

Section H

Plan Benefits and Impacts

Section H – Plan Benefits and Impacts

H.1 Introduction

This section contains a significant level of discussion of the benefits and impacts of plan implementation to help stakeholders understand the potential benefits and impacts of implementing the IRWM Plan. This section uses two methods to examine the benefits and impacts associated with IRWMP implementation. The first involves consideration of the IRWM Plan’s overall goals and objectives in relation to Resource management strategies. The second involves discussion of the benefits and impacts of IRWMP implementation in consideration of the following:

- Greenhouse Gas Emissions
- Climate Change
- Disadvantaged and Tribal Communities
- Other Resources
- Adjacent IRWMP Regions

H.2 Consideration of Goals and Objectives

The purpose of implementation of the IRWMP is to provide benefits that support and achieve the overall IRWMP vision, goals, and Objectives of the Tule River Basin area. Benefits will be accomplished through comprehensive management of water resources in a practical, cost effective, and responsible manner. The following table describes the potential benefits and impacts associated with implementation of the IRWMP Goals.

Table H-1. Benefits and Impacts of Resource Management Strategies

Strategy	Benefits	Impacts
Agricultural Water Efficiency	<ul style="list-style-type: none"> • Redirect supply • Reduced application cost • More efficient use of chemicals • Reduced subsurface drainage • Protection of water quality 	<ul style="list-style-type: none"> • Reduced groundwater recharge • Lost revenue if usage based • Causes operational changes • Irrigation hardware needed • Hardware maintenance Irrigator training requirements • Reduction of spills
Urban Water Efficiency	<ul style="list-style-type: none"> • Redirect supply • Reduced supply/distribution Costs • Reduced home chemical use • Delayed capital costs • Protection of water quality • Reduced energy use 	<ul style="list-style-type: none"> • Causes operational changes • Lost revenue if usage based • Inconvenient watering times • Creates hard demand that reduces opportunities for drought response

Strategy	Benefits	Impacts
	<ul style="list-style-type: none"> • Reduced groundwater overdraft • Reduced wastewater production 	
Conveyance – Regional/Local	<ul style="list-style-type: none"> • Maintain water rights • Conjunctive use • Improved water quality • Increased flood control capabilities • Deliver surface water to areas that use only groundwater 	<ul style="list-style-type: none"> • Increased use of facilities • Shortened maintenance periods • Increased costs for larger facilities
Water Transfers	<ul style="list-style-type: none"> • Efficient use of surface supplies • Revenue generation • Groundwater recharge • Agricultural sustainability 	<ul style="list-style-type: none"> • Loss of annual local water supply • Groundwater mining • Environmental impacts
Conjunctive Management and Groundwater Storage	<ul style="list-style-type: none"> • Dry year supply • Extends use of existing basin capacity • Overdraft reduction • Improved water supply reliability • Groundwater recharge • Improved groundwater management • Water quality improvement • Reduction in flood impacts 	<ul style="list-style-type: none"> • Increased pumping costs compared to surface water • Litigation challenges • Increased data collection needs and costs • Uncertainty of facility impacts to neighbors • Facility capital costs • Land use changes for facilities
Precipitation Enhancement	<ul style="list-style-type: none"> • Quick project development • Increase in water supply • Power development 	<ul style="list-style-type: none"> • Accuracy of location and timing
Recycled Municipal Water	<ul style="list-style-type: none"> • Reliable supply • Improved water quality • Allows for development • Drought resistant supply 	<ul style="list-style-type: none"> • Increased operations and maintenance cost • Public acceptance • Water quality concerns with microbial contaminants, salinity, heavy metals and pharmaceuticals
Surface Storage - Regional/Local	<ul style="list-style-type: none"> • Water supply reliability and augmentation • Flood control • Hydroelectric power generation • Recreation • Sediment transport management 	<ul style="list-style-type: none"> • Permitting requirements • Environmental mitigation • Cost • Limited sites available • Failure impacts • Beneficiary determination • Property tax losses • Habitat losses • Operational control

Strategy	Benefits	Impacts
Drinking Water Treatment and Distribution	<ul style="list-style-type: none"> • Protect public health • Maintain regulatory compliance • Regionalization/Consolidation of facilities 	<ul style="list-style-type: none"> • Increased O&M costs • Increasingly stringent regulations
Groundwater Remediation/ Aquifer Remediation	<ul style="list-style-type: none"> • Contamination spread abated • Protect public health • Maintain regulatory compliance • Avoided costs of purchasing additional supply 	<ul style="list-style-type: none"> • Costly • Highly trained operations staff • Public perception/acceptance of treated water
Matching Quality to Use	<ul style="list-style-type: none"> • Best use of available local water supplies • Most economical choice • Treatment avoided or limited 	<ul style="list-style-type: none"> • Possible environmental impacts • Infrastructure costs • Conveyance costs
Pollution Prevention	<ul style="list-style-type: none"> • Improved water quality • Consistent with antidegradation policies • More cost effective than “end of the pipe” treatment 	<ul style="list-style-type: none"> • Increased regulations • Increased costs • Increased management needs • Increased monitoring costs
Urban Runoff Management	<ul style="list-style-type: none"> • Water source for local recharge • Improve flood protection • Reduce surface water pollution • Minimize soil erosion and sedimentation problems • Local resource from waters historically lost to an area • Mimic natural hydrologic Cycles 	<ul style="list-style-type: none"> • Cost to treat and manage runoff • Increased cost to urban developments • Vector breeding • Groundwater contamination potential
Flood Risk Management	<ul style="list-style-type: none"> • Enhanced flood protection • Reduce risk to lives and property • Recharge possible if captured • Riparian habitat improvements • Possible floodplain restoration 	<ul style="list-style-type: none"> • Structural approaches are costly • Permitting requirements involved • Long term ongoing maintenance of facilities • Emergency response planning required • Planning may limit development in some areas • Revisions to flood insurance mapping
Agricultural Lands Stewardship	<ul style="list-style-type: none"> • Reduces pressure to agricultural lands from urban development • Increased economic viability for agricultural lands • Habitat improvement 	<ul style="list-style-type: none"> • Conservation easement costs • Cost to implement BMPs • Reduction in tax base

Strategy	Benefits	Impacts
	<ul style="list-style-type: none"> Encourages agricultural practices which also benefit environmental and restoration concerns 	
Economic Incentives (Loans, Grants and Water Pricing)	<ul style="list-style-type: none"> Decreased costs for grant recipients Reduced wait for needed infrastructure Reduction in water demand from water pricing structures 	<ul style="list-style-type: none"> Burdensome application processes Increased federal or state directives in local issues Increased administrative costs Funding is intermittent
Ecosystem Restoration	<ul style="list-style-type: none"> General quality of life increase Protection and enhancement of fish and wildlife resources Species recovery 	<ul style="list-style-type: none"> Increased short term costs to goods and services Water supply loss
Land Use Planning and Management	<ul style="list-style-type: none"> Improved communication among different agencies Proper planning helps ensure new developments have reliable and sufficient water supplies Potential for reduced water demands based on development designs Opportunities to reduce flooding and increase recharge 	<ul style="list-style-type: none"> Difficulty in getting some land and water use planners to cooperate Increased costs to coordinate efforts
Watershed Management	<ul style="list-style-type: none"> Community level solutions Water quality improvement Protection of local water rights Flow attenuation 	<ul style="list-style-type: none"> Difficulty of diverse stakeholders working together
Crop Idling for Water Transfers	<ul style="list-style-type: none"> Drought water supply reliability Stable farm income in water short years 	<ul style="list-style-type: none"> Introduction of wildlife, weeds, pests and trash dumping to the area Changes to local community way of life
Irrigated Land Retirement	<ul style="list-style-type: none"> Generation of stable water supplies Reduction in agricultural drainage to an area 	<ul style="list-style-type: none"> Taxpayer burden of land cost Increased management costs of government owned retired lands Lower income and higher unemployment Growth inducement Security needs

H.3 Consideration of Greenhouse Gas Emissions in Project Benefits/Impacts Analysis

Climate change mitigation can be achieved by reducing energy demands, improving energy efficiency and carbon sequestration. These will help to reduce greenhouse gas (GHG) concentrations in the atmosphere. Climate change mitigation will require global cooperation, but the Regional Water Management Group supports reasonable efforts to make their own local contribution. As a result, it has been determined to consider impacts to GHG when selecting and prioritizing projects. This criterion will generally be a lower priority than water supply or water quality, but it is still considered an applicable criteria. When projects are reviewed and prioritized the project proponents will need to address the following:

1. Will this project increase greenhouse gas emissions? If yes, explain how and quantify; and
2. Will this project result in reduced greenhouse gas emissions? If yes, explain how and quantify.

H.4 Consideration of Climate Change in Benefits/Impact Analysis

Climate change has the potential to cause adverse effects on the region, including changes in the timing and amount of precipitation, increased evaporation and transpiration from higher temperatures, increased frequency of droughts and floods, reduction in water quality, increased wildfires and increased presence of certain pests. Developing projects that can address these issues is a desired goal. When projects are reviewed and prioritized, their contribution to addressing climate change will be considered. In particular, project proponents will need to address the following:

1. Will the proposed project reduce vulnerability to anticipated impacts from climate change? If yes, explain and quantify
2. Will the proposed project help the IRWM Planning Area to adapt to climate change impacts, or increase resiliency to climate change impacts? If yes, explain and quantify
3. Will the proposed project help to increase the region's understanding of climate change impacts and local vulnerabilities? If yes, please explain.

H.5 Consideration of DACs and Tribal Communities in Benefits/Impacts Analysis

Projects to implement the IRWM Plan can have unanticipated effects on DAC's and Tribal Communities. Because of this, it is important to consider impacts and benefits to DAC's and Tribal Communities during both the planning and project implementation process.

The majority of communities within the IRWM planning area would be considered economically disadvantaged. Evaluating the benefits and impacts that water management projects may have on these communities is essential to establishing social equity and maintaining regional vitality.

The Tule River Tribe is the only Tribal community in proximity to the IRWM planning area. The Tule River Tribal reservation is located upstream from the IRWM planning area and is entirely outside of the IRWMP boundary. Although the reservation is located outside of the IRWM planning area, it is important to recognize the potential impacts that water management projects may have on the reservation and the cultural resources of Tribal communities.

Steps have been taken in recent years to foster engagement between all parties within the Tule River Basin, including tribal and environmental justice representatives, in the IRWMP development and improvement process. Multiple parties with specific DAC ties have a voting seat on the IRWM Stakeholders Advisory Group and can actively participate at the IRWM Plan governance and policy development levels. Specific benefits accrue to all participants as a result of the engagement of these stakeholders and representatives including the following:

- Forum for discussion – The IRWM process provides an opportunity for DAC, environmental justice and tribal stakeholders and representatives to discuss water management issues, including problems, concerns and priorities. It also allows for DAC – non DAC project coordination;
- Creation of and dissemination of information – the opportunity to develop and/or share information is facilitated by meetings of DAC/EJ stakeholders and representatives and water management professionals in the IRWM setting. Opportunity to interface with state and county regulators is also facilitated. Meetings are conducted pursuant to Brown Act regulations and minutes are taken and kept; and
- Funding opportunities – The forum created by the IRWM Plan process offers specific opportunity to access information regarding funding to be provided and further offers unique opportunity to coordinate projects otherwise difficult to tie together. The DCTRA IRWM Plan offers special opportunity for participation for DACs, including opportunity for advanced and technical planning assistance for designated projects.

Projects will be evaluated based on their benefits and impacts to tribal and disadvantaged communities. In particular, project proponents will need to address the following:

1. Does the proposed project include sufficient outreach effort to engage tribal and disadvantaged communities?
2. Will the proposed project address concerns expressed by tribal and/or disadvantaged communities?
3. Will the proposed project ultimately provide specific benefits to critical water issues for Native American Tribal communities?
4. Will the proposed project promote environmental justice?

H.6 Consideration of Other Resources in Benefit/Impacts Analysis

Implementation of the IRWMP will result in benefits and impacts to other resources that are not the focus of this document. For this reason, the IRWM Plan sets forth a minimum set of resource-specific impacts which must be considered prior to project development and evaluation. These areas of potential impact must be evaluated must be evaluated for every water management project. Some elements may be covered by CEQA analysis required for the project. The following resources identified by the Stakeholders Advisory Group are anticipated to be evaluated prior to project implementation.

1. Aesthetic/visual resources;
2. Agricultural resources;
3. Air quality;
4. Biological resources;
5. Cultural resources;

6. Environmental Justice/Disadvantaged Communities;
7. Geology and soils;
8. Hazards and hazardous materials;
9. Hydrology and water quality;
10. Land use and planning;
11. Noise; Population and housing;
12. Public services; Recreation;
13. Transportation and circulation; and
14. Utilities/service systems.

These topics can be addressed in either the required technical report associated with the project, or in a separate dedicated document. If sufficient reference is supplied, each of these topics can be addressed in the project's environmental document(s).