the authority of the State Engineer to regulate distribution systems providing, among other things, that the State Engineer will retain supervisory authority to ensure that “water is measured, divided, regulated, and distributed in a manner consistent with the rights of the water users.”
  3. R655-15-9 requires that the creation of a distribution system committee be “established in a manner that will provide equitable representation of the interests of all water users in the Distribution System,” and may be elected from the water users or duly appointed representatives of water user groups (e.g., water companies, districts, municipalities, etc.), or may be a combination of both.
  4. Local districts may also provide a general concept for how to develop a transparent and representative governing body for a local bank, but making local banks comply with the “government entity” requirements that apply to districts (e.g., public meeting and public finance requirements) would be overly burdensome and problematic.
- V. Flexibility is needed to account for differences in the types of entities that will place water rights in a bank and those entities seeking to lease water from a bank**

In most parts of Utah, we expect the majority of lessors and lessees in a local water to be agricultural. Although the majority of potential lessees in the Price will be agricultural, non-agricultural entities like PacifiCorp and the Price River Improvement District have the majority of the water to lease. At the same time, the system is already fully allocated, which creates competition for the water that is available for lease.

1. Because agricultural users will be primarily focused on leasing water, there is a concern that agricultural users could be “priced out” if they are required to compete against municipalities and others with deeper pockets, particularly if those interests are coming from outside of the drainage.
  2. Legislation authorizing the creation of local banks should give local banks flexibility to create a system that allows agriculture to be competitive in the leasing process, including but not limited to the processes that govern how lessees bid or otherwise acquire water to lease and how such water is priced (e.g., a flat price for all water similar to Idaho’s water bank).
- VI. Allowing inter-basin transfers between banks is likely infeasible but there are situations in which local banks within a basin should have the ability to voluntarily negotiate *intra-basin* transfers among themselves, as appropriate**

As noted previously, there are concerns in the Price that agricultural interests will be priced out of a local bank if forced to compete with deeper pockets, particularly growing municipalities that are outside of the drainage, such as Saint George or cities along the Wasatch Front. Some water entities in the Price may also have articles, bylaws, or restrictions that require their water rights to be used within a specific area.

1. Although there appears to be unanimous concern about inter-basin transfers, some of the stakeholders expressed support for *intra-basin* transfers between banks located within the same basin.
2. In addition, given the hydrology of the Price drainage and its proximity to the San Rafael drainage, there appears to be an interest in creating a framework in which banking could take place between the Price and the San Rafael drainages.
3. Accordingly, any legislation that authorizes local banking should give local banks within the same basin the option of determining whether to allow for transfers among themselves on a voluntary basis per agreements or other arrangements.

#### **VI. Miscellaneous**

1. There is broad consensus that any legislation would need to clarify that water placed within a bank is not subject to abandonment and forfeiture.
2. Carrying water over from one year to another is likely not needed in the Price, but may be a necessary incentive in other drainages in Utah, further illustrating the need for each bank to have flexibility to determine how banking will work within its specific boundaries.

**Water Banking Drafting Group  
Provo River System  
April 20, 2018 1:30-2:30 PM**

**Attendance:** Steve Clyde & Emily Lewis - Clyde Snow & Sessions; Peter Gessel – Utah Department of Ag.; Chris Finlinson & Rich Tullis – Central Utah Water Conservancy District; Scott Martin – Snow Christensen & Martineau (via phone)

**Not in Attendance:** Jani Iwamoto – State Senator; Marcelle Shoop – Audubon Society; Erica Gaddis – Executive Director DWQ; Rusty Vetter – Salt Lake City.

**Meeting Summary:**

The meeting explored concepts and benefits of creating contract water banks. The group looked to Central Utah Water Conservancy District's Bonneville Water Bank as an example of what a "contract bank" might look like (distributed at the 12/18 Meeting and via email on 4/19). The benefits of a contractually based water bank include:

- Reserving control of the "bank" to the participating parties to the contract
- Flexibility to adapt the bank to local watershed needs and circumstances
- Avoiding a protracted legislative process or ill-fitting "one size fits all" legislation
- Works primarily outside State Engineer administrative processes (speed and efficiency)
- Potential solution for meeting M&I, Ag., and environmental needs

Some of the specific "contract bank" concepts include:

- **Contractual Basis:** Create virtual water banks through contractual agreements between water users. For now, contracts would primarily deal with surface diversions and would detail how and where water is to be used, under what conditions, and how duplicate use avoided. Contract must address monetary incentives for water users to curtail water use and enter conserved water into bank. Some money may be devoted to executing the contract.
- **Contract Mechanics:** Flexibility is desired and it would be ideal to have the contract built to accommodate real time water needs. Once a contract is approved/endorsed by the State Engineer water rights can be moved according to the terms of the contract without further State Engineer action (similar to how large irrigation companies have flexibility to distribute their water rights within their service areas according to internal policies).
- **Water Right Verification:** There is a need for an expedited process to confirm the validity of the water rights participating in the bank (i.e. an expedited Temporary or Fixed Term Change Application process). It was also discussed creating a more limited process to review the validity of the rights but not necessarily the full UCA 73-3-3/73-3-8 criteria. There could be a certified list of water rights deemed eligible to participate in the bank.
- **State Engineer Participation:** Ideal State Engineer participation would be lateral and could be modeled on State Engineer use of rulemaking to endorse the Utah Lake Management Plan as governing document for Utah Lake levels. It may be helpful to explore creating a Checklist, Guidelines or a MOU establishing the criteria a contract bank must meet to receive an endorsement from the State Engineer. The goal is to expedite processing of contract banks.
- **SE Administrative Practice:** To facilitate split season uses, which will be a primary component of contract banks, may need to change State Engineer administrative practice to review depletion instead of headgate diversions/duty when determining how much of water right is used and what water is available and eligible to enter the bank.
- **Water Commissioner Participation:** To maintain orderly distribution on the river, contract banks will need a means to alert the Water Commissioner of contract mechanics and when water is intended to be moved.

**Next Meeting:** No next meeting time was set.

Tasks: Clyde Snow will prepare an outline of the concepts/sample contract water bank for the group to discuss. To be distributed by May 1, 2018. Once an outline is distributed Peter Gessel and Scott Martin will review the need for legislative changes.

**MINUTES:**

These minutes are contemporaneously taken - please excuse typos, spelling errors, inadvertent attributions, or accidental misstatements.

- Rich Tullis: (working with Daryl Devey)
  - o Working on Warren Act Contract down the road to help with water banking
  - o Had a meeting with DNR – started talking some of the concepts we need to make this happen as a pilot
  - o We know we can talk to the irrigation companies
  - o Thinking we can start with some direct flow – split season; or even a more flexible system that can go and off
  - o Will need some administrative controls to show not double dipping
  - o CWP: renting water and using Geneva wells
  - o Think we can get 1000 AF of trial and limit rented water – need the economics to work out for M&I but need the economics to work for instream flows too
  - o Need to look at the relationship between M&I use, instream flows, and ag to make it all work out – everyone would get something out this
  - o Provo River not a whole lot of need for instream flows because of our ESA requirements – more room in the upper river for flows
- Steve Clyde:
  - o The New River commissioner is modeling a bunch of flows
- Rich Tullis
  - o Actually that is Jared Manning project – we have some concerns because we want the river commissioner to still have the final say to address the complexities and nuances
  - o Thought it is looking more promising than originally thought
  - o For a pilot we need a few years to make sure the administration is going to work out – no double counting etc.
- Steve
  - o I wish we had some Warren Act done now so we can have storage
- Rich
  - o Warren will help but we will still have some other issues like NEPA to work through
  - o Realistically surface flows are going to be best to pilot this on
- Peter
  - o How good is the measuring on the Provo - that is going to be the biggest issue for split season uses
- Rich
  - o Usually the companies are either on or off so instantaneous diversions are not need necessarily needed for this
  - o May just take a cut from the beginning and calculate it that way
- Steve
  - o Diamond Bar X: no fancy measuring devices but we are high up in the system
- Rich
  - o How do we do this so we try and incentivize water for the instream flow folks – we really just need the economics to work – who is going to pay for the water for the instream flows
- Steve
  - o Counter argument – if you not going to use your water why would I pay for it because it is

going to come down the stream anyway

- Rich
  - o To avoid that may have to go back to reservoir releases and met out what people buy from farmers for instream flows – central distribution
- Steve
  - o We might just need to draft out what a pilot program would like
- Scott:
  - o I don't think we need any legislation – I think we can do it all through contracts
  - o To the extent the State Engineer needs to be involved maybe at the management plan level
  - o Each system is so unique in the state – hard to make a one size fits all statutory program
  - o Maybe make templates for contracts at the basin level
  - o For legislation less might be more
- Steve
  - o Maybe a limited legislation like what Idaho has done and just set up the water banking component and administration side of things
- Peter:
  - o If we can get a contract based program off the ground there is little resistance from outside forces because there is no vote – it is going to work or it is not going to work
- Steve:
  - o Perhaps a truncated Change Application process
  - o Need to look to see if there is bonafide water right and there is not going to be impairments or laundering bad rights
- Rich:
  - o Want to clarify: the only way we are going to get half the water for conservation is to fallow half the land
  - o My understanding that is the only way the law will work
  - o Need to look at spreading water thinner
- Steve:
  - o I was looking it more at taking the first three cutting of the 40 acres but not the later season 2 cuts
- Rich:
  - o We needs something that is fast from the State Engineer not two years
- Scott:
  - o Even temporary change applications take some time
  - o Maybe some kind of standing order – if the arrangement meets these requirements you can go forward with 7 days state engineer's notice
  - o Something a little more nimble but still has some notice of what is going on
- Rich:
  - o This is where we might be on a different page than the water basin council concept – it's all contractual and we are going to just work with those folks involved in the contracts
  - o Don't want the basin council to get in the way and veto a good contractual arrangement
- Scott:
  - o We are going to be changing the parameters of the water so we are going to need something akin to a change application to note the change and keep the records update to date for the rights/actual use
- Steve:
  - o Boyd has stated we can move to a depletion analysis and not a head gate diversion analysis
  - o All of this can be administratively
- Peter:

- Perhaps an MOU will be sufficient if you have active and working water rights
- Rich
  - Looking at it from the M&I perspective again
  - Visualizing a separate section of the code
  - Present your water "scheme" to the State Engineer of how you are going to move water around keep everyone whole
  - 120 days max to see what proposed scheme would do – State Engineer approval of scheme
  - Then 24 hour notice of moving a component of your system
- Steve:
  - Looking at the Utah Lake Management plan
  - Have the plan and then through Rulemaking the State Engineer endorsed it
- EELewis:
  - Submit your water right to a certification list to validate the water
  - Then part of a contractual water bank
  - Operate like an irrigation company – move water around inside company/move water around the contractual bank
  - Need ways to notify the commissioner on what is happening so they can make arrangements on diversions
- Rich:
  - It is all got to work with all the parties
- Steve:
  - Moving forward – Steve and EELewis draft a contractual banking schematic, validity/certification list
- Scott:
  - More details on Rich's M&I proposal
  - Steve: it's mostly in the Bonneville paper distributed
- EELewis:
  - Contractual bank checklist
  - Something that allows the state engineer to review a contractual bank and give it a rubber stamp
- Chris:
  - Pros and cons from legislation
  - Pro – if we have invested legislators, is there benefit in having them pressures the State Engineer's office so they feel compelled to act
  - Con – present something up on the hill and then an opportunistic legislator jumping on the band wagon
  - Need to keep close contracts with Jani and Sterling to make sure we are all working on the same page
- Steve:
  - We may need to start looking for new/additional sponsors with the departure of Dayton
- Chris/Rich:
  - Whatever we need to do we need to be out in front so that we make something work well as pilot for the Provo and no other group dictates a project that won't work on this system
- Peter:
  - We need a win for Ag. –
  - I don't want to change what we are talking about - but the elephant in the room is Ag. to urban conversion
  - Avoid the buy and dry issues
- Rich:

- Yes – this is exactly what this could be
- Best in the world – would be if farmers give up some of us their water is much more attractive
- Always going to be farmer land owner somewhere who wants to sell of their land
- EELewis:
  - This might change the economic decisions for future farmers to stay in
  - Alternative Transfer methods? Look to other states
- Peter:
  - Look to Nathan's white paper on this
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## SUMMARY OF FINDINGS

To: Senator Jani Iwamoto  
From: Sevier River Water Banking Subgroup –Nathan Bracken and Jay Olsen  
Date: April 30, 2018

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### **I. Introduction**

Our group offered to look into the various incentives, barriers, and other issues associated with water banking in the Sevier River Basin, as well as the key elements that water interests in the Basin will likely require for any statewide water banking legislation. In performing this task, we conducted outreach with a number of experts with an understanding of water issues in the Sevier, including Warren Peterson and Terry Monroe with the Division of Water Rights' Richfield office and Tracy Balch Conservation District, Zone 4 Coordinator. Our findings and recommendations, which are based in part upon the summary prepared by the Price River Subgroup, are as follows:

### **II. Legislation should not interfere with existing efforts to lease, trade, or share water**

A significant amount of water trading is already taking place in the Sevier River Basin between shareholders at the canal company level. In addition, there is a large amount of data and information available in the Sevier with respect to water availability and pricing. The Basin is also extremely efficient and water supplies are fully allocated and used. As a result, parts of the Basin, particularly the area around Delta, are already adept in terms of moving water between willing buyers and sellers. Thus, it is possible that statewide water banking legislation may not improve upon the current framework in the Sevier, at least in some parts.

That being said, if statewide legislation were to improve water trading efforts in the Sevier or to be palatable to water right holders in the area, such legislation would likely need to have the following components:

1. In some parts of the Basin there is no centralized authority for parties interested in leasing water to learn about willing lessors and lessees or to gather information on water pricing. Although water companies in the Delta region appear to currently fulfill this role, a centralized authority may be useful in other parts of the Basin.
2. Because a significant amount of water trading is already taking place in the Sevier, local banking should build on and support current water trading practices and pricing structures. This means that any banking legislation cannot mandate a specific pricing regime and should give each bank that may be created in the Sevier some level of discretion to determine pricing for its specific service area.

**III. Legislation should allow each local bank sufficient flexibility to create a governance and pricing structure that corresponds to its specific circumstances**

It is likely that the Sevier would require four to five<sup>1</sup> separate local banks within the Basin organized on a sub-drainage basis. Although it is possible that not all of these drainages would choose to create a local bank, a transparent central banking authority could help smooth out some of the differences between local water interests at a sub-drainage level, provided that such banks are transparent and representative of the water interests within each bank's respective service area, particularly with respect to pricing.

1. Some of the larger entities in the Sevier will likely require a greater role or say in how the local bank operates, while smaller entities will need to have some assurance that they will have an influence in the bank.
2. A centralized banking structure at the sub-drainage level could help facilitate a market and access to available water in some parts of the Sevier, but could also increase prices by facilitating competition, further illustrating the need for each bank to have flexibility to establish its own pricing.
3. Local banks will also likely need sufficient flexibility to determine how best to interface and coordinate with the State Engineer, distribution systems, water commissioners, and the various water companies and other right holders within their service areas.

**IV. Water distribution systems may provide a good starting point for the process needed to create local banks**

The Sevier River Subgroup concurs with the recommendation from the Price River Subgroup that a framework that is similar to the process needed to create and operate water distribution systems may work for local banks.

**V. Flexibility is needed to account for differences in the types of entities that will place water rights in a bank and those entities seeking to lease water from a bank**

Like many other parts of Utah, we expect that most of the water rights placed into a local bank and leased from a local bank in the Sevier would be agricultural in nature. There is also a concern that agricultural users could be "priced out" if they are required to compete against municipalities and other potential lessors with deeper pockets, particularly if those interests are coming from outside of the Basin.

1. Any statewide local banking framework will need to ensure local control in how local banks are created and managed in order for banking to be acceptable to water interests in the Sevier; and

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<sup>1</sup> Bacon's Bible page 3 VII list zones A-D

2. Water interests in the Sevier will likely not support any legislation that does not give local water right holders and local banks flexibility to create a system that allows agriculture to remain competitive in the leasing process.

**VI. Allowing inter-basin transfers between banks is likely a nonstarter in the Sevier, but there is support for allowing local banks within the Sevier to have the ability to voluntarily negotiate *intra-basin* transfers among themselves, as appropriate**

The Sevier is particularly sensitive to concerns that agricultural interests will not be able to compete if water that is banked in the Sevier can be moved outside of the Basin, particularly for municipal and other uses along the Wasatch Front. That being said, there also appears to be a general recognition that local banks within the Sevier would need and want the ability to negotiate *intra-basin* banking arrangements among themselves. Again, the concept of local control is key.

**VII. Abandonment and Forfeiture**

There is broad consensus that any statewide banking legislation would need clear and unmistakable language stating that water placed within a bank is not subject to abandonment and forfeiture.

**VIII. Conclusion**

Water interests in the Sevier may have less interest in water banking than other parts of Utah because of: (a) the existing efficiency in the Sevier River system; (b) the significant amount of water trading that already takes place in the Basin; and (c) the significant amount of water data and information currently available regarding water supplies and availability in the Sevier.

Consequently, some interests in the Sevier may not be inclined to see the need for statewide water banking legislation or how such legislation would benefit them. These interests may also be concerned that such legislation may disrupt the water trading that already take place in the Sevier or could adversely impact local control over the Basin's water rights. Because of the potential for these and similar concerns, statewide legislation will need to refrain from imposing mandatory obligations on local water interests and will need to include protections for local control to be palatable to water interests in the Sevier and to otherwise avoid generating opposition in the Basin.

## Water Banking on the Weber River

Meeting Date: 4/9/2018

Meeting participants: Scott Paxman, Derek Johnson, Marcelle Shoop, Mark Stratford, Paul Burnett

### 1) Current Conditions

- a) Informal, temporary water transactions are already occurring throughout the Weber River Basin. There are a handful of limited peer-to-peer informal short-term exchanges, but there lacks a formal structure to broker any water temporary water deals. As a result, there is not a robust temporary water market. Most of the current water transactions are being completed by larger water entities such as Weber Basin Water Conservancy District with individual small water users. These are happening on an informal annual basis in the following manner.
  - i) The larger entities are reaching out to smaller, individual water users who typically hold senior natural flow water rights. The parties negotiate a lease and the water users fallow their field(s) and allow their water to flow downstream. Water is delivered downstream during the irrigation season as a natural flow within the service area of the leasing entity.
  - ii) WBWCD is essentially using the natural flow water as it is available through leasing to supplement their reservoir releases and extend storage. For example, if their summer releases out of Echo Reservoir releases are 400 cfs, and they are leasing 1 cfs of natural flow rights from a water user in Coalville, then their actual call of stored water is 399 cfs from Echo Reservoir. This allows them to store water in the reservoirs for potential carry-over purposes.
  - iii) The agreement is reported to the River Commissioner, who tracks the blend of natural flow and stored releases during the current water year. This is essentially a solution to the shepherding question.
  - iv) This situation is enabled by the fact that the WBWCD service areas is essentially the entire watershed area.
    - (1) There is also some uncertainty about the extent to which a larger volume of short term exchanges could occur without a more formal structure and enabling conditions. The uncertainty arises from questions about how extensively informal, peer-to-peer, annual leases would be allowed by the state engineer and tracked by the River Commissioner. The accounting for leases going from a handful of water users to a specific diversion point (e.g. the Stoddard Diversion) is straightforward, but with multiple parties entering into leases and informal exchanges, it appears that the existing flexibility could be overwhelmed.
  - v) Another example of temporary water exchanges is occurring within Chalk Creek system where individual water users are leasing shares out of Blue Lake, a small storage reservoir within the headwaters of Chalk Creek.
- b) Under current conditions, entities like WBWCD are essentially running a very limited "bank." It could be said that individual water users are making deposits to the "bank" but WBWCD is the only organization actually making withdrawals. The primary goal of these transactions is to allow WBWCD to extend storage reserves by tapping in to natural flow rights to supplement current demands.

- i) Specific end users within the Weber Basin System are not concerned with specific colors of water (e.g. natural flow or stored). Once it is in the WBWCD system, it is all essentially considered the same.
    - ii) On paper, the WBWCD is using the leased water as credits for stored water.
  - c) Pricing is negotiated between individual water users (Depositors) and WBWCD. Because WBWCD is the only entity that can use the leased water, prices are essentially set by WBWCD.
  - d) WBWCD will sometimes lease stored Echo Reservoir water to the Weber River Water Users. This paper water is then transferred up to Wanship Reservoir, allowing WBWCD to store water as high in the watershed as possible.
- 2) **Two types of water banking options are possible in the Weber River**
  - a) Natural Flow Bank
    - i) In concept, this would consist of existing short term exchanges that are already occurring.
    - ii) Would work on an annual basis without storage water.
    - iii) A formal bank would broker the exchanges and allow for smoother exchanges of water.
  - b) Stored Water Bank
    - i) Banked water could potentially be stored in storage reservoirs.
    - ii) Requires Warren Act approval for BOR reservoirs to store non-project water
    - iii) A potential workaround would be for WBWCD or other entity with large storage reserves to broker leases of natural flow and reserve storage to ensure that reservoirs are not storing non-project water. This would require the entity with storage to purchase the lease, and then lease it back out to water users or use it within their system during the current water year. It is possible that storage water not released in lieu of natural flows could be pooled separately and leased during subsequent years.
- 3) **An independent water bank may facilitate more participants**
  - a) Currently it is limited to people willing to work with WBWCD. Many small water users do not have a well-developed relationship with entities with storage such as WBWCD.
  - b) In a third-party water bank, partner organizations (e.g. NGO's) could potentially facilitate participation in the bank
  - c) An open market water bank, may change the pricing structure. A high price per acre-foot may price out smaller water users and agricultural producers from purchasing water. There is potential that an open market could also cause water to be exchanged to the Provo River system, which is generally a higher price per acre-foot market.
  - d) There is potential concern with the impact of water banking on water making it to the Great Salt Lake and surrounding wetlands. If more water is consumptively used then less will pass downstream.
- 4) **Great Salt Lake System Water Program**
  - a) Demand management within the Great Salt Lake tributaries similar to that of the SCPP in the Colorado River, could help support sustainable lake levels.
    - i) A GLS System Water fund, set up to compensate water users for fallowing fields could be the basis for this program
      - (1) Voluntary program
      - (2) Based on consumptive use

- ii) If the State Engineer accepts this program as a state fallowing program, then water users would not be at risk of forfeiture
- iii) River Commissioners would need to shepherd undiverted water to the Great Salt Lake.

**5) Legislative Needs**

- a) Recognize water being placed into the bank
  - i) Facilitates people entering water into a bank because it qualifies as a beneficial use
- b) Legally recognize the entity that actually runs the bank
  - i) Provides staying power to the entity
  - ii) An independent organization (i.e. a committee of the Weber River Partnership), would need funding for staff to oversee the bank and/or GSL System Water Program

**6) Questions to other water users and the River Commissioner**

- a) What tools are needed to account for water exchanges and shepherd water
- b) Would other water users with storage be willing to participate in possible water banks?
- c) What would the scope of a water bank be? Watershed level (e.g. Lost Creek, Chalk Creek, Upper Weber) or basinwide
- d) Concerns with flows for hydro?
- e) What entity would administer a bank?