Cache Water District: Risks and Opportunities

Research and Policy Analysis Report on Formation of a Water Conservancy District in Cache County, Utah

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Executive Summary

In the November 2016 election, Cache County residents will vote on Proposition #11, Formation of the Cache Water District. The question before voters is: Should the Cache Water District be created? Voters can respond "yes" or "no."

The Cache County Water Master Plan was released in 2013. Discussion and analysis conducted through that planning effort suggested that a water conservancy district would be the best organizational structure for Cache County and its municipalities to collectively and cooperatively manage water. Cache County created the Bridgerland Water Conservancy Work Group (BWC Work Group) to draft a purpose statement and bylaws for the district so that voters would have a better understanding of the district's proposed structure and what it could do. The BWC Work Group chose to have 11 members on the Board of Trustees, 10 elected in non-partisan elections and 1 appointed by the Cache County Council to represent agricultural interests. If approved, the Cache Water District will be the first water conservancy district with an elected board in the state of Utah.

Local governance in the form of special districts has been rapidly growing across the United States. Special district officials tend to be more responsive to constituent preferences on issues without high current salience or severity than general purpose government officials. In addition, special districts do not favor growth and development more than general purpose governments but can, in fact, be more effective forums for different viewpoints on growth-related issues to be discussed (Mullin, 2009). Research has shown that special districts with elected boards are more accountable to constituents and tend to have lower property taxes than special districts with appointed boards (Bauroth, 2005).

Water conservancy districts have been a focus of special district formation, partly because of the planning and resources needed to build water infrastructure and operate water systems that last for a long time and serve multiple communities. However, water conservancy districts have evolved to do other tasks besides building and operating large infrastructure projects, and not all water conservancy districts are the same. Other tasks increasingly taken up by water conservancy districts include repair and replacement of aging infrastructure, water conservation, riparian restoration, and water quality testing. Rural areas have found that water conservancy districts can focus on keeping water resources under local control and legally protect water from outside interests. The State of Utah chose to only allow water conservancy districts to establish water banks, giving water conservancy districts more freedom to manage water at a local level.

Many public debates have centered on the creation of a water conservancy district in Cache County. Some opponents argue county management of water is sufficient, and fear a water conservancy district in Cache County would help promote Bear River development. In creating the proposed district's purpose, the BWC Work Group was unwilling to tie the district into any particular water project that may not be needed to secure the valley's water for future use, and chose not to include Bear River development in the purpose statement. However, much like the Bear River Commission unites the operations of the three states and three divisions along the Bear River, a water conservancy district has the potential to organize Cache County citizens across jurisdictional boundaries. It can provide a forum for collective and ongoing deliberation, analysis and planning for the valley's future water needs amidst current renewed efforts by the state and Wasatch Front water conservancy districts to develop and use Bear River water.

While many opponents are cognizant of the potential risks of establishing a water conservancy district, a Cache Water District can also create opportunities for the valley. With additional statutory authority and resources available, a water conservancy district can support scientific research, secure specialized legal counsel, and facilitate local collaboration. Most importantly, with an elected board and open, public meetings, citizens in Cache Valley will have an organized way to focus on how water in the valley should be managed and the chance to build a new water governance infrastructure to serve the valley's interests.

Introduction

In February 2016, the Bridgerland Water Conservancy Work Group (BWC Work Group) began to meet and discuss the creation of a water conservancy district in Cache County. The Work Group consisted of people from throughout the valley community with diverse interests in water. Members of the BWC Work Group were chosen from people recommended in a larger meeting of stakeholders, and organizers worked to ensure the group was well-representative of Cache Valley water interests. Over the next six months, the BWC Work Group drafted a purpose statement and bylaws for the proposed conservancy district that they thought would serve Cache Valley residents, and presented this information to citizens in public meetings and information booths at community events around the valley. These activities were conducted in order to provide the public with a vision and some operational details about the potential structure and functions of a water conservancy district proposed for Cache County, Utah.

By mid-June 2016, the Cache County Council and the city councils of every municipality in Cache County had passed resolutions to put the proposition to initiate a water conservancy district on the November ballot for voters to decide. In connection with considering these resolutions, each municipality held a public hearing, either individually or jointly with the Cache County Council. Citizens had the opportunity to formally protest the water conservancy district within 60 days after the last public hearing. If protests were submitted in a municipality or the unincorporated area of the county by 25% of the number of votes cast in the previous U.S. presidential election, or by owners of private real property covering at least 25% of the total private land area and equal in value to at least 15% of the value of all private real property, then the proposition would not appear on ballots in that particular governmental area (Utah Code § 17B-1-213(1)(b)). Few letters of protest against the district were received across all local units of government, and the proposition will appear on ballots throughout Cache County (Gefre, 2016).

In the November 2016 election, Cache County citizens will vote on Cache County Proposition #11, Formation of the Cache Water District. The question before voters is: Should the Cache Water District be created? Voters can respond "yes" or "no."

We attended the BWC Water Group meetings as well as the public hearings, and we followed the public debate through newspaper articles and editorials and other public talks. We also conducted policy research on water conservancy districts in the western United States. The purpose of this report is to provide research-based information on the role of water conservancy districts in Utah and to present examples of different types of water districts both in the state and in other areas of the western United States. We found that not every water district was formed for the same purposes, and they can have varying roles in the communities they serve. The institutional design of a water district, and the role that citizens play in the district's ongoing decision making, makes a difference in the types of policy outcomes that result from the formation and operation of a water conservancy district.

Specialization in Local Governance in the United States

Local governance in the United States is handled by various types of governmental organizations that provide public goods and services. The U.S. Census defines a local government as an organized entity, having governmental character with a high degree of responsibility to the public, and with considerable fiscal and administrative independence from other governments. Local governments are divided into two categories and five basic types: 1) general purpose governments (i. counties; ii. municipalities; iii. townships); and, 2) special purpose governments (iv. school districts; v. special districts). General purpose governments provide citizens with multiple services (e.g., financial administration, police protection, utilities, etc.) while special purpose governments are focused on one or few functions and services (e.g., education, water, public transit, fire protection, etc.; see pg. x in U.S. Census Bureau, 2013 for a list of functions provided by special districts in the U.S.). Local governmental entities are recognized

and granted powers under state laws, so the nature of these entities vary widely from state to state (U.S. Census, 2013). Local government is by far the most prevalent form of government throughout the nation. The U.S. Census 2012 official count of local governments included 38,910 general purpose governments (3,031 counties, 19,519 municipalities, and 16,360 townships) and 51,146 special purpose districts (12,880 independent school districts and 38,266 special districts) (Hogue 2013).

Utah had 622 active local governments as of June 30, 2012 and ranked forty-first among the states in the number it had (U.S. Census, 2013:274). Those 622 local governments consist of: 29 county governments; 245 municipal governments; 41 school district governments (all school districts in Utah are independent districts, i.e., not under the administrative authority of another government, and have elected boards); and, 307 special districts (cemetery maintenance districts, conservation districts, drainage districts, fire protection districts, housing authorities, improvement districts, irrigation districts, joint exercise of powers agencies, metropolitan water districts, mosquito abatement districts, public transit districts, service areas, soil conservation districts, and water conservancy districts and subdistricts) (U.S. Census, 2013:274-277).

Local governance in the United States has become more specialized over the past six decades (Mullin, 2008; Mullin, 2009; Hogue 2013). While the total number of local governments decreased 22.9% from 116,807 to 90,056 between 1952 and 2012 (mostly due to consolidation, especially in school districts), the number of special districts tripled from 12,340 to 38,266 over that same time period (Hogue 2013). This specialization reflects not only devolution of government responsibilities from the federal and state levels to the local level, but increasing focus on finding solutions to the often highly technical problems local governments are asked to address. As the growth of special districts across the United States continues to expand, more academic literature has focused on the structures and functions of special districts. Research has shown that officials in general-purpose governments tend to respond to constituent preferences on the most important or politicized issues (which could be water but may not always be), but for relatively less salient issues, general-purpose government officials may be more influenced by lobbyists or special interest groups. Since special district officials are limited to a single issue decisionmaking domain (e.g., education, water, public transit, fire protection, etc.), they tend to be more responsive to their constituents' preferences on that particular issue and more focused on utilizing specialized issue-related information in their decision making. Special districts' roles are to unbundle the multitude of issues facing a local region and to force greater responsiveness to constituent preferences – this responsiveness is not dependent on an issue's current salience as it is with multipurpose government officials (Mullin, 2008; Mullin, 2009).

Investigations of various aspects related to specialization in local governance have relevance to the vote over formation of a Cache Water District, which would be a specialized district formed under the Water Conservancy District Act of Utah.

Some researchers posit that low voter turnout for special district elections would make special district officials less accountable to the public (Mitchell, 1997), but this depends on provisions in state laws that specify when district elections are to be held. Section 17B-1-306 of the Utah Code covering election procedures for local district boards says elections shall be held at the same time as the municipal general election or the regular general election, and at polling places where those other elections are being held whenever feasible. The current vote to form a conservancy district in Cache County is appearing on the ballot in a presidential election year, which will increase the representativeness of the votes that are cast.

Other research has demonstrated that special districts with elected boards increase accountability and promote more effective governing than special districts with appointed boards (Bauroth, 2005; Mullin, 2009). In a survey of special districts across the county, Bauroth found that special districts with elected boards tend to have lower property taxes than special districts with appointed boards, illustrating that

special district board elections give the public more control over a district's use of taxing powers (Bauroth, 2005). Utah Code § 17B-2a-1005 was amended by S.B. 172 in the 2010 General Session to allow members of a water conservancy district Board of Trustees to be elected. The county and municipal resolutions that put the Cache Water District to a public vote specify that its Board of Trustees would have a total of 11 members (the maximum number allowed under Utah Code § 17B-2a-1005(5)), with 10 elected trustees and 1 appointed trustee who would be elected or appointed, respectively, pursuant to the procedures set forth in Utah Code §§ 17B-1-3 and 17B-2a-1005. Seven of the elected trustees will be elected from the seven Cache County Council districts (one from each district) and the other three elected trustees will be elected county-wide. One trustee appointed by the Cache County Council will be a person who owns irrigation rights and uses them as part of their livelihood, pursuant to Utah Code § 17B-2a-1005(2)(d). The initial trustees would be appointed by the Cache County Council (under Utah Code §§ 17B-1-303 and 20A-1-512), be current elected officials, and have staggered terms, with subsequent trustees elected directly by the public. When appointing members to the initial board, the Cache County Council will need to follow appointment procedures specified in Utah Code § 17B-1-304. The council will be required to post the notices of the board vacancies and accept applications and nominations. When filling the board vacancies, the council is required to comply with the Open and Public Meetings Act, "allow any interested persons to be heard, and adopt a resolution appointing a person to the local district board" (Utah Code § 17B-1-304).

Government taxing powers and limitations, as well as how decisions are made to use tax revenues, have become increasingly controversial in an era of anti-government sentiment in the U.S. Nonetheless, literature has attributed the proliferation in local special districts with taxing authority to states' enabling legislation and to districts' abilities to provide new or customized public services to satisfy local demands, better align tax burdens with benefits, regionalize service delivery to take advantage of economies of scale, and avoid risks of losing public control over local utility infrastructure to privatization (National Research Council, 2002; Mullin, 2009). Utah Code prescribes the rules by which local governments can exercise taxing authority. The Cache County local districts that can levy taxes include the Cache Valley Transit District, several cemetery districts, two school districts, and the Cache Mosquito Abatement District. These districts have a secure and stable source of funding that enables them to plan beyond operating monies allocated to them through the annual budgeting processes of counties. This source of funding can allow a district to engage in and commit to long-term negotiations and agreements. Under Utah state law (Utah Code § 17B-2a-1006), the maximum property tax levy a water conservancy district can impose for all purposes may not exceed 0.0001 per dollar of assessed value before certain activities are commenced, 0.0002 per dollar after certain activities are commenced, and 0.0003 per dollar if an additional levy is required to pay maturing bonds or debts, with some exceptions related to the Colorado River (for list of local government statutory authority and maximums for property tax levies, see http://propertytax.utah.gov/library/pdf/taxrate_pdfs/PropertyTaxLevies.pdf). Public officials in Cache County have stated that a newly created water conservancy district will be tax neutral for the first four years, where the taxes levied by the district's Board of Trustees would be offset by a reduction in Cache County property tax related to the county relinquishing activities of the Cache County Water Department to the district (see all resolutions at http://cachewaterdistrict.com/#contact).

Water Conservancy Districts

Water, in particular, has been a focus of special district formation in the United States for many years, dating to the West's earliest irrigation districts in the nineteenth century (Pisani, 1984; Harvey, 1989; Pisani, 2002; Mullin, 2008; Mullin, 2009). Managing water in the U.S. West typically required planning for infrastructure that lasts a long time and coordinating across government jurisdictional boundaries. Many water conservancy districts in the western United States were formed in response to water infrastructure projects funded by the Bureau of Reclamation. These water conservancy districts were the local sponsors of the projects and managed and distributed the water stored and transported by those

projects. Many of these water conservancy districts act as wholesalers of water to cities and other entities in their service areas. Traditionally, the main goals of water conservancy districts were to develop water storage, treatment, and conveyance infrastructure to deliver water supplies to agricultural and urban constituencies. However, the purposes of many water conservancy districts have evolved over time in response to declining political and economic support for dam construction, greater emphasis on water demand management, and public support for balancing environmental and economic water needs. Other priorities and tasks have since been incorporated into their missions, such as data collection, water planning, water quality testing, aquifer storage and recovery, water conservation, riparian restoration, and maintenance of watershed health.

Urban vs. Rural Water Conservancy Districts

The western United States continues to be the fastest growing and urbanizing region in the country and Utah was the third fastest-growing state, based on the 2010 U.S. Census data (Mackun and Wilson, 2011). As municipalities in the West have grown, water conservancy districts once serving rural areas and agricultural interests now have different missions to provide water for growing and diversifying constituencies. Some research has shown that as water managers' priorities begin to emphasize delivering a reliable source of water to urban constituents, they can lose perspective on the impacts their strategies have on other uses and users not within their service boundaries (Lach et al., 2005). The authors of a report by the Natural Resources Defense Council show that many urban water managers in the western U.S. have established two opposing strategies in order to meet their mission of supplying water to their constituents (Fort and Nelson 2012). One water management strategy consists of proposals to use the water they already have more efficiently, using conservation strategies, tiered rate structures, water recycling, and water markets. The other strategy has water managers seeking to increase their water supplies through long-distance water pipeline structures (Fort and Nelson 2012). Many water conservancy districts in urban areas throughout the U.S. West increasingly focus on managing water within their region through conservation and aggressive pursuit of alternative and innovative strategies (aquifer recharge, reuse, exchanges, etc.). However, many urban water conservancy districts also look to outside sources to supplement their water supply to avoid any interruption of service to their growing constituent populations. In contrast to the pressure urban water conservancy districts have to continually supply water, many water conservancy districts in smaller, more rural areas must focus on keeping their water resources under local control and protecting their water from urban water districts, which are often located outside their watersheds.

Alameda County Water District in California was formed in 1913 after a public vote in response to water companies diverting local groundwater to the San Francisco Bay Area. After a severe water shortage, residents felt they needed a local organization to protect their water rights. Voters overwhelmingly passed the creation of a water district, by 883 to 18. Five board members were elected, and the board authorized a loan and passed a property tax levy to fund its operations. The district used these resources to pay for legal services to effectively protect their water rights from other Bay Area water districts. The district was also able to fund and conduct the studies they needed to stop a potential dam by showing that it would harm their groundwater aquifer. Since that time, Alameda County has urbanized and the Alameda County Water District has managed the region's water through various projects, such as water treatment plants, groundwater recharge projects, and contracts with other entities for water deliveries (Piraino, 2015).

The West Texas High Plains is another example of agricultural areas organizing to retain control over their water resources. Nearly every county in agricultural-dominated areas of West Texas is incorporated into a groundwater district. Formation of groundwater districts in West Texas in the late 1980s and early 1990s is partly explained by the fear citizens had of state control over groundwater resources (Somma, 1994). West Texas relies on the Ogallala Aquifer for its primary source of water. As water levels in the Ogallala Aquifer continued to decline, the Texas Legislature passed a bill requiring the Texas Natural

Resource Conservation Commission to designate "critical groundwater areas." Under the law (Texas Code 52.021), critical groundwater areas could initiate the formation of a water district, called an Underground Water Conservation District (UWCD). Forming a district would allow local autonomy over each region's groundwater, because Texas law gives UWCDs the authority to establish rules for conserving, protecting, and recharging groundwater basins. Every agricultural area in West Texas requested "critical" status for a chance to be organized into a district so that local farmers could be involved in creating rules managing their groundwater, rather than risk being subject to state control. The UWCDs are made up of elected boards and use local property taxes to finance operations. Although the majority of counties in the West Texas High Plains are now in a UWCD, not all district resolutions passed. A 2009 study showed areas in West Texas that were organized into a district depleted less groundwater than those not organized into a district (Foster, 2009). Somma explains that the localization of the groundwater districts allowed each district to adapt to its own unique circumstances, leading to possibilities for more "focused, evolutionary change" (Somma, 1994:55).

In 1913, the Los Angeles Department of Water and Power (LADWP) completed an aqueduct from the Owens Valley to Los Angeles. Los Angeles' population had been rapidly growing and groundwater shortages meant the department could not adequately serve both the municipal and agricultural needs in the area. LADWP, with the help of the then Reclamation Service, bought large tracts of land and their associated water rights from ranchers and farmers in the Owens Valley. Before the communities in Owens Valley recognized that LADWP planned to export their water, the Reclamation Service approved the Owens Valley Project and aqueduct (Kahrl, 1982; Reisner, 1993; Hundley, 2001). LADWP continued to divert water from Owens Valley over the next 70 years, drying up Owens Lake, wetlands, and springs. The Inyo County Water Commission and Inyo County Water Department were formed in Owens Valley in 1980 after a public vote in response to the LADWP's pumping of additional groundwater to transport Owens Valley water to Los Angeles.

The Inyo County Water Department and Commission developed an Owens Valley water management plan and required Los Angeles to obtain a permit from the County before pumping groundwater. While this water management plan was ruled unconstitutional by the courts, Inyo County's efforts to organize led to a joint water agreement between Inyo County and LADWP, called the Inyo/LA Long Term Water Agreement (see http://www.inyowater.org/documents/governing-documents/water-agreement/). Per the agreement, LADWP agreed to provide Inyo County with funding for water and environmental activities, including funding for Inyo County's Water Department and Water Commission. The Inyo County Water Commission is an advisory panel for the Inyo County Board of Supervisors. Members of the Commission are appointed by the County Board and, in turn, the Inyo County Water Department works for the Commission. Invo County Water Department's mission is "to protect the County's environment, citizens, and economy from adverse effects related to the extraction and use of water resources and to oversee mitigation of any effects." The Invo County Water Department monitors vegetation, soil, and hydrology of the Owens Valley and jointly manages Owens Valley water with the City of Los Angeles. The Water Department's role is also to advise the Inyo County Water Commission on potential effects of proposed decisions, legislation, or other administrative activities. Having an organized entity with financial resources focused on protecting the region's water resources has allowed Inyo County to keep LADWP accountable to mitigate damages caused by taking their water over the past 100 years.

Water Conservancy Districts in Utah

Authorities and responsibilities given to local governments under Utah law are interspersed throughout the Utah Code (https://le.utah.gov/xcode/code.html). However, several titles of the code pertain specifically to local governments: Title 10 - Utah Municipal Code; Title 11 - Cities, Counties and Local Taxing Units; Title 17 - Counties; and, Titles 17B, 17C and 17D, which pertain to Limited Purpose Local

Government Entities. School Districts are covered separately under Title 53A (State System of Public Education), while Title 53B deals with the State System of Higher Education.

Title 17B, Chapter 1, of Utah Code establishes the laws under which all local districts in Utah are formed and operated. Under Utah law, local districts can be created to provide a wide variety of public services, such as airports, cemeteries, fire protection, emergency services, garbage collection, libraries, mosquito abatement, municipal services, parks and recreation facilities, public transportation, utilities of various types, and water system services (culinary, drainage, flood, irrigation, sewage, storm). Local districts are given extensive governmental powers that they may use, including the ability to issue bonds, levy property taxes, enter into contracts, construct infrastructure, and acquire property (Utah Code § 17B-1-103). Given their governmental character, local districts are also subject to limitations on those powers and given mandated responsibilities under which they are to execute those powers and be accountable to the public. Provisions are specified for creation or dissolution of a local district, selection and operation of its Board of Trustees, how areas can be annexed or withdrawn from the district, fiscal and personnel management, contracting, levying property taxes, collection of service fees, issuing bonds, and judicial review. All board meetings must comply with Utah's Open and Public Meetings Act (Utah Code § 52-4), and the initial board adopts bylaws for the operation of the district to carry out its purposes (Utah Code § 17B-1-301). Under Utah Code § 17B-1-303, board members serve four-year terms with no term limits specified in the law, half of the board members' terms will expire every two years, and board members of local districts may be appointed or elected.

Title 17B, Chapter 2a, Part 10, of the Utah Code is the Water Conservancy District Act. This act establishes the laws under which water conservancy districts in Utah are formed and operated. The code states it is the policy of the state to encourage the organization of water conservancy districts (Utah Code § 17B-2a-1002(1)(f)). Water conservancy districts are created to:

- "be essentially for the benefit and advantage of the people of the state;
- indirectly benefit all industries of the state;
- indirectly benefit the state by increasing the value of taxable property in the state;
- directly benefit municipalities by providing adequate supplies of water for domestic use;
- directly benefit lands to be irrigated or drained;
- directly benefit lands now under irrigation by stabilizing the flow of water in streams and by increasing flow and return flow of water to those streams; and
- promote the comfort, safety, and welfare of the people of the state" (17B-2a-1002(2)).

The Water Conservancy District Act gives water conservancy districts a wide range of powers that they may use, but also prescribes responsibilities that they shall execute. They are given the abilities to issue bonds, acquire property of various types, acquire or construct water works, acquire water rights and water stock, sell and lease water, levy assessment on lands within the district, investigate and promote water conservation and development, and coordinate water resource planning among public entities (Utah Code § 17B-2a-1004(1)). A water conservancy district may also contract with other public entities, with private persons, and with another state or political subdivision in another state in managing water (Utah Code § 17B-2a-1004(2) and (3)), thus enabling it to work across state lines, which would be an advantage in the Bear River where Utah, Idaho, and Wyoming must work together to manage this shared river. Districts may contract for water deliveries and charge assessments, which must be conducted transparently through prescribed public procedures and be documented, and which are subject to court review (Utah Code § 17B-2a-1007). Water conservancy districts with annual operating budgets greater than \$5,000,000 are required to adopt policies and plans for the assessment, maintenance and replacement of certain capital assets and submit reports on those assets to the Division of Water Resources (Utah Code § 17B-2a-1010).

In Utah, 120 local districts provide water services. Twenty-five of those districts are water conservancy districts (see Appendix for complete list). Many citizens in Utah are familiar with the four largest water

conservancy Districts in the state: Central Utah Water Conservancy District, Jordan Valley Water Conservancy District, Washington County Water Conservancy District, and Weber Basin Water Conservancy District. These four districts routinely work together to promote their water management strategies. Together, the four districts have established Prepare60, a campaign aimed at exploring strategies to "protect what we [Utah] have, use it wisely, and provide for the future." Prepare60 advocates funding for water infrastructure, particularly two large state infrastructure projects, the Lake Powell Pipeline and the Bear River Development Project, each of which would bring newly developed water supplies to their growing urban service areas. Prepare60 also encourages water conservancy districts to expand their roles in funding this infrastructure. Many opponents of the water strategies pursued by these four water conservancy districts object to water conservancy districts being funded by property taxes and partly using these funds to advocate for state legislation that would provide funding for water infrastructure projects (Utah Rivers Council, 2001). Likewise, many citizens are reluctant to have a water conservancy district in Cache County that might similarly be focused on building costly infrastructure to develop new sources of water without first implementing alternative price structures and other measures to promote better water demand management.

Other water conservancy district models exist in Utah, and the majority of Utah water conservancy districts benefit rural areas and smaller communities. For example, the Bear River Water Conservancy District (BRWCD) was created in 1988 to serve Box Elder County. A staff of four people run the district's operations. Since its creation, the BRWCD has been able to provide quality drinking water and fire flow capacity to smaller, rural communities that would not have had the resources to complete these projects on their own. The Emery Water Conservancy District (EWCD), another example, was formed in 1962 to operate federal water projects in the area. The EWCD currently manages the operation of several reservoirs and canals with a staff of five people. The EWCD funded the installation and operation of solar powered real-time measuring devices along canals, reservoirs, ponds, and rivers. The EWCD maintains a website that contains the real-time measuring data and found that the district's ability to supply access to current and detailed water information led to better collective water management among users. Many different water users, including irrigators, recreational users, municipal managers, and road operators, use the data for their own purposes as well.

While many people perceive Utah's big four water conservancy districts as unfairly utilizing and enhancing their powers to secure water and revenue through infrastructure projects, they also have the statutory and financial ability to do other things. For more than a decade, the Bureau of Reclamation has been redirecting funding from traditional infrastructure development projects to activities related to water conservation and efficiency, water reuse and reclamation, and cooperative watershed management through the WaterSMART program (http://www.usbr.gov/watersmart/). WaterSMART grants have been awarded to Utah water conservancy districts for projects that include piping and lining canals and installing water meters to increase water accountability and efficiency (for past awards listed by year and state, see http://www.usbr.gov/watersmart/weeg/prev.html). Many grants funded by the Bureau of Reclamation require the recipient to match at minimum 50% of the funds that go towards the project. Water conservancy districts in Utah are able to provide proof that they have continual access to funds to ensure they can see the project through to completion. Many water conservancy districts also fund studies to help them better analyze, monitor, and manage water. For example, the Washington County Water Conservancy District has funded studies to explore different types of conservation measures, examine the feasibility of various water projects, and evaluate the stability of river banks harmed by floods. Weber Basin Water Conservancy District has initiated implementation of metering on the large number of secondary water systems that provide water for outdoor use in residential areas throughout its service area, an infrastructure transition that will take many years to complete.

Much of the water infrastructure in the United States is approaching the point of needing replacement or extensive repair (AWWA, 2012). In their 2015 report card on Utah's infrastructure, the American Society

of Civil Engineers gave Utah an overall grade of C for water infrastructure that supplies and delivers drinking water. Utah canals received a grade of D+ as many canals are over 100 years old and are unregulated. As canals begin to serve more municipal interests and urbanization continues to encroach on agricultural lands those canals formerly served, municipalities and other water entities will need to provide the funding to lessen possible risks from failing canals (ASCE, 2015). The water infrastructure that delivers Utah water supplies was largely paid for by the federal government and previous generations. The costs to replace this aging water infrastructure is extremely high and finding the state, local and investor resources to fund infrastructure maintenance and upgrades will be challenging for many communities (AWWA, 2012; Leurig, 2012; Leurig and Brown, 2014). Prepare60 estimates that by 2060, \$18 billion will be needed to repair and replace aging infrastructure in Utah (Prepare60, 2015). While presenting challenges, this situation also creates opportunities for how future water needs are met, particularly if conservation, optimization of use of current water supplies, and repair, replacement and redesign of existing water infrastructure are sequenced, prioritized and pursued as alternatives before new supplies are developed.

The Weber Basin Conservancy District plans to set aside money in advance to create a reserve fund that can be used for pipe replacement (Larsen, 2015). Similarly, Washington County Water Conservancy District recently committed \$1 million to replace aging infrastructure at one of their diversion points. The Bear River Water Conservancy District helped a small unincorporated community in Box Elder County improve their water system so that the area's drinking water would comply with the federal government's drinking water standards. The unincorporated community of Beaver Dam in Box Elder County was in danger of the federal government turning off their water supply system due to dangerous levels of arsenic in the water. Shareholders voluntarily signed over their water rights to the Bear River Water Conservancy District in exchange for the district's help in combining its resources with federal grants that the district was eligible to apply for in order to improve Beaver Dam's water system. Construction was completed in 2013 and Beaver Dam's water supply is now within federal standards and has fire flow capability for the first time. The exchange helped Bear River Water Conservancy District meet the legal requirement that the new Beaver Dam system would be publicly owned and operated in perpetuity to receive Army Corps of Engineers funding to help create the system. The Beaver Dam project shows how water conservancy districts can provide important services to small communities in need.

The appendix to this report contains a list of Utah's water conservancy districts and their website addresses where other project examples can be found. Viewing websites of water conservancy districts around the western U.S. provides an even broader illustration of the types of water projects and planning that districts can do. Professional water organizations and the water industry at large are currently promoting innovation in response to challenges the water sector faces, and various design and sustainability awards recognize those innovations (e.g., awards given by the EPA WaterSense Program, which can be viewed at https://www3.epa.gov/watersense/partners/watersense_awards.html). Water conservancy districts are among the award recipients, showing they can be leaders in experimenting with and adopting alternative water management strategies.

Proposed Cache Water District

The process to create the Cache County Water Master Plan began in 2012 with several meetings and interviews with stakeholders, including irrigators, representatives from municipal culinary systems, water commissioners, and USU scientists. Cache County hired J-U-B Engineering, Inc. to facilitate formal public engagement efforts to create a county-wide water master plan. The Cache County Water Master Plan recommended six projects for Cache County to pursue in the next 50 years. These six projects are: 1) implementing a conservation plan; 2) evaluating environmental water demands and prioritizing critical areas; 3) banking water rights; 4) developing Bear River water through aquifer storage and recovery and above ground storage reservoirs; 5) supporting a canal rehabilitation program; and, 6) constructing

secondary water systems. Public officials and citizens involved in developing the Water Master Plan determined that a water conservancy district in Cache County would be the best organizational entity under which to pursue these projects. It would also enable the county to more effectively and proactively engage in general planning efforts to protect local water rights and Cache County's Bear River allocation, represent Cache County water users in state water decision making, promote internal collaboration within the county, and improve environmental quality. The Water Master Plan also created a timeline to guide the County's future efforts in water management (see https://www.cachecounty.org/water/timeline.html). The Cache County Council adopted the Cache County Water Master Plan on August 13, 2013 and moved forward on efforts to create a water conservancy district.

Cache County created the Bridgerland Water Conservancy Work Group to discuss and draft a set of bylaws for the proposed water conservancy district to give voters and the future Board of Trustees a vision on what a Cache Water District should look like. The BWC Work Group meetings were open to the public and the meeting agendas and minutes were posted on the Cache County website (see https://www.cachecounty.org/water/water-conservancy-district-considerations.html). Under Utah law (Utah Code § 17B-1-203), there are two methods to initiate the creation of a local district: resolutions adopted by the legislative bodies to be included in the proposed district; or, a petition signed by owners of private real property located in the proposed district or by registered voters who reside in the proposed district area (see Memorandum on Water Conservancy District Creation Outline here: https://www.cachecounty.org/assets/department/water/conservancy/Outline%20of%20the%20Methods%20to%20Create%20a%20District.pdf). The BWC Work Group decided to use the method of a resolution to create the water conservancy district instead of the petition method.

The resolutions passed by the Cache County Council and each municipal council give voters guarantees on specific provisions the initial Board of Trustees of the Cache Water District would adopt, if it is passed (copies of all resolutions are available at: https://www.cachecounty.org/water/water-conservancy-district- considerations.html). According to Utah Code, resolutions must describe the area proposed to be included, the services to be provided by the district, the method of paying the costs of providing the service, the estimated average financial impact on a household within the proposed district, the number of members of the Board of Trustees, whether board members will be elected or appointed, and the basis upon which each elected member will be elected (Utah Code § 17B-1-203(2)). The BWC Work Group chose to use the maximum number of 11 trustees for the board (Utah Code § 17B-2a-1005(5)) because they recognized that many different types of groups and different areas within the county will need to be represented on the Board of Trustees. In discussing the make-up of the board, members of the BWC Work Group wanted the Board of Trustees to be elected but also wanted to ensure that at least one trustee would represent agricultural interests. According to Utah Code § 17B-2a-1005(2)(d), if any trustees are appointed and "substantial water is allocated for irrigated agriculture" in the district, then one trustee who owns irrigation rights and uses those rights as part of their livelihood must be appointed. Because agriculture currently uses 70% of Cache Valley water, the BWC Work Group decided that the agricultural community needed a guaranteed voice on the Board and chose to have one trustee be appointed to represent that interest. Elections for the Board of Trustees will be non-partisan and seven of the elected trustees will be elected from the seven Cache County Council districts (one each) and the other three elected trustees will be elected county-wide. Per Utah law, trustees may receive compensation for their service that cannot exceed \$5,000 per year, and the board may elect to allow a member to receive per diem and travel expenses for up to 12 meetings or activities per year (Utah Code § 17B-1-307).

The BWC Work Group's goal was to create a set of bylaws that would represent the preferences of citizens and that a future Board of Trustees would likely adopt. One of the biggest tasks the BWC Work Group considered was the purpose statement of the proposed Cache Water District. Discussion in the BWC Work Group meetings centered on whether the purpose statement should focus on a specific water development project. In particular, some meeting participants were concerned that such a purpose

statement would tie the district into a water project that may not be needed and mentioned the recent USU study showing that the Great Salt Lake has continued to shrink due to water development and diversions (Wurtsbaugh et al., 2016). Participants also pointed out that environmental and recreational uses of water need to be included in the purpose statement to encompass all of the different uses of water Cache Valley citizens value. These discussions resulted in consensus over the following purpose statement for the proposed water district (Cache Water District Draft Bylaws, May 11, 2016):

The District will plan for and facilitate the long-term conservation, development, protection, distribution, management, and stabilization of water rights and water supplies for domestic, irrigation, power, manufacturing, municipal, recreation, and other beneficial uses, including the natural stream environment, in a cost effective way to meet the needs of the residents and growing population of Cache County.

In furtherance of protecting and preserving water supplies that are necessary for Cache County's future, the District will:

- Assist in water conservation education and programs;
- Assist local municipalities and Cache County as they establish and implement water management policies and ordinances, while maintaining the autonomy of existing water suppliers;
- Undertake environmental and other studies to provide information necessary to make proper, timely water use decisions;
- Obtain grants and low cost loans to upgrade and construct needed water infrastructure.

The BWC Work Group included in the proposed bylaws three "forbidden acts" (Section 2.4.2), which are stipulations limiting the Board of Trustees' power and discretion. The BWC Work Group hoped that specifying forbidden acts would reassure voters that a Cache Water District would not overstep certain bounds. First, the proposed bylaws forbid the Board of Trustees from taking any actions that are inconsistent with the Cache County Water Master Plan, as it may be amended from time to time, in order to ensure coordination between the county and district on water issues. Next, the Board is forbidden from building its own office facility, unless it is included in the Cache County Water Master Plan or the legislative bodies of a majority of the communities in the district approve this expenditure and construction. Finally, the Board cannot initiate eminent domain proceedings or other attempts to acquire assets of any mutual water company or other existing water supplier unless the individual or group who controls that company or supplier gives voluntary consent. The initial Board of Trustees adopts bylaws, which will be done in accordance with Utah Open and Public Meetings Law, but those bylaws can be changed by a two-thirds majority vote of the board in the future. When resolutions to form a water conservancy district were acted on in the county and each municipality, and after they were passed, members of the BWC Work Group attended public hearings and meetings to help answer any questions or concerns that the public had about the proposed water conservancy district.

Issues Pertaining to Cache Water District Raised in Public Debate

Because water conservancy districts are given various governmental powers under state law and have the ability to levy property taxes, creating a district in Cache County has been controversial. Other water conservancy districts in Utah were established many years ago, some dating back to the 1950s. Perhaps because the Bureau of Reclamation never sponsored any major development projects in the Bear River Watershed, Cache Valley has never had a water conservancy district. Many citizens wonder why forming such a district is necessary now. Through public hearings, meetings, and newspaper articles and editorials, we identified three main issues related to the current context in which the district is being proposed that merit provision of additional information: water banking, the Bear River Development Act, and water for the environment.

Water Banking

As water becomes fully allocated within a region, additional water development becomes less likely and market-based approaches for reallocating water have been emerging within current political water institutions. Water markets have been advocated because, theoretically, they can efficiently allocate resources to those who value it the most economically (Chong and Sunding, 2006). However, research has documented multiple forms of third-party impacts from water marketing (NRC, 1992). Haddad (2000) found that attempts to reallocate water using market approaches have failed in California due to a disregard of the multiple contexts that influence water allocation. Water banks or water leasing have been suggested as ways to use markets in a controlled manner with public oversight that can avoid the legal obstacles and unintended consequences of water market trading (Frederick, 2001). Water banks allow water right holders to lease their water rights for a limited period of time. A water bank helps manage current water supplies by facilitating transactions and increasing the flexibility of water allocation through movement of water between different uses. Unlike water right trading with brokers, water banks are institutions with specific procedures and controls and are usually are sanctioned by the public. Water banks decide which water rights can be deposited into the bank, who can lease water from the bank, and the terms under which the water can be leased (MacDonnell et al., 1994; Frederick, 2001; Allen, 2013; Colorado River Research Group, 2015).

Several states in the U.S. West have established formal water banks. Idaho has the longest established water banking procedures, dating back to the 1930s but formalized in 1979 by the Idaho State Legislature (see: https://www.idwr.idaho.gov/water-supply-bank/overview.html). The bank is state-wide and administered by the Idaho Water Resource Board, but the Board can also appoint local committees to operate local water banking pools. Rules and detailed procedures govern the workings of the state water bank and local water bank pools. Many rules try to ensure that third party water right holders are not negatively affected by any transfers of water through the bank. In some cases, Idaho has found that water transfers can benefit third parties and have allowed water to remain in streams for longer stretches to benefit local fisheries. MacDonnell et al. (1994) found that the local water bank pools received more use than the state-wide bank, likely because, historically, most temporary water transfers were organized locally through canal companies and the banks facilitated that practice.

Some people have argued we do not need a water conservancy district in Cache County because we already have a Cache County Water Department. Counties and districts are both local governmental institutions which receive their powers under state law. While both entities are given many similar powers, there are also some important distinctions prescribed by state law. The Water Conservancy District Act states it is Utah policy to encourage the organization of water districts (17B-2a-1002(1)(f)) and grants those districts various powers and responsibilities that enable them to exercise more specific authority over water resources. This distinction in governmental powers is important for understanding some recent changes in state law related to exercising local control over water, particularly in relation to water banking.

In 2010, Cache County with Utah House Representative, Jack Draxler, proposed House Bill 84 to introduce water banking by amending Utah Code § 73-5-15, the section that addresses groundwater management plans. Under Utah Code § 73-5-15, the State Engineer can create groundwater management plans for groundwater basins, designated as critical groundwater management areas, to "limit groundwater withdrawals to safe yield; protect the physical integrity of the aquifer; and protect water quality" (Utah Code § 73-5-15(2)(b)). This section of the law attempts to conjunctively manage groundwater and surface water so that groundwater withdrawals do not impact more senior surface water right holders. The State Engineer released the Interim Groundwater Management Guidelines for Cache County in 1999 (https://www.waterrights.utah.gov/wrinfo/mmplan/ugw/cachevly.pdf). The guidelines state that Cache County is "conditionally open...to withdrawal of additional groundwater," but because

the groundwater and surface water is hydrologically connected, applications to appropriate groundwater for more than individual family domestic purposes may require compensation or replacement water to avoid impacts to more senior water right users. These guidelines essentially state that Cache Valley is closed to new groundwater withdrawals without some kind of water transfer to balance the new allocation (Utah Division of Water Rights, 1999).

House Bill 84 proposed to add a section following Utah Code § 73-5-15 to allow water banking by a local district or a county not within the boundary of a water conservancy district. The bill would have allowed Cache County to bank water and "facilitate the use, lease, sale, or nonuse to meet groundwater withdrawal requirements of one or more water rights" (H.B. 84, 2010 Utah Legislature General Session). Cache County officials believed that water banking would allow the county to work within the Interim Groundwater Management Guidelines by giving the county a mechanism to facilitate transfers between groundwater and surface water, and to hold water for nonuse to regulate groundwater withdrawal requirements and protect it from forfeiture. In addition, Cache County hoped that water banking would promote conservation, efficient water use, and drought mitigation by allowing water right holders to temporarily deposit their rights into a water bank for others to use. Water banking would provide an effective way for Cache Valley to secure its water by ensuring that existing rights are used and accounted for, especially in the context of land use transitions occurring in the valley and the State Engineer's efforts to determine how much water is available for development under the Bear River Development Act.

However, the same year that House Bill 84 was introduced (2010), Senate Bill 20 was also presented and debated in the general legislative session. S.B. 20 proposed to amend Utah Code § 17B-1-202, the section that outlines the services that local districts may provide. The amendment gave local districts the authority to develop and execute a groundwater management plan in cooperation with and approved by the state engineer, and included a section stating a groundwater management plan "may include the banking of groundwater rights by a local district in a critical management area as defined in Section 73-5-15 following the adoption of a groundwater management plan by the state engineer under Section 17-5-15" (S.B. 20, 2010 Utah Legislature General Session). Essentially, S.B. 20 gave a local district the authority to find a solution for allocating water in a critical groundwater management area. S.B. 20 was passed and Governor Herbert signed it into law. Consequently, H.B. 84 did not go to a vote, and the Utah legislature chose to give the ability to establish and manage a water bank solely to local districts and not to counties (see Utah Code § 17B-1-202(1)(c)).

Bear River Development Act

The Bear River Development Act of 1991 (Utah Code § 73-26) directs the Utah Division of Water Resources to develop the surface waters of the Bear River and its tributaries through the planning and construction of reservoirs and associated facilities. The Division would own and operate the constructed facilities and market the developed waters. The Act contains general guidelines for how the developed water would be offered for purchase or lease, how interested purchasers would be prioritized by intended use, and how project costs would be allocated and repaid. Water developed by the projects, except for water reserved for wildlife or public recreation, is to be made available by contract exclusively to the following entities and limited by the following annual amounts:

- Bear River Water Conservancy District (60,000 acre-feet/year);
- Salt Lake County (Jordan Valley) Water Conservancy District (50,000 acre-feet/year);
- Weber Basin Water Conservancy District (50,000 acre-feet/year);
- Cache County and any water conservancy district in Cache County (60,000 acre-feet/year).

The Act, however, does not specify any requirements on how the state and these different entities are to work together in implementing its provisions. No language describes how developments would be sequenced or prioritized, and whether these entities would participate on a proportionate basis in any project authorized under the Act.

Many opponents to Bear River development fear that a water conservancy district in Cache County would give the Utah Division of Water Resources (UDWR) the extra impetus needed to begin construction because, with a water conservancy district, Cache County could guarantee funds to contract for water. However, opponents of Bear River development have been fighting the project for a long time, and ongoing efforts by the Division of Water Resources and other water conservancy districts have continued. The Utah Division of Water Resources has been studying and evaluating potential reservoir and dam sites in the Bear River Basin since the 1990s, but those activities have accelerated in recent years (see the Utah Division of Water Resources, Bear River Pipeline Concept Report – Final (2 volumes), which is available at https://www.cachecounty.org/water/br.html). The Weber Basin Water Conservancy District and Jordan Valley Water Conservancy District have purchased a water treatment plant site and right-of-ways for a conveyance structure for the project. The 2016 Utah general legislative session saw passage of S.B. 80, which transferred transportation funds to a water projects fund meant to support costs of the Lake Powell Pipeline and the Bear River Development Act. Lack of a water conservancy district has not stopped other entities from pursuing Bear River development. Proponents of the Cache Water District argue that not having a conservancy district makes it more difficult for Cache County representatives to participate in discussions and agreements around Bear River development, and to attempt to shape the decisions and outcomes in ways most beneficial to Cache County.

This dilemma of not being fully invited to Bear River discussions with other entities in the state led to the initial purpose statement of the proposed Cache Water District including the implementation of the 2013 Cache County Water Master Plan, "with an emphasis on securing [Cache County's] allocation entitlements pursuant to the Bear River Development Act" (Draft Bylaws, February 2016). After further BWC Work Group discussions, the purpose statement was changed to put planning at the forefront of the district's mission. Research shows responsible water planning will require the district to understand the local conditions, include citizens' preferences on uses of water that should be prioritized, and coordinate efforts among communities within the county (Mullin, 2009). Further, a successful water resource plan should integrate information from a wide variety of academic disciplines, including hydrology, ecology, policy and social sciences, economics, and engineering. The creation and implementation of a water plan should be accompanied by public involvement and scrutiny (Palmer and Lundberg, undated). Some people have been critical of the Cache County Water Master Plan, partly because it was prepared by an engineering firm that specializes in water projects. However, J-U-B Engineers, Inc. has been used over the years by Cache County for a variety of engineering projects, including several road and transportation projects and the restoration and piping of the 2009 breeched canal. The Water Master Plan incorporated interviews and involvement with a variety of diverse stakeholders with various interests in water, but many citizens criticize the plan's framing of the problem statement to secure the Bear River water allocation through development.

Because the Cache County Water Master Plan recommends a water conservancy district to meet the objectives of the plan, many citizens are concerned that a Cache Water District will focus on infrastructure to store and deliver Bear River water. Members of the BWC Work Group chose not to include implementing the Cache County Water Master Plan in the purpose statement of the proposed district. However, the resolutions state that a water conservancy district "will allow for the full implementation of the Cache County Water Master Plan...with an emphasis on securing its Bear River allocation entitlements," but the resolutions do not specify how Bear River water should be secured (see resolutions at: https://www.cachecounty.org/water/water-conservancy-district-considerations.html). A first step in securing Cache County water entails the proper documentation and beneficial use of water, as well as finding opportunities to purchase water rights that may come up for sale. Recent changes in state water law and current administrative efforts to more aggressively address forfeiture and abandonment of unused water rights could potentially benefit other users from outside the valley who have more junior water rights or who could then apply for and put this water to beneficial use. Many opponents of Bear

River development do not believe Cache County needs any additional water. However, if Cache County does not secure the water it currently uses, the county may be in danger of having to later buy it back through delivery contracts for water developed and stored by projects authorized under the Bear River Development Act and built and operated by the Utah Division of Water Resources. Proponents of Cache Water District think that a water conservancy district using statutory authorities given to these types local governmental units (e.g., taxing power, water banking authority; ability to contract with entities in another state) is the best governance mechanism available under Utah law to legally protect and manage water to meet Cache County's water needs.

While members of the BWC Work Group chose not to focus the district's mission statement on the Bear River Development Act, many public officials and water managers do fear that not having an organized entity in the form of a water conservancy district could disadvantage the county as other water conservancy districts engage in Bear River development. Due to climate change, many Bear River development opponents doubt 220,000 acre-feet of water will be reliably available. If the other water conservancy districts put their allocation of Bear River water to beneficial use before Cache County can make plans for managing water to meet its own needs, those districts might be able to secure their full allocations of Bear River water as specified in the Act, while Cache County's full allocation then may not be available. Precedents within Utah provide basis for these concerns. In the 1960s, Duchesne County and the Ute Tribe signed off on agreements that allowed water in the Uintah Basin to be diverted to the Wasatch Front via the Central Utah Project. While this water was essential in allowing the Wasatch Front to grow, the Central Utah Project never completed the infrastructure promised to people in the Uintah Basin. The Duchesne County Water Conservancy District, formed in the late 1990s, recently hired a water lawyer in an attempt to get the water they were promised, and the State of Utah and the Ute Tribe remain in a stalemate over a compact to settle water right issues. Many Cache County officials warn that a similar situation could happen in Cache County if citizens are not proactive in organizing a water conservancy district that has greater capacity than currently exists in county government to focus on water issues, draft legal documents and contracts, and negotiate with the state other conservancy districts involved in the Bear River Development Act. In addition, many citizens in Cache County want to be involved in any decision-making the Utah Division of Water Resources makes on the siting of dams in the Bear River Watershed. A water conservancy district in Cache County could be a way for valley residents to more effectively influence these discussions and put forth alternatives through organized representation.

The year Utah Division of Water Resources estimates the Wasatch Front will need Bear River water has been pushed back several times, due to the success of water conservation efforts and new metering technologies to quantify and assess changes in actual water use. UDWR now estimates that Bear River water will not be needed until 2050, fifteen years later than what was proposed two years ago. Many Utahns would agree that a wait-and-see approach would be preferable when it comes to building engineered infrastructure for Bear River development. The BWC Work Group recognized the ability of the master plan to evolve over time, and it discussed opportunities Cache Valley has to avail itself of scientific and technical expertise at Utah State University and to establish technical advisory and review committees to assist the conservancy district. How the Board of Trustees and employees of the district may decide to use their ability to fund research to affect the Cache County Water Master Plan and guide Bear River development is yet unknown, but undertaking ongoing planning efforts and adapting the plan to changing information and circumstances is clearly within the Board of Trustees' responsibilities.

Water for the Environment

In recent public hearings hosted by Cache County and its municipalities, citizens made comments and asked questions about the proposed Cache Water District. Many commenters raised concerns that a water conservancy district in Cache County would enable and encourage developers to construct infrastructure and move water to fuel development, leading to additional sprawl and air quality issues. In particular,

many public commenters worried that a proposed conservancy district would lead to the development of the Bear River and move water away from the environment and the Great Salt Lake. The public meetings highlighted that many people in Cache County want to see water left in streams and rivers for the benefit of the natural environment that citizens highly value.

Utah water law (Utah Code, Title 73) follows the doctrine of prior appropriation, which allows water users to divert water for use on nonriparian lands. The amount of water allocated is limited to the amount needed to fulfill a particular beneficial use. Each water right is assigned a priority date, based on the concept of "first in time, first in right." Nonuse of a water right can result in forfeiture, a concept known by the phrase "use it or lose it" (Thompson et al., 2012; Getches et al., 2015). Beneficial uses of water traditionally promoted economic activities, such as water for irrigation. Non-economic uses of water, such as water to maintain minimum stream flows, were not originally considered to be beneficial uses. Utah now recognizes water for recreation, wildlife, and instream flows as beneficial uses in specific cases, but because most waterways in Utah are fully appropriated, these environmental uses of water tend to be junior to older water right allocations and are not guaranteed water in times of drought.

Since many environmental uses of water cannot obtain a secure water right through traditional application procedures, people have had to find innovative means to ensure water for the environment. Utah State University researchers have documented how managers of wetlands along the Bear River pursue a variety of different strategies to "keep wetlands wet" (Downard and Endter-Wada, 2013; Downard et al., 2014; Welsh et al., 2013). Managers of federal wetland complexes identified all possible water sources for the wetlands, and negotiated agreements and adopted water management plans to get the water they need. They acquired state water rights and irrigation shares from canal companies, often in connection with land purchases and acquisitions, and worked out sharing agreements with PacifiCorp, the hydropower operator along the Bear River, and other agricultural water users (Downard and Endter-Wada, 2013). These researchers found that protecting wetlands in an arid region requires intense planning and consideration of diverse management strategies (Welsh et al., 2013; Downard et al., 2014). Similarly, Endter-Wada et al. (2009) found that voluntary settlement agreements and other cooperative actions among water users along the Bear River enabled water users to share water shortages during drought to ensure a minimum Bear Lake level. The Bear River Commission, a tri-state organization created under the Bear River Compact, facilitated these agreements through long-term discussions between participants and information gathering at Commission meetings, Technical Advisory Committee meetings, and field trips. These discussions allowed participants to better understand both the Bear River's hydrologic system and each other so that, each time the region experienced severe droughts, participants were able to rely on the foundation of knowledge and cooperation laid by the Bear River Commission's ongoing activities.

The above examples illustrate that obtaining and keeping water for the environment requires intentional planning. A water conservancy district could potentially purchase water rights, operate a water bank, facilitate water transfers, and negotiate agreements that would benefit rivers and the Great Salt Lake if the district's board prioritizes these types of strategies and projects. Bob Fotheringham, the Cache County Water Manager, pointed out in a public presentation at Utah State University that even if the Bear River is not diverted by development, water will not automatically flow into the Great Salt Lake due to various Bear River Compact provisions and institutional structures along the river that could allow Idaho to withhold more water at the state boundary. Obtaining instream flows and water for the Great Salt Lake will require agreements crafted among different states, institutions and constituency groups. A water conservancy district would have the resources to more consistently track legal, political and economic activities related to water and to negotiate and enter into various types of agreements on citizens' behalf.

Looking at other examples in the western U.S., many water conservancy districts have formed agreements with other entities to help protect or recover ecological services of rivers. For instances, the Northern Colorado Water Conservancy District participates in the Upper Colorado River Endangered Fish

Recovery Program with ten other organizations to supply a minimum amount of water to the Colorado River in late summer for the benefit of endangered fish. The Washington County Water Conservancy District signed on to the Virgin River Program with eight other federal and state agencies to protect native fish species in the Virgin River. In operating the Weber Basin Project, the Weber Basin Water Conservancy District maintains a minimum flow rate in its operation of Echo Reservoir to support fish in the Weber River.

Consideration of water projects at the present time involves extensive public involvement and impact analysis through procedures mandated by the National Environmental Policy Act (NEPA). Project approvals often entail agreements regarding mitigation and monitoring activities related to potential environmental impacts. Cache Water District could choose to support studies that will help inform the public involvement and impact assessment processes required by NEPA, and will help protect the valley from various types of impacts that could occur under proposed development projects.

Proposition 11: The Decision to Form the Cache Water District

In many ways, a water conservancy district in Cache County would likely be more similar to the smaller, rural water conservancy districts in the state than to the four largest and primarily urban water conservancy districts. Cache County does not need a district to deliver water to residents or to manage existing canal systems, since those functions are handled by municipalities and irrigation companies. Cache County officials and the BWC Work Group have assured citizens through proposed bylaws that a Cache Water District will not take over these functions. A primary goal discussed in meetings of the BWC Work Group is to provide coordination among these entities for regional water analysis and planning and to support projects that span local jurisdictional boundaries. Members of the BWC Work Group expressed their convictions that Cache Valley needs to unite to chart its own water future, and to marshal the resources to better engage in larger state water planning efforts on more equal political and economic footing with water conservancy districts representing the Wasatch Front.

Water projects can take many forms and do many different things. Water supply and delivery infrastructure is one type of project a water conservancy district can pursue, but water conservancy districts have also been essential to provide other water services, such as repairing aging infrastructure, installing advanced metering infrastructure, promoting efficiency improvements, funding studies for longterm planning, reserving water for recreational and environmental purposes, and protecting local water sources. The Cache Water District is unique in that it would be the first water conservancy district in Utah with an elected Board of Trustees, and Cache County citizens thereby would have greater opportunity to influence the type of water management strategies and projects a Cache Water District pursues. Some people argue that a water conservancy district with an elected board would be the best forum for citizens in the county to decide how water needs to be managed to serve their vision of what they want the valley to be like in the future. Currently, the Cache County water manager does not hold regular public meetings to discuss the water department's projects, but the Board of Trustees of a Cache Water District will be required to hold regular, open public meetings and will need to respond to citizens' concerns in exercising their trustee responsibilities. Additionally, Cache County citizens would have an opportunity to influence water management on a statewide level in that an elected Cache Water District Board of Trustees could set a new example for involving the public in water conservancy district planning and management decisions. All of the other water conservancy districts in Utah have appointed boards, but Utah's Water Conservancy District Act includes provisions for an appointed Board of Trustees to become an elected board instead (Utah Code § 17B-2a-1005(4)).

Some citizen objections over formation of a conservancy district are based upon assumptions about what the district will do. But there can be a difference between what a water conservancy district in Cache County can do versus what it will do, and a Cache Water District will not inevitably model the large water

conservancy districts in Utah. Utah state law gives legitimacy to water conservancy districts, and a Cache Water District can work within the powers granted by the state to manage water differently from other water conservancy districts to reflect the values of Cache Valley citizens. The current Cache County Water Department with one county water manager does not have sufficient and stable resources to study and implement innovative solutions to account for, save, and manage Cache Valley water. Also, because the Water Department's budget changes every year, it is difficult to do long-term planning and enter into cooperative agreements and contracts with other entities without a reliable source of funds. Cache County has unique access to specialists and scholars from Utah State University, but without the funds to help pay for research that could be done, Cache County cannot always take advantage of the university's internationally-renowned but locally-based expertise in water. In 2016, the Cache County Water Department requested \$890,000 for professional and technical studies but received \$150,000 instead (see https://www.cachecounty.org/auditor/county-budgets.html). Research studies help develop a common understanding of the issues facing a region, leading to more collaborative institutions (Sabatier et al., 2005). Endter-Wada et al. (2009) examined how long-term discussions and coordinated instrumentation along the Bear River helped three states work together to manage their responses to drought. If Cache County citizens want to create a more collaborative water governance institution and consider alternative water management strategies that protect the valley's needs, then funds for scientific research, legal advice, and collaborative facilitation need to be available.

While the taxing powers a Utah water conservancy district has can supply a dedicated, reliable source of funds for innovative water management, many citizens also see the potential abuse of power that can come from the ability to tax. A water conservancy district in Cache County failed to pass voter approval twice before (once in 1989 and again in 1999). The primary reason for failure stated by many people involved in the earlier processes was the ability of the district to tax without elected representation on the board. The purpose and need for a water conservancy district in Cache County was also not clear to many opponents (Bagley, 1989). Similarly, the Santa Clara Valley Water District in California was put to public vote twice in the early 1920s and failed to pass both times. Groundwater levels had been steadily dropping in the area, and proponents of a district tried to convince the public of the necessity for a district. The district finally passed the third time it was presented to voters in 1929. Proponents of the district were able to gather datadriven evidence that showed the benefits of artificial surface groundwater recharge and divided the proposed district boundaries into divisions to ensure board members would represent both city and agricultural residents. Voters changed their minds due to more information being available to them, and Henley (1957) found that voters needed to understand the following issues before voting on a district: the value of the work proposed to be done by the district; the relationships between the people being taxed and the benefits; careful choice on the governing body of the district; and realistic limits on taxing power.

The BWC Water Group decided to have the Board of Trustee members be elected, which is now possible since Utah law was changed in 2010 to allow it. The group also chose to have the maximum number of people on the board to ensure greater possibility of more diverse representation. This proposed structure responds to concerns that stopped a Cache County water conservancy district from being approved previous times it was brought before the voters. Many citizens believe developers and irrigated agriculture will dominate decision-making in a water conservancy district, leading to increased growth and water infrastructure projects. However, research has shown that special districts are not necessarily biased towards growth and development. In fact, organized anti-growth groups, such as environmentalists, can take advantage of a special district venue to advocate for anti-growth goals, while general purpose governments can be dominated by goals that increase the development and economic interests of a region, making it more difficult for anti-growth perspectives to be represented (Mullin, 2009).

Because the Cache Water District will overlap city boundaries, opportunities for interlocal cooperation between municipalities will be enhanced. Cooperation and coordination between municipalities in the

county can lead to better water planning because the district can provide a forum for county-wide discussion and decision making, address water concerns across jurisdictional boundaries, and develop multi-faceted solutions, relying more on a regional systems approach (Getches, 2001). The three states in the Bear River Basin, the watershed in which Cache County is located, have shown the types of innovative agreements that can arise from long-term cooperation and coordination (Endter-Wada et al., 2009). Because this coordination began early through facilitation of the Bear River Commission, the three states were united and prepared when crises, in the form of recurring droughts, occurred. A Cache Water District would enable Cache Valley to manage and make decisions on what people want to use water for at the local, county level. The district could unite the various users and interests across municipalities so that Cache Valley would be prepared to manage possible threats to Cache Valley's water, e.g., drought, climate change, and competing Wasatch Front water plans. Without the district, it is possible that other entities from outside Cache Valley with varying interests will narrow the options available to the county and exert greater influence over the county's water future. Other rural areas have found that without an organized entity, they were more vulnerable to outside interests (Henley, 1957; National Research Council, 1992; Somma, 1994; Blatter and Ingram, 2001; Whiteley et al., 2008; Piraino, 2015).

Whether or not the proposition to form a water conservancy district in Cache County passes, simply having the proposition on the ballot has caused many local citizens to think more deeply about what they consider beneficial uses of Cache Valley's water and how they want that water managed. This awareness and public discussion is an important first step in working together to effectively manage Cache Valley water to meet multiple needs. However, the discussion should not end after the November election. Citizens need to become more involved in articulating their water preferences and deliberating various water policy, planning and project alternatives, and they need to find the right governance forum in which to continue and sustain discussions about the valley's water future.

Water governance is an important part of the new water infrastructure needed to address our water challenges. So, just like with physical water infrastructure, the purposes of water institutions and how they are designed, built, operated and maintained matters in terms of what outcomes they produce. Through Proposition 11, citizens must choose whether or not to form the Cache Water District. In making their decision, citizens will need to decide if they find value in the opportunities a Cache Water District can provide and if those opportunities outweigh potential risks. The proposition asks citizens to decide whether they think this type of local government institution will help produce water policy and management outcomes that serve the collective interests of the people and the environment of Cache Valley into the future.

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For More Information

Cache Water District: http://cachewaterdistrict.com/

This site contains information about the:

Resolution process (including all municipalities' resolutions): http://cachewaterdistrict.com/#contact

Purpose: http://cachewaterdistrict.com/our-purpose/

Draft Bylaws: http://cachewaterdistrict.com/wp-content/uploads/2016/09/FINAL-DRAFT-SIMPLE-

Cache-Water-District-Bylaws.pdf

Meeting information from the BWC Work Group: http://cachewaterdistrict.com/meeting-info/

FAQs: http://cachewaterdistrict.com/#faq

Cache County, Utah: https://www.cachecounty.org/

Water Department home page: https://www.cachecounty.org/water/

Bridgerland Water Conservancy Group (all municipalities' resolutions are also here): https://www.cachecounty.org/water/water-conservancy-district-considerations.html

Cache County Water Master Plan:

https://www.cachecounty.org/water/cache-county-water-master-plan.html

Utah Division of Water Resources, Bear River Pipeline Concept Report – Final (2 volumes): https://www.cachecounty.org/water/br.html

Local Governments in Utah

Utah Association of Counties: http://uacnet.org/

Utah League of Cities and Towns: http://www.ulct.org/

Utah Association of Special Districts: http://www.uasd.org/

Utah Code (State Laws)

Main link to Utah Code: https://le.utah.gov/xcode/code.html

From this site people can navigate to specific sections of Utah Code. The following sections are particularly relevant to this report:

Title 17B – Limited Purpose Local Government Entities – Local Districts

Chapter 1 – Provisions Applicable to All Local Districts

Chapter 2a – Provisions Applicable to Different Types of Local Districts

Part 10 – Water Conservancy District Act

Title 73 – Water and Irrigation (the state's water law section)

Chapter 16 – Amended Bear River Compact

Chapter 26 – Bear River Development Act

Appendix:

List of Utah Water Conservancy Districts

Bear River Water Conservancy District

Address: 102 West Forest Street, Brigham City, UT 84302

Website: www.brwcd.com

Carbon County Water Conservancy District

Address: 49 North 500 East, Price, UT 84501

Central Iron County Water Conservancy District

Address: 88 East Fiddlers Canyon Rd., Suite A, Cedar City, UT 84721

Website: www.cicwcd.org

Central Utah Water Conservancy District

Address: 355 West University Parkway, Orem, UT 84058

Website: www.cuwcd.com

Charleston Water Conservancy District

Address: 3469 South 3400 West, Helper City, UT 84032

Duchesne County Water Conservancy District

Address: 275 West 800 South, Roosevelt, UT 84066

Website: www.dcwcd.org

East Juab Water Conservancy District

Address: P.O. Box 199, Nephi, UT 84648

Emery Water Conservancy District

Address: 50 South 100 East, P.O. Box 998, Castle Dale, UT 84513

Website: www.ewcd.org

Grand County Water Conservancy District (Grand Water & Sewer Service Agency)

Address: 3025 Spanish Trail Rd., Moab, UT 84532

Website: www.grandcountyutah.net/341/Grand-County-Water-Conservancy-District-Weeting Minutes: http://grandwater.org/Boards/GCWCD/GCWCDCurrentMinutes.aspx

Indian Ridge Water Conservancy District

Address: HC 13, Box 4265 Fairview, UT 84629

Website: www.irwcd.org

Jordan Valley Water Conservancy District

Address: 8215 South 1300 West, West Jordan, UT 84088

Website: www.jvwcd.org

Kane County Water Conservancy District

Address: 190 West Center St., Suite 200, Kanab, UT 84741

Website: www.kcwcd.com

Millard County Water Conservancy District

Address: 2525 South 500 West, Delta, UT 84624

North Utah County Water Conservancy District

Address: 75 North Center, American Fork, UT 84003

Roy Water Conservancy Subdistrict

Address: 544-0 South Freeway Park Drive, Roy, UT 84067

Website: www.roywater.com

Rush Valley Water Conservancy District

Address: 166 South Johnson Lane, Rush Valley, UT 84069

Website: www.co.tooele.ut.us/boards/rushvalleywaterconservancyboard.htm

San Juan Water Conservancy District

Address: P.O. Box 246, 48 North Main, Blanding, UT 84511

Sanpete County Water Conservancy District

Address: 90 West Union Street, Manti, UT 84642

South Emery Water Conservancy District

Uintah Water Conservancy District

Address: 78 West 3325 North, Vernal, UT 84078

Website: www.uintahwater.org

Upper Sevier River Water Conservancy District

Address: P.O. Box 77, Panguitch, UT 84759

Washington County Water Conservancy District

Address: 533 East Waterworks Drive, St. George, UT 84770

Website: www.wcwcd.org

Wayne County Water Conservancy District

Address: P.O. Box 83, Bicknell, UT 84715

Weber Basin Water Conservancy District

Address: 2837 East Highway 193, Layton, UT 84040

Website: www.weberbasin.co/

Wide Hollow Water Conservancy District

Address: P.O. Box 213, Escalante, UT 84726

Data Sources:

- 1) Utah Association of Special Districts: www.uasd.org
- 2) Utah Department of Administrative Services, Division of Archives & Records Service, Agency Information—Active Agencies: www.archives.state.ut.us/recordsmanagement/agencies/agencies-a.html
- 3) Utah State Tax Commission, 2015 Utah Tax Areas with Tax Rates: http://propertytax.utah.gov/library/pdf/taxrate_pdfs/taxarearates2015.pdf