

Recommendations

11.1 INTRODUCTION

This chapter summarizes the County’s and water purveyors’ long-term water management plan and provides recommendations on various actions to ensure the county has an adequate and reliable water supply. Institutional and regulatory issues that may impact these plans are also discussed.

New water supply projects will need to be creative and flexible, and be configured to satisfy multiple benefits, including hydroelectric development, environmental and recreation needs, flood control, in addition to supplies for M&I uses, long-term drought reserves and agricultural requirements.

This Plan is an ongoing project and should be updated on a periodic basis as significant changes in new water supply options evolve, lands use and policy decisions are made, and individual purveyors refine their existing safe and firm yield water supply assumptions.

11.2 WATER SUPPLY PLANNING

Chapter 5 presents information on the water supplies and sources needed to meet projected water demands in each of the purveyor service territories and Other County Areas. A significant water supply “gap” exists on the western slope, while it appears that adequate water supply for projected buildout will be available in the Tahoe Basin. On the western slope, the gap between existing safe yield supplies and projected demand is 34,276 acre-feet at 2025 and 103,518 acre-feet at buildout as shown in **Table 11-1**. The following sections provide further information on the western slope water supply gap, and the actions and projects needed to provide an adequate and reliable water supply.

Table 11-1
Existing Water Supplies and Project Water Needs (acre-feet)

	Existing Safe Yield Supply	Projected Demand			Additional Water Supply Needs	
			2025	Buildout	2025	Buildout
		(ac-ft)	(ac-ft)	(ac-ft)	(ac-ft)	(ac-ft)
El Dorado Irrigation District	58,753	37,807	76,237	101,155	17,484	42,402
Favorable Areas		-	6,845	11,040	6,845	11,040
FAR GP Amendment		-	-	12,621	-	12,621
<i>EID Total</i>		37,807	83,082	124,816	24,329	66,063
Georgetown Divide PUD	10,500	10,956	16,935	28,406	6,435	17,906
Favorable Areas		-	817	1,318	817	1,318
FAR GP Amendment		-	0	1,009	0	1,009
<i>GDPUD Total</i>		<i>10,956</i>	17,752	30,733	7,252	20,233
Grizzly Flat CSD Total	143	157	205	1,066	62	923
Other County Areas	9,411	9,412	19,707	37,829	10,296	28,418
Less Reallocated Favorable Areas			(7,663)	(12,358)	(7,663)	(12,358)
FAR GP Amendment		-	-	239	-	239
<i>Other County Areas Total</i>		9,412	12,044	25,710	2,633	16,299
WESTERN SLOPE TOTAL	78,807	58,332	113,083	182,325	34,276	103,518
Tahoe Basin	12,495		12,362	12,495	0	0
EL DORADO COUNTY TOTAL	91,302		125,445	194,820	34,276	103,518

- Note: 1. Totals do not include conservation or reduction of UAW that may result from ditch lining and piping.
2. Further analysis of actual land use within the GFCSD boundary indicate a buildout demand of 504 acre-feet, which would result in 361 acre-feet of additional water supply needed at buildout.
3. Tahoe Basin well capacity exceeds buildout demands, therefore maximum demand is used for safe yield.

11.2.1 EL DORADO IRRIGATION DISTRICT

In the existing EID service area, the gap between existing safe yield supplies and 2004 General Plan projected demand is 17,484 acre-feet in 2025 and 42,402 acre-feet at projected buildout. When Favorable Areas and the FAR General Plan Amendment are considered, the gap increases to 24,329 acre-feet at 2025 and 66,063 acre-feet at buildout. Nearly one-third of this gap is attributed to projected increases in agricultural uses. Estimated water savings resulting from EID conservation programs and the Main Ditch Lining project may reduce the water supply gap by 5,400 acre-feet at 2025.

11.2.2 GEORGETOWN DIVIDE PUBLIC UTILITIES DISTRICT

The gap between safe yield supplies and 2004 General Plan projected demand in the existing GDPUD service area is 6,435 acre-feet in 2025 and 17,906 acre-feet at projected buildout. When Favorable Areas and the FAR General Plan Amendment are considered, the gap increases to 7,252 acre-feet at 2025 and 20,233 acre-feet at projected buildout. Approximately half, of the buildout supply gap is attributed to the projected increase in agricultural uses. Estimated water savings resulting from GDPUD's Ditch System Lining / Piping project reduces the water supply gap by approximately 1,000 acre-feet.

11.2.3 GRIZZLY FLATS COMMUNITY SERVICES DISTRICT

In the existing GFCSD service area, the gap between existing supplies and projected demand is 62 acre feet at 2025 and 361 acre-feet at buildout. The GFCSD demand projections do not include an agricultural demand component, nor are there Favorable Areas identified for GFCSD.

11.3 FUTURE ACTIONS TO ENSURE ADEQUATE SUPPLIES.

This Water Resource Development and Management Plan has identified the current and future water needs of the county based on current land use plans. Each water supplier has both operational measures and several projects they are considering to provide an adequate and reliable water supply to fill the gap identified in the previous section. These projects include new water storage projects, water conservation measures, ditch lining, and drought planning. In addition, the EDCWA continues to negotiate with the USBR for a new water service contract and is in the process of filing an area of origin water rights application to acquire water rights associated with SMUD's UARP. The following is a short discussion of various recommended actions and projects.

11.3.1 EL DORADO IRRIGATION DISTRICT PROJECTS

EID has several projects that are being considered to meet water demands within their service area including redirection of 3,000 acre-feet of existing pre-1914 water rights; a new Water Service Contract with USBR for 7,500 acre-feet (5,625 safe yield); up to 40,000 acre-feet of water from SMUD's Upper American River Project to be shared with GDPUD; 11,250 acre-feet (9,000 acre-feet safe yield) from Alder Dam and Reservoir; 10,050 acre-feet (8,040 safe yield) from Texas Hill Dam and Reservoir; and various water conservation measures.

Current water supplies are adequate to meet projected demands through 2012. Rediversion of pre-1914 ditch and Weber storage rights at Folsom Lake will meet demand through 2013. After 2013, an expansion of the recycled water system including seasonal storage or a new water service contract (P.L. 101-514) will be required to meet projected demand. If Fazio water is available and recycled water seasonal storage is constructed as planned, SMUD UARP water will not be required until 2020 and Alder and Texas Hill until well after 2025. Given the uncertainties of the timing and ultimate success in developing and/or securing these water supplies each of these projects should be pursued on parallel paths.

The following recommended actions to secure adequate water supply to meet the projected demands in EID's current and potentially expanded service territory were developed collaboratively with EID water resources staff:

- Execute a long term Warren Act Contract for rediversion of pre-1914 ditch and Weber storage rights.
- Execute a long term Warren Act Contract for Permit 21112, 17,000 AF.
- Continue to work with the Water Agency to execute a new water service contract with the USBR from Folsom Lake for PL 101-514 (Fazio).
- Continue to expand the use of recycled water and construct seasonal storage to the extent that it is economically feasible, considering a joint project with the City of Folsom
- Continue to investigate a partnership with the City of Placerville for either the transfer of wastewater flow from the Camino Heights WWTP to the Placerville WWTP and the possible supply of recycled water to agricultural uses in the Gold Hill region or the transfer of both Camino Heights WWTP and/or Placerville WWTP to EID's Deer Creek WWTP for commercial and residential landscape uses in the Bass Lake / El Dorado Hills areas.
- Continue to work with the Water Agency to secure water rights associated with the SMUD Upper American River Project and construct associated facilities.

- Prepare a feasibility study for the Alder Dam and Reservoir with funds authorized in the last CAL-FED Bill (P.L. 105-295).
- Continue to develop and implement the California Urban Water Conservation Councils comprehensive best management practices.
- Line or pipe the Main Ditch between Forebay Reservoir and the Forebay WTP to reduce losses.
- Continue to participate in countywide drought and climate change planning efforts.
- Participate in a Western Slope Hydroelectric Development Study.
- Adopt a new Drought Plan as a result of the El Dorado County Drought Analysis
- Investigate the feasibility of extending a pipeline to the Fairplay areas. Note: A proposal has been included in the CABY IRWMP at EDCWA's request to study the feasibility of such a pipeline.

11.3.2 GEORGETOWN DIVIDE PUBLIC UTILITIES DISTRICT PROJECTS

GDPUD has five primary water supply options they are considering to meet water demands including a new service contract with the USBR for 7,500 acre-feet (5,625 acre-ft safe yield) that could be taken with a water rights exchange with Placer County Water Agency at the Folsom North Pumping Project; up to 10,000 acre-feet of a total 40,000 acre-feet of water from SMUD's Upper American River Project to be shared with EID, which could be diverted at the Folsom North Pumping Station with a water rights exchange with Placer County Water Agency; 6,780 acre-feet (6,100 acre-feet safe yield) from the Canyon Creek Dam and Reservoir; and 3,200 acre-feet from the Upper Stumpy Meadows Reservoir. The Rubicon River Diversion Project would be an alternative to the 10,000 acre feet of SMUD UARP project water. Similar to EID, given the uncertainties of the timing and ultimate success in developing and/or securing these water supplies each of these projects should be pursued on parallel paths.

GDPUD's actual demands have not grown as projected in the 2004 General Plan due to the Writ of Mandate prohibition on the subdivision of land. In fact, GDPUD has only been averaging 50 new residential connections per year, which is well below the projections. Since the 2004 General Plan was adopted and the Writ lifted, there has been several new parcel and subdivision map applications,

an indication that demand is likely to rebound to a level more consistent with the original demand projections and could exceed the projected growth rate for the remainder of the 2025 time period.

Actual diversions in 2005 were 10,453 acre-feet as compared to the firm yield of 12,200 acre-feet, leaving 1,747 acre-feet available for new growth in the short term. However, in a critically dry year, the safe yield supply of 10,500 acre-feet would be marginally sufficient to meet current demand. Therefore, rehabilitating the ditch system to reduce losses or implementation of new Folsom Lake supplies (Public Law 101-514) is required. The Folsom supply would meet GDPUD demand until 2020. Reduced water losses resulting from ditch rehabilitation would extend the Folsom supply to 2023. Assuming that slower than projected growth from 1999 to 2005 is made up for with a period of higher than projected growth and that the original demand projection within the 2025 planning horizon is realized, SMUD UARP water would be required by 2023 and Canyon Creek project water well after 2025.

In order to secure adequate water supply to meet the projected demands in GDPUD's current and potentially expanded service territory, the following recommendations are made:

- Continue to work with the Water Agency to execute a new water service contract with the USBR from Folsom Lake.
- Continue to work with the Water Agency to acquire water rights associated with the SMUD Upper American River Project.
- Prepare a Canyon Creek feasibility study.
- Expand the current conservation program by developing and implementing the California Urban Water Conservation Council's comprehensive conservation best management practices.
- Line or pipe the ditch system to reduce losses.
- Participate in continued countywide drought and climate change planning efforts.
- Participate in a Western Slope Hydroelectric Development Study.
- Adopt a new Drought Plan as a result of the El Dorado County Drought Analysis.

11.3.3 GRIZZLY FLATS CSD

Grizzly Flats CSD current water supplies are sufficient to supply just 30 additional residential connections. The current downturn in the housing market is resulting in fewer new homes being built in the GFCSD service area. This trend may extend the availability of water for new connections in the near term; however the need for new water supply is critical. Grizzly Flats CSD has investigated a number of water supply alternatives including the recommended Spring Flat Reservoir, which would increase the safe yield to approximately 500 acre-feet. Although the District has turned their focus to a new site, construction of an off-stream storage reservoir of similar size is the recommended water supply improvement to increase the safe yield. This water supply project would provide sufficient water to meet projected buildout of the current service area, but not the entire area assigned to GFCSD in the 2004 General Plan.

GFCSD should also adopt a new Drought Plan as a result of the El Dorado County Drought Analysis.

11.3.4 TAHOE BASIN WATER SUPPLY OPTIONS

In July 1994, the California State Water Resources Control Board issued a Draft Policy for water allocation in the Lake Tahoe Basin. The Draft Policy suggested that the 23,000 acre-feet per year allocated to California be further divided between public and private lands in three zones, A, B and C. Zone C roughly corresponds to the boundary of STPUD, and was proposed an allocation of 12,493 acre-feet per year. The proposed allocation includes water use for municipal water systems, domestic and recreational systems, private well users and golf courses. An estimated 884 acre-feet per year is also allocated in Zone B to the TCPUD and the private water systems within El Dorado County.

The Draft Policy allocation of water within El Dorado County, which corresponds to an estimated 13,377 acre-feet per year, represents a water resource constraint in the Lake Tahoe Basin. The allocation appears to be sufficient to provide for projected water demands through 2025, and build-out.

11.3.5 EL DORADO COUNTY WATER AGENCY

As the countywide water resources planning agency, it is the Water Agency's responsibility to insure adequate water supplies for existing uses and future growth in accordance with the El Dorado County General Plan. The Water Agency plays a key role in initiating and coordinating water related

activities that affect the County as a whole, providing financial assistance through grants and cost sharing programs, and technical assistance to purveyors with limited technical staff resources. While many actions and recommendations made in this Plan are best championed by the individual purveyors, there are many countywide issues where collaboration among the purveyors has a synergistic affect or where purveyors would benefit from an agency with broader interests, making the Water Agency the best candidate for the lead role.

Negotiating a new water service contract with USBR, the SMUD Cooperation Agreement and associated water rights filings are examples of multiple purveyor interests benefiting from Water Agency leadership. Current drought planning is also an area where the Water Agency has collaborated with and shared cost with purveyors in developing a coordinated drought response plan for the western slope. The following recommended future actions represent areas where the Water Agency should take the leadership role in countywide water planning:

- Complete negotiations with the USBR for a new water service contract (P.L.101-514).
- Acquire water rights for use under the SMUD Cooperation Agreement.
- Expand the current Irrigation Management Services program to enhance conservation by increasing agricultural water use efficiencies in Other County Areas.
- Develop a public outreach program that will both educate residents about the water supply gap on the western slope and introduce the specific projects that are planned to fill the gap.
- Commission a Western Slope Hydroelectric Development Study.
- Prepare financing alternatives and capacity studies in conjunction with GDPUD and GFCSD including develop a financial plan for new water supply projects identified in this Plan.
- Continue to provide assistance to El Dorado County purveyors in applying for state and federal loan and grant funds.

- Commission a study to quantify how climate change will affect current and new project safe and firm yields and identify hydrologic parameters that should be consider in determining the safe firm yield of new water supply projects identified in this plan.
- Periodically update this plan as significant changes in new water supply options evolve, as lands use decisions are made and as individual purveyors refine their existing water supply safe and firm yield assumptions.
- Adopt a new Drought Plan as a result of the El Dorado County Drought Analysis.
- Investigate solar energy applications for water related facilities in the County, through the El Dorado Water and Power Authority
- Investigate how gray water reuse could be made more feasible within El Dorado County; either by changes to local ordinance or state law.
- Investigate the feasibility of extending a pipeline to the Fairplay areas. Note: A proposal has been included in the CABY IRWMP at EDCWA's request to study the feasibility of such a pipeline.

11.4 WATER SUPPLY IMPROVEMENT COSTS

A number of different water supply alternatives for El Dorado County have been presented. The alternatives include new or expanded storage reservoir projects, direct diversion projects, and major water treatment and conveyance improvements required to deliver the water from the source to the place of use. A summary of the water supply alternatives considered in this Management Plan is presented in **Figure 5-14**. Detailed cost estimates derived from existing studies and reports are presented in **Table 5-8** and **Appendix E**. The cost estimates should be considered preliminary, but they serve to compare the magnitude and relative costs of the water supply alternatives considered.

11.4.1 EL DORADO IRRIGATION DISTRICT

For EID, significant costs will be expended to improve water treatment, conveyance, reservoir storage, and develop new supply projects. Expansion of the water treatment capacity, including El Dorado Hills Water Treatment Plant and construction of new potable and recycled water transmission mains will be required to serve the growing demands in the El Dorado Hills and

Western Regions, costing an estimated \$204.7 million, approximately 45 percent of the estimated total of \$457.7 million for EID projects.

The actual demands to be supplied by EID within their existing service territory, to Other County Areas, agriculture or for other beneficial uses will determine and when additional improvements and a reservoir project, such as the SMUD UARP – Whiterock Diversion, Alder or Texas Hill Reservoir, will be required. Construction of these and the Mt. Aukum agricultural supply project are estimated at \$182 million or roughly 40 percent of the total.

Cost for reservoir improvements, including seasonal storage for recycled water, and expansion of Bass Lake, is estimated at \$67.4 million, approximately 15 percent of the total.

11.4.2 GEORGETOWN DIVIDE PUBLIC UTILITY DISTRICT

The cost of the next acre-foot of incremental water supply for both the Georgetown and Grizzly Flats areas will be high. Several water supply options are available, but neither GDPUD nor GFCSD has a broad financial base to fund a single major water supply project that could cost \$5 to \$10 million or more. To provide for managed growth within the Districts, creative funding options that support implementation of a new water supply project will need to be investigated.

Costs associated with reservoir improvements and new transmission and distribution for GDPUD, including Canyon Creek Dam, Rubicon River Project, and Folsom North Pumping project comprise \$170.6 million or 86 percent of the total estimated cost of \$198.2 million. Some duplication of cost is represented by these numbers as some mutually exclusive alternatives are included. The remaining 14 percent of costs come from Ditch lining investment and treatment capacity improvements at the Cool and Greenwood WTPs. These improvements are estimated to cost approximately \$27.6 million.

11.4.3 GRIZZLY FLATS COMMUNITY SERVICES DISTRICT

Construction of the Spring Flat Reservoir Project for GFCSD is estimated at \$6.8 million. This water supply project would provide sufficient water to meet buildout of the current service area but not the area assigned to GFCSD in the 2004 General Plan.

11.4.4 SOUTH TAHOE/TAHOE CITY PUBLIC UTILITY DISTRICT

Construction of new and replacement groundwater production wells would cost an estimated \$5.6 million.

11.5 INSTITUTIONAL AND REGULATORY CONSIDERATIONS

EDCWA generally follows an “adaptive resource management” approach with the Water Plan to ensure it best meets the needs of county businesses and residents. Adaptive resource management is a structured, iterative process of decision-making in the face of uncertainty. The goal is to reduce uncertainty over time by incorporating new information, which improves future resource management decisions.

EDCWA intends to update and revise the Plan as needed when significant events occur that affect the strategies and recommended actions in this document. It is anticipated that this plan will change over time given the institutional dynamics of the numerous water agencies that depend upon the American River watershed. The Plan should be reviewed when appropriate, or at least every five years, and be updated as necessary with information developed or actions taken during the intervening period.

There are numerous institutional and regulatory considerations will affect the implementation of water supply projects within El Dorado County. These considerations include the Sacramento Water Forum, Fazio Water, SMUD’s Upper American River Project, the Lower American River Flow Management Standard, Term 91 and the El Dorado County Area of Origin Water Rights Filing. Key points from these institutional and regulatory considerations are presented in the following paragraphs.

11.5.1 SACRAMENTO WATER FORUM

The Water Forum’s objective is to (a) provide a reliable and safe water supply for the region’s economic health and planned development through 2030 and (b) preserve the fishery, wildlife, recreational, and aesthetic values of the lower American River. EDCWA, EID and GDPUD have not been included in the Water Forum Agreement, having issues that were not resolved as part of the Agreement; however, EID and GDPUD have executed procedural agreements with the goal of negotiating acceptable agreements specific to these two agencies to resolve remaining issues.

11.5.2 FAZIO WATER

The El Dorado County Water Agency is the contracting agency for 15,000 acre-feet of water for municipal and industrial use allocated to El Dorado County from the American River by the federal government under PL-101-514, the so-called "Fazio Water". This water would be provided to

EDCWA for diversion from Folsom Lake or for exchange on the American River upstream from Folsom Lake for other water supplies. EDCWA is in the process of preparing the EIR/EIS for the water supply contract, and EDCWA will then enter into contracts with EID and GDPUD for use of this water.

11.5.3 SACRAMENTO MUNICIPAL UTILITY DISTRICT UPPER AMERICAN RIVER PROJECT

SMUD is negotiating with the Federal Energy Regulatory Commission in connection with re-licensing of SMUD's Upper American River Project, which provides water for SMUD's hydroelectric power generation. El Dorado County water interests have reached an agreement with SMUD for up to 40,000 acre-feet of water supply in the UARP. The re-licensing deals with power generation only: it does not deal with water allocation. The consumptive water associated with the SMUD project has been assigned to the City of Sacramento (City), and obtaining water from the UARP would involve a water rights filing or a transfer from the City. Any assignment of water to El Dorado County from the UARP would require payment to SMUD for cost of power foregone as described in the cooperation agreement.

11.5.4 LOWER AMERICAN RIVER FLOW MANAGEMENT STANDARDS

Development of the Lower American River Flow Management Standard (FMS) implements a portion of the Sacramento Area *Water Forum Agreement*. The primary purpose of the FMS is to maximize the annual production and survival of anadromous fall-run Chinook salmon and steelhead in the lower American River. Improved habitat conditions for salmonids will result in improved conditions for other fish species.

It is expected that the development of the Lower American River FMS will be prepared by Water Forum stakeholders, USBR, and other regulatory agencies such as USFWS, NOAA fisheries, and CDFG, as a formal petition to the SWRCB in the spring of 2007. The SWRCB will be requested to adopt the FMS which will influence their evaluation of future water rights filings by the Water Agencies.

11.5.5 TERM 91

In September of 2006, the California Third District Appellate Court affirmed a lower court decision that Term 91 cannot be applied to restrict use of 17,000 acre-feet of Project 184 water awarded to EID by the State Water Resources Control Board. Term 91 is a standard term that the State Board

inserts into water rights permits in the Delta watershed that prohibits the permittee from diverting water when the Central Valley Project and State Water Project are releasing water from storage to meet water quality standards in the Delta.

Under Term 91, EID would have been prohibited from using the water whenever reservoirs in the Central Valley Project and State Water Project are drawn down to meet Delta water quality requirements. This often occurs in dry periods when EID needs the water most.

The Court of Appeal's decision included three opinions from the judges who heard the case. These opinions will likely impact how area of origin water rights filings will be prioritized and how Term 91 will be applied in the future.

11.5.6 EL DORADO COUNTY AREA OF ORIGIN WATER RIGHTS FILING

EDCWA is currently preparing water rights application to the SWRCB under the Area of Origin water rights provisions law in the California Water Code. It is the policy of the State of California to protect the areas in which water originates, to ensure that such waters will be available to the "Area of Origin" when its water needs require their use. The waters of the American River originate within El Dorado County, and El Dorado is reserved a paramount right to their use when its water needs so require it.

11.5.7 WILD AND SCENIC RIVERS ACT

The Bureau of Land Management (BLM) recently released its Sierra Draft Resources Management Plan and related draft environmental impact statement. One of the alternatives included in the plan proposes adding more than 55 miles of the North Fork, Middle Fork, and main stem Cosumnes River to the National Wild and Scenic Rivers system⁴⁹. The Cosumnes River is the only Sierra River that flows from its headwaters to the valley floor without major dams or diversions. Upon the recommendation by the BLM, Federal legislation would still be needed to formally designate the Cosumnes as Wild and Scenic. Federal protection of the Cosumnes River would prevent the development of water supply reservoirs that, while not currently in this plan, could be needed in the future. The El Dorado County Water Agency does not support the nomination or inclusion of the Cosumnes River in the National Wild and Scenic River System at this time.

11.6 DROUGHT, CLIMATE CHANGE AND THE FUTURE

The actual effects of climate change predictions won't be known for years, possibly after it is too late to halt many of the temperature effects. However, credible estimates are being prepared by groups such as the Climate Change Center, with the support of the Governor, the Department of Water Resources, and other agencies, using hydrological and climate models. These predictions can help guide policy that supports research efforts into clean energy technologies for automobiles, electricity and other industries that currently rely on fossil-fuel technology. It also can help guide the County and the water purveyors in water resource planning and to identify possible future projects to ensure a safe and reliable supply. Steps can be taken by county water interests to quantify impacts specific to each purveyor's water supply through development of the WEAP model.

As indicated in Chapter 10, the WEAP and the climate change study recommended by this plan will be the first steps in ensuring that water supplies will not be over extended. As the effects of climate change are more clearly understood, purveyors will adjust water supply availability policies to avoid over allocation of current and new supplies. County oversight of purveyor water supplies pursuant to Ordinance No. 4385 will provide another layer of protection against over extension of new water supplies. If the effects of climate change are underestimated, and in the absence of new supply sources, many options are available to adaptively manage reduced water supply availability. This information can be used to develop strategic water management plans, which might include policies such as more aggressive conservation and landscape ordinances for new homes. Outdoor demand reductions not currently required by El Dorado County purveyors can be accomplished through severely inclined rates structures, residential and commercial grants for turf replacement and other incentives used in drier areas of the state. Adaptive management may be used in certain operational aspects of individual water agency projects.