

Chapter 18 Impacts and Benefits

18.0 Introduction

Implementing the 2008 Plan and its subsequent Update has already generated and will continue to generate benefits and impacts at the Plan level (sometimes called the programmatic level), and from the project-specific perspective. This chapter describes, at a screening level, the impacts and benefits associated with Plan implementation, as well as any potential interregional effects. The impacts and benefits of Plan implementation for disadvantaged communities (DACs) and Tribal communities are also considered in this chapter.

Prior to implementation of projects, a project-specific impact analysis will occur, in conformance with applicable environmental compliance requirements (e.g., California Environmental Quality Act [CEQA] and National Environmental Policy Act [NEPA]). Chapter 14 *Project Application, Development, and Review* discusses the timing and process for ensuring adequate environmental analysis at a project level.

Regional impacts and benefits are summarized in **Table 18-1**. These impacts and benefits are organized by programmatic area and are assessed based on the Plan objectives contained in Chapter 12 *Goals, Objectives, Issues, and Conflicts*. Interregional impacts and benefits are discussed below in section 18.5. Arraying these impacts and benefits allows the RWMG and other decision-makers to choose best options for watershed management and potentially mitigate or avoid associated programmatic or project-level impacts.

18.1 Programmatic-level Impacts and Benefits

At a programmatic level, impacts from implementing this Plan will derive from increased responsibility for funding, administering, and managing the IRWMP. The Regional Water Management Group (RWMG) will need to marshal funding for support staff to organize and document meetings, for conducting outreach, and for maintaining the Yuba County IRWMP website. It will also be responsible for securing funding for and accomplishing revisions and potential updates to the Plan, coordinating with project development activities for implementing the Plan, and uploading new information to the IRWMP website shared-data sites.

At the project level, the greatest area of impact will be from costs and potential volunteer time to implement objectives and projects. Dedicated implementation will potentially entail pursuit of grants and other funding sources, both by project sponsors and potentially at the regional level by the RWMG; multiple forms of interpersonal contact involving stakeholder time commitment; project development, implementation, and monitoring; and Plan performance and monitoring. Indirect impacts of this work may include conflicts and their resolution. For DACs and Tribal stakeholders who may have limited resources, dedication of funding and staff time related to implementation may have greater impacts that could, in turn, slow or prevent some implementation measures.

Benefits have already accrued to area stakeholders from involvement in the 2008 Plan development, and will continue going forward. The full breadth of entities with interests in water management has been assembled, so that shared expertise, funding sources, and political power can be brought to bear on a

cooperative basis for the benefit of the region. By way of example, flooding and the attendant risk to public health, property, and natural resources is commonly recognized as a regional issue. The 2008 Plan and this Update have been an important platform from which to develop flood management projects on an integrated and cooperative basis. Interactions among stakeholders also heightened the importance of this source region to the remainder of the state, and highlighted the notion that benefits of the Plan extend beyond regional boundaries.

The benefits of programmatic-level implementation are wide-ranging and generally qualitative. They include:

- a potential reduction of identified regional water-related issues by meeting objectives, particularly for critical health and safety issues such as flooding;
- building capacity and funding sources for disadvantaged communities and Tribal interests to address critical water supply and quality needs, and to address issues of environmental justice;
- increased understanding and information sharing between area stakeholders and with interregional interests;
- preventing or resolving regional and interregional conflicts;
- identification of data gaps so that resources can be marshaled to address the most pressing issues;
- opportunities for collaboration and prevention of missed opportunities for project development;
- the ability to choose the most strategic and cost-effective solutions to regional issues as a result of both the IRWM process and the parallel and integrated Robust Decision Support process;
- potential identification of a more diverse set of funding sources to increase project-related investment in the region;
- opportunities for shared staffing, technical expertise, cost savings, and creating an economy of scale, particularly as a result of project integration;
- collaboratively addressing policy and regulatory issues facing the region; and
- developing and maintaining the Yuba County IRWMP website to assure ongoing collaboration, and a primary data and information source for water/watershed planning and management for the region.

The advantages of the regional approach also include increased opportunities to identify issues best addressed on a regional basis (e.g., involvement in water-related policy and regulatory issues, climate change vulnerabilities and adaptation strategies, and out-of-region water transfers).

Increased regional understanding has resulted from IRWMP meetings and preparation and review of Plan sections by stakeholders, both for the 2008 Plan and this Update, and involvement of Stockholm Environmental Institute (SEI) and its Robust Decision Support process during the Plan Update. Integration of projects has already resulted in, and will continue to allow for, better project design and refinement (from technical review and feedback among stakeholders) and a greater sense of shared regional concerns.

18.1.1 Identification of Funding Sources

A concerted effort has been made to identify funding for both implementing the programmatic aspects of, and projects developed under, this Plan in Chapter 15 *Finance*. The information offered can increase the chances a project will be funded because foundations and other funding entities often require a

proposed project to be a component of a larger, deliberate process to achieve outcomes. Funders often anticipate greater benefit from cumulative project (watershed-wide) implementation than from stand-alone projects, and often require demonstrated collaboration, technical data sharing, and opportunities for cost savings among stakeholders. Local adoption also demonstrates local support and project endorsement. Collaboratively developed projects, included in a deliberate local process and adoption by local entities, improve chances for individual projects or project suites to be funded by a variety of sources.

18.1.2 Venue to Address Policy-related and Regulatory Processes

Regional stakeholders have identified concerns that policies and regulations developed at the state level, such as Delta water supply and quality, may have substantial impact on the region. Further, conflicts among federal and state policies and regulations (such as control of rodents along levees) hinder water management and infrastructure maintenance. The RWMG provides a venue for discussion of these issues and a platform from which to develop solutions and organize responses. Collective responses from the region, and interregional solutions, are likely to carry more weight than a single entity's involvement in a policy or issue.

18.2 Project-level Impacts and Benefits

Project-associated benefits to the region far outweigh impacts, particularly since each project will be required to undergo environmental review. This review will include assessing alternatives and developing mitigations to reduce negative impacts, such as greenhouse gas emissions, prior to project implementation.

Impacts from project implementation are related to potential environmental or social disruption or disturbance. An important aspect of project inclusion in the Plan is the requirement that disturbance to the landscape, or construction-related project activities, will undergo examination for mitigation and environmental compliance evaluation under CEQA or NEPA prior to implementation. In many cases, projects such as feasibility studies, public education and outreach, and/or best management practice implementation would not result in direct physical environmental impacts. Additionally, small habitat restoration projects (under five acres with some provisions) are exempt from CEQA review.

Most proposed projects would result in localized and temporary environmental impacts. These could include, for example, disruptions in traffic and noise from infrastructure improvements, temporary increases in sediment from stream restoration, and short-term increases in air pollutants from prescribed burns. Socioeconomic impacts could result from rate increases or changes in review policies. The likely types of projects that would occur by programmatic area under Plan implementation are listed in Chapter 14 *Project Application, Development, and Review*.

Benefits from project implementation include alleviation of critical public health and safety problems (e.g., mitigation of flooding impacts from improvements in flooding infrastructure), improved coordination to help eliminate redundancy of project planning and development, and potential cost savings. Integration of project suites will potentially allow for shared equipment, technical expertise, and personnel.

Additional benefits include invigoration of the local economy and employment, and long-term benefits from improvements to natural resources and habitat that support fishing, rafting, and other water-related recreational pursuits, and tourism. Energy conservation would result primarily from irrigation efficiency projects and improvements in municipal water delivery. Individual assessments of reductions in greenhouse gas emissions will be conducted as part of project evaluations with potential mitigations. Localized biomass and other alternative energy projects could conserve energy, employ construction workers, and potentially improve air quality. Adaptive strategies suggested to maintain the watershed's resilience under climate change would also reduce the region's vulnerability to drought, flooding, wildfire, and other climate-related phenomena.

18.2.1 Impacts from Failure to Implement the Plan

Regional stakeholders are committed to implementing this Plan. Were it not implemented, however, several impacts could occur: local water agencies and interests would suffer setbacks in meeting state-mandated water- and energy-conservation goals and objectives as well as state and federal regulations pertaining to water quality, flood protection, and habitat and species protection; progress toward overall watershed health would manifest on a piecemeal basis; critical health and safety issues could potentially persist or worsen; and collaborative processes, such as information sharing and integrated project development would no longer enjoy a robust framework and related benefits.

In the natural resources arena, low flows and past resource damage have placed certain species at risk, especially several aquatic-dependent species. Measures proposed under the goals and objectives and implementation projects associated with this Plan will likely promote conditions that aid imperiled flora, fauna, and fisheries. Without the Plan, habitat conditions could worsen, and loss of certain species could be hastened.

Hydrologic health has also been compromised by past mining practices, disconnecting channels from their floodplains, and from encroachment on floodplains by development and infrastructure. Failure to address legacy mining toxins could affect water supply and quality, an issue critical to human health and safety, economic security, and environmental justice.

Taking no action to curb the climate vulnerabilities identified in this Plan could result in both minor and major climate-related impacts on quality of life, human safety, the local and regional economy, and natural systems and wildlife species. Implementing projects identified in this Plan can enhance resilience (e.g., protecting habitat for endangered fish and wildlife), and potentially save lives and property (e.g., flood-mitigation projects).

Time-limited grant match has been secured for many projects included in this Plan. Failure to implement the Plan could result in a loss of this match and its economic contribution to the region. In-kind contributions could also be lost, cumulatively contributing to a forfeiture of regional investment in implementation projects.

Failure to implement the Plan could inflict some of the greatest impacts on those least able to afford recovery from such effects (e.g., loss of property or job loss from the effects of flooding or wildfire). Further, if domestic and recreational water quality were to decline within the region, residents of DACs would have the least recourse to correct this issue. Progress made to address environmental justice issues within the Plan would also go unrealized.

18.3 Impacts and Benefits – Assessing Progress

The RWMG will be responsible for assessing ongoing impacts and benefits from implementation of this Plan at annual intervals when overall Plan review takes place. The implementation schedule in Chapter 17 *Plan Performance and Monitoring* indicates timing of Plan reviews and revisions, while the performance measures in that same chapter will aid the RWMG in assessing future impacts and benefits, on regional and interregional bases.

Implicit in the interregional relationships created by the IRWM process is the *avoidance* of impacts upon neighboring regions, and the ability to create benefit on a broader scale through collaboration. Interregional impacts and benefits will be addressed via ongoing meetings with adjacent IRWM regions, and resulting assessment of interregional impacts and benefits added to the annual assessment.

Project sponsors will be responsible for monitoring and reporting progress, including impacts and benefits, from project implementation. The RWMG will contact project sponsors for a reporting on any implemented projects to include both qualitative and quantitative impacts and benefits in the RWMG's annual Plan assessment. Lessons learned from project implementation will also be documented to assist in future project development. Results of the Plan assessment of impacts and benefits will be available from the RWMG and will be posted on the Yuba County IRWMP website.

18.4 Impacts and Benefits to Disadvantaged Communities and Native American Tribes

Two population sectors are often under-represented in public planning: DACs and Native American Tribes. As discussed previously in Chapter 3 *Stakeholder Involvement*, a large portion of the regional population resides in or is affiliated with communities classified as disadvantaged under the DWR definition (80 percent or less of median household income). Eighteen Native American Tribal interests are included in the Yuba County IRWMP region. The IRWM process is designed to place special emphasis on the impacts and benefits of the Plan regarding these communities so that environmental justice issues, such as under-representation and a disproportionate share of any impact of Plan implementation, are addressed. Please see Chapter 3 *Stakeholder Involvement* for a discussion of the extensive process employed to involve under-represented interests in this planning effort.

By involving all constituencies in Plan development, it is likely that impacts to under-represented groups will be avoided at the programmatic level. Project-level impacts would likely be short-term, but could potentially occur more frequently in DACs because infrastructure project needs are likely the greatest in these communities. Construction-related impacts of noise, dust, and traffic disruption are typical of such projects. Required environmental reviews prior to project construction should ameliorate both temporary and long-term impacts. The only potential long-term impact identified to under-represented interests is possible increase of fees or assessments to accomplish infrastructure improvements, or other construction or restoration endeavors. However, the cost of project implementation is taken into account during environmental review, and the IRWM process can often reduce local costs through alternative funding.

The benefits to DACs and Tribal entities are likely to occur because long-term, financially sustainable solutions to water supply and public health and safety issues have been enacted. This would include such measures as levee setbacks to allow, for instance, reclamation by the Yuba and Feather Rivers of their respective historic floodplains. Plan-related projects will likely also bring a source of short-term construction and restoration employment that could benefit local DACs. The RWMG and efforts by project sponsors can also attract sources of funding that would alleviate the need for local DACs to bear an entire cost burden. Projects proposed in this Plan would *directly* benefit DACs by: 1) providing clean domestic water supply, 2) improving flood protection, 3) enhancing recreational opportunities, and 4) constructing infrastructure improvements that would assure community water quality, reliable groundwater and surface water supply, and fire protection into the future. Proposals to enhance recreational opportunities, flood protection, and increased fire protection would also benefit disadvantaged local residents although these benefits are not critical to water quantity or quality issues. Each project proposed in this Plan has been evaluated as to its ability to address DAC and environmental justice issues.

Additional benefits to under-represented communities have come from the engagement with other water-management groups in this planning process. As discussed in Chapters 3 and 16 (*Stakeholder Involvement* and *Governance*), stakeholder outreach efforts and the governance structure proposed under this Plan have allowed, and will continue to allow, representatives to actively participate in the development and implementation of the IRWMP. Through this open process, the potential for grant funding, partnership, and matching funds will be available to communities previously overlooked by many regional planning efforts and funders. This will, in fact, occur during this Plan Update with the submittal of implementation projects under the state's emergency drought funding, with a substantially increased number of DAC-related projects and involvement of under-represented communities.

18.5 Interregional Benefits and Impacts

The venue provided by the IRWM process to increase understanding and information sharing between regional stakeholders and with interregional interests has already facilitated identification of similar issues between neighboring IRWMs (e.g., flood management and emergency preparedness and response, conjunctive management, anadromous fisheries recovery, fire and fuels management, and legacy mining remediation). The Yuba County IRWMP region shares boundaries with five adjacent IRWM regions: the American River Basin to the south, Westside IRWM to the west, North Sacramento Valley IRWM to the north, Upper Feather River IRWM to the northeast, and the CABY (Cosumnes, American, Bear, Yuba) IRWM directly to the east. The Yuba County IRWMP region overlaps with two adjacent IRWM regions: CABY and North Sacramento Valley. In the 2008 IRWM planning effort, the North Sacramento Valley and Yuba County IRWMP regions identified and worked on subbasin-level water management strategies. Considerable work has been done to characterize connectivity between groundwater basins in the Sacramento Valley. Depressurizing adjoining confined or semi-confined aquifers may create impacts that spread within or to other areas. Impacts to streamflow and groundwater-dependent ecosystems resulting from aquifer development can be identified only by establishing baseline conditions and installing monitoring infrastructure in each confined or semi-confined layer.

In the 2009 Region Acceptance Process, YCWA and the RWMG recognized CABY as the appropriate entity to organize natural resource-related planning efforts in the Upper Yuba watersheds. This agreement was formalized via a Memorandum of Understanding (MOU). The MOU formalizes the relationship in the overlap area between the IRWM regions and makes it clear that infrastructure projects within this area

will be coordinated through the Yuba County IRWM region, while natural resource- and watershed-level projects in the overlap will be coordinated through CABY. The MOU further makes it clear that stakeholders in both regions will be informed of the project development process in each region and invited to review proposed projects within the overlap area to ensure that management issues for both IRWM regions are adequately reflected. If projects within either region present an issue, the MOU stipulates a resolution process to ensure that divergent opinions or management priorities are reflected in final project design and implementation objectives.

As a source-water area for the rest of the state, the Yuba County IRWMP region's proactive role in water management and conservation under this IRWMP will benefit not only adjacent regions, but the state as a whole. Projects improving water conveyance, local habitat, species recovery, water quality, wildfire management, and flood management result in increased benefits to neighboring or downstream regions. The cumulative benefits of renewable energy projects (particularly biomass power generation), and energy conservation measures and project mitigations, will also help the state meet its goals relating to greenhouse gas emissions (e.g., AB 32), renewable energy generation (e.g., California's Renewable Portfolio Standards), and excess biomass utilization (e.g., CPUC's 2012 Bioenergy Action Plan).

Interregional benefits from this IRWMP will primarily derive from improvements to water supply and quality that could affect water bodies interconnected with other regions, such as the Sacramento River, and from habitat improvements that affect migratory species and their well-being, such as waterfowl and recovery efforts for imperiled fish and wildlife. Benefits to other regions could also occur from clarification and amendment of state policy or regulations, such as Delta water policy, that will affect source-water regions. Regional management of invasive species and wildfire will also benefit adjacent IRWM regions.

Conversely, lack of invasive species and fuel and fire management within the region could have interregional impacts. If regional management cannot reduce fuels loads, it is more likely that widespread, intense fires would spread from the Plan area to other areas. The spread of terrestrial and aquatic invasive species could have deleterious effects as well. Interregional impacts to groundwater could occur to or from the North Sacramento Valley region if coordinated management of groundwater did not occur. Future projects associated with the Plan would be evaluated for off-site, including interregional, impacts prior to implementation.

Table 18-1. Impacts and Benefits of Plan Implementation

Program/Goal/Objectives	Potential Benefits	Potential Impacts ¹
Program: Water Supply Enhancement		
Goal 1: Ensure adequate and reliable water supply that meets the diverse needs of the region		
<p>1.1 Improve water supply system capacity, flexibility, and efficiency including, but not limited to, optimizing existing water storage; upgrading and retrofitting aging infrastructure; and developing new infrastructure where necessary</p> <p>1.2 Promote water conservation and water use efficiency by instituting various techniques including, but not limited to, groundwater recharge, conjunctive management, irrigation efficiencies, municipal water conservation, water recycling and reuse</p> <p>1.3 Protect and restore water supplies that support watershed health</p> <p>1.4 Promote disaster preparedness and conservation planning efforts</p> <p>1.5 Maintain and enhance flood control infrastructure to protect water supplies</p> <p>1.6 Preserve water supplies that support recreational opportunities, ecosystem services, and agricultural uses</p> <p>1.7 Support regulatory compliance with current and future state and federal water supply standards services and agricultural uses</p> <p>1.8 Promote regional education and outreach regarding water supply issues and needs</p>	<ul style="list-style-type: none"> • Reduced vulnerability from climate-related reductions in seasonal or overall water supply • Better ability to manage groundwater supplies and prevent overdraft • Better ability to address seasonal low flows • Potential to increase cropland production • Potential to better manage, understand, and prevent over-drafting of groundwater supply, and understand the relationship of surface and groundwater • Reduction in irrigation water-delivery losses through improved delivery systems • Enhanced potential to maintain water-dependent recreational opportunities • Enhanced potential to recover imperiled species • Increased compliance with and potential improvement of state and federal water supply standards and rules • Improved public understanding about water supply issues and needs 	<ul style="list-style-type: none"> • Potential increased conflicts among water-use sectors over available water supply allocations • Potential changes in flow regime and localized groundwater recharge associated with increased storage and infrastructure improvements, such as ditch lining • Short-term construction-related impacts of noise, dust, and traffic disruption • Increased pumping costs and energy use if groundwater use rises

¹ Note: All projects which involve construction activities have the potential to generate short-term impacts: noise, dust, and traffic disruption. These impacts are not called out individually in this table but are assumed for most construction-related projects.

Table 18-1. Impacts and Benefits of Plan Implementation (continued)

Program/Goal/Objectives	Potential Benefits	Potential Impacts
Program: Water Quality Protection and Improvement		
Goal 2: Protect, restore, and enhance water quality for water users and in support of healthy watersheds		
<p>2.1 Protect and improve water quality by mitigating for urban, agricultural, and wildland (sediment) run-off</p> <p>2.2 Minimize water quality impacts from flood, effluent discharge, and wastewater spills</p> <p>2.3 Promote recreational activities and programs that minimize or mitigate impacts to water quality</p> <p>2.4 Protect and improve the water quality generated by healthy, forested watersheds</p> <p>2.5 Maintain and improve water quality required to restore and protect freshwater ecosystems, fisheries, and groundwater-dependent habitat</p> <p>2.6 Support regulatory compliance with current and future state and federal water quality standards</p> <p>2.7 Protect public and ecosystem health from the physical and chemical hazards of Abandoned Mine Lands (AMLs)</p>	<ul style="list-style-type: none"> • Improved health and safety for residents, including high percentage of DACs • Decreased treatment costs, especially for foothill communities • Potential to increase cropland production • Potential to aid in removal of specific 303(d) listings and indirectly reduce monitoring efforts and costs • Enhancement of recreational opportunities • Improved habitat quality for wetland-dependent and stream-dependent species, and subsequent potential to increase species resiliency and populations • Collectively and substantively address irrigation water delivery system to relieve chronic contributing factors to water quality degradation • Reduce potential water quality degradation from AMLs 	<ul style="list-style-type: none"> • Potential short-term, construction-related costs, and site-specific disruptions to traffic, noise levels, water quality, habitat quality, service delivery, aesthetics, and cultural resources

Table 18-1. Impacts and Benefits of Plan Implementation (continued)

Program/Goal/Objectives	Potential Benefits	Potential Impacts
Program: Watershed Health and Stewardship		
Goal 3: Preserve and restore watershed health and promote environmental stewardship		
<p>3.1 Steward healthy forests through fire and fuels management, erosion control measures, and wetland restoration</p> <p>3.2 Identify and manage for aquatic and terrestrial invasive species and their impact on water supply infrastructure and watershed health</p> <p>3.3 Recover endangered and threatened fish species through habitat restoration and by providing access to historic habitat, wherever feasible</p> <p>3.4 Enhance floodplain function and wildlife habitat while achieving multiple flood management benefits and maintaining public safety</p> <p>3.5 Promote watershed-level remediation of legacy mining toxins</p> <p>3.6 Support environmental protections to prevent the extinction of economically, ecologically, and culturally significant species and communities</p> <p>3.7 Steward the region’s biodiversity and ecological resources that directly provide opportunities for public access, recreation, education, while maintaining the co-equal objectives of flood protection and preservation of agricultural lands</p>	<ul style="list-style-type: none"> • Reduced potential for large uncontrolled fires, and thus subsequent erosion and sedimentation and property loss by conducting forest health and small fuels reduction projects • Decreased invasive species extent and potential for invasion • Better habitat resiliency and connection will likely help species recovery • Potential to increase natural recharge and storage to augment late-season low flows and potential reductions in flood risks by reconnection of streams with their historic floodplains • Improved water quality from reduced sedimentation, decreased temperatures, and reduced introduction of surface water bacteria and nutrients • Increased ecological function from habitat connection, additional shade canopy, improved summer base flows, increased wetland extent and function, decreased peak flows, and improved bank and channel stability 	<ul style="list-style-type: none"> • Short-term reduction in air quality from prescribed fire • Short-term, construction-related, and often site-specific disruptions to traffic, noise levels, water quality, habitat quality, service delivery, aesthetics, and cultural resources • Potential for introduction of non-native species from poorly managed equipment or limited restoration success • Additional herbicide contamination if application protocols not properly followed

Table 18-1. Impacts and Benefits of Plan Implementation (continued)

Program/Goal/Objectives	Potential Benefits	Potential Impacts
Program: Enhance Economic Development		
Goal 4: Enhance regional economic development by supporting recreational opportunities and sustainable agriculture		
<p>4.1 Promote comprehensive recreation planning and implementation with a focus on regional economic development</p> <p>4.2 Enhance river access points to encourage recreational use while preserving flood control/water storage infrastructure and managing for human impacts to watershed health</p> <p>4.3 Create river corridor linkages while enhancing migration corridors for plants and animals</p> <p>4.4 Explore opportunities to increase water-dependent tourism throughout the region while building local communities' capacity to manage their recreational amenities</p> <p>4.5 Protect and restore working landscapes, particularly ranch/ag lands, and the watershed benefits they provide</p> <p>4.6 Promote regulations that support local and regional economic resiliency by working with and among regulatory agencies to: 1) reduce regulatory conflicts, 2) ensure consistent enforcement of regulations, and 3) reduce costs and difficulty of meeting regulatory compliance</p>	<ul style="list-style-type: none"> • Enhancement of water-related recreational opportunities • Potential to maximize economic benefits while reducing potential conflicts via cooperative, integrated economic development planning • More streamlined regulations that reduce hardship on business operations while still maintaining public protections 	
Program: Protect Public Safety		
Goal 5: Protect public safety through emergency and drought preparedness and integrated flood management		
<p>5.1 Improve integrated flood management to ensure emergency preparedness, increase flood protection, and enhance regional and interregional collaboration</p> <p>5.2 Support regional and interregional collaboration to improve drought and emergency preparedness</p>	<ul style="list-style-type: none"> • Enhanced opportunities for aquifer recharge through reconnection of historic floodplains • Increased public safety and reduced risk to life and property • Increased water quality • Decreased flood insurance costs • Overall reduction in economic losses from flood and drought 	<ul style="list-style-type: none"> • Depending on project design, potential loss of riparian/wetland acreage, land use restrictions, and short-term, site-specific construction impacts

Table 18-1. Impacts and Benefits of Plan Implementation (continued)

Program/Goal/Objectives	Potential Benefits	Potential Impacts
Program: Address Climate Change		
Goal 6: Address climate vulnerabilities and reduce greenhouse gas emissions		
<p>6.1 Support efforts to reduce greenhouse gas emissions in the region, particularly those related to water management operations</p> <p>6.2 Improve data modeling and technical analyses to better understand the impacts of climate change on regional and interregional water supply and watershed health</p> <p>6.3 Increase system flexibility and resiliency to adapt to climate variability</p> <p>6.4 Promote alternative energy and energy efficiency throughout the region</p> <p>6.5 Promote education about climate change/variability and its impacts on water management and watershed health throughout the region</p> <p>6.6 Promote regional and interregional collaboration to implement climate change adaptive management strategies</p>	<ul style="list-style-type: none"> • Contribute to meeting the state’s 20x2020 goals for greenhouse gas emission reductions • Help prepare the region for optimum climate resiliency • Potentially reduce pumping and other electrical costs of operation through conservation • Increase regional climate knowledge to enhance water management 	<ul style="list-style-type: none"> • RWMG and its partners may need to invest in future studies tailored to the region
Goal 7: Promote equitable distribution of resources to disadvantaged communities and Tribes across the region		
<p>7.1 Support DAC and Tribal project development/implementation activities by providing ongoing outreach, proposal and funding development assistance, and training</p> <p>7.2 Prioritize ongoing participation of DACs and Tribes in the Regional Water Management Group</p> <p>7.3 Foster partnerships to build the capacity of DACs and Tribes throughout the region to manage their own recreational amenities</p> <p>7.4 Promote regional education and outreach in collaboration with DACs and Tribes</p>	<ul style="list-style-type: none"> • Increased involvement of and self-determination for under-represented communities in water management decision-making • Increased potential to address under-represented communities’ water needs and projects 	