

8 Impacts and Benefits

This section meets the following IRWMP Standard from the Integrated Regional Water Management Grant Program Guidelines.

H. Impacts and Benefits – Discuss at a screening level the impact and benefits from Plan implementation. Include an evaluation of potential impacts within the region and in adjacent areas from Plan implementation. Identify the advantages for the regional plan; including a discussion of the added benefits of the regional plan as opposed to individual local efforts. Identify which objectives necessitate a regional solution. Identify interregional benefits and impacts. Describe the impacts and benefits to other resources, such as air quality or energy.

Benefits and impacts of the IRWMP process and proposed projects are linked to the mission, goals, and objectives established in Section 3. This section is organized into three subsections including 1) Benefits of IRWMP Process, 2) IRWMP Implementation Benefits and Impacts, and 3) Disadvantaged Community Benefits.

8.1 Benefits of IRWMP Process

This section summarizes the benefits of the IRWMP process in relation to regional collaboration and coordination. Regional collaboration affords many benefits associated with economies of scale and sharing of knowledge. However, collaborative processes can be time consuming and require a significant level of consensus building. Planned interregional efforts (coordination with neighboring IRWMP processes) are described with a cursory discussion of benefit and impact areas.

8.1.1 Advantages of Regional Planning

The advantages to planning and implementing the integrated programs of this IRWMP on a regional scale, rather than each project as an individual effort, are many. The advantages include sharing of knowledge and expertise (such as sharing information, reports, studies, and management strategies), identification of possible overlap or duplicative efforts and their eventual consolidation, labor resource efficiency, cost sharing, better utilization of existing facilities, and collaboration. Additionally, implementing specific programs that integrate projects to collectively achieve IRWMP goals and objectives will ultimately be more beneficial to the watershed as a whole.

Regional planning is advantageous for issues that span the watershed and cross jurisdictional boundaries. Examples of these are described below. The IRWMP process provides a forum for sharing experience, insights and knowledge among agencies and for developing solutions that can be effectively implemented at a regional scale.

There are many issues in the watershed that can only be effectively addressed through a coordinated regional planning approach. For example, an effective flood management solution for the Lower Pajaro River, where the flooding impacts occur, requires consideration of activities by multiple agencies in both the upper and lower portions of the river. The Lower Pajaro River Levee Reconstruction Project assumes that the current flood attenuation benefits provided in the upper watershed are maintained. Without these upstream flood attenuation benefits, the levee project would have to be designed to accommodate an increased flow of 16,000 cubic feet second. The coordinated levee project with the upper watershed floodplain management project (Soap Lake) was determined to be the most cost-effective and beneficial approach to flood management in the Pajaro River Watershed through a coordinated regional planning approach.

Addressing water quality issues such as TMDLs involves concerted efforts to control point source and non-point source pollution by agencies, cities and counties. The Pajaro River crosses many jurisdictions and the source of the contaminants knows no agency boundary. Therefore a collaboration of agencies are working together to address the water quality problems in the river. High TDS concentrations in groundwater is another water quality issue that requires coordinated planning and effort.

Surface water reservoirs can be operated to achieve maximum benefit only by understanding the needs and considerations of all downstream users. An agency may be able to provide additional downstream benefits to meet these needs by modifying their operations while maintaining their agency's original project objectives. For example, Pacheco Reservoir is operated by Pacheco Pass Water District for local groundwater recharge. Reoperations at Pacheco Reservoir, including improved timing of releases from the dam and potential expansion of the reservoir, offers benefits to SCVWD, SBCWD and PVWMA, as changes to the management of releases from Pacheco Reservoir may increase water available for regional use. SBCWD is also interested in reservoir reoperations to avoid increasing groundwater levels in areas where the groundwater table is already high.

There are also many water management related contrasts that exist between different areas of the watershed. This presents opportunities for regional planning to integrate efforts and utilize the attributes of one area to address deficiencies existing in another. An example is a regional water imbalance present between coastal and inland groundwater basins. In the PVWMA coastal area, there is a looming shortage of water supply because excessive groundwater pumping has led to overdraft and seawater intrusion. Conversely, inland SBCWD users have encountered the problem of high groundwater levels which can threaten crops and infrastructure, and is partly due to a surplus of groundwater recharge. An integrated solution could involve a transfer of water from SBCWD to PVWMA that would allow a shift in groundwater pumping production to inland areas and solve both issues. Regional planning can help agencies with different capabilities identify synergistic solutions. Another example is a possible agreement for exchange of Cienega Valley water for CVP water between the City of Hollister and SBCWD. Hollister owns the Cienega Valley water rights but lacks required treatment facilities. Exchange of this water with SBCWD, which does have the treatment capability, allows this valuable local surface water resource to be made available.

Finally, a regional planning process will allow agencies planning single purpose projects to work together and combine efforts to develop multi-objective solutions, or to examine projects for potential enhancements that can address additional issues simultaneously within one project. Examples include tying recreational and public access opportunities to flood management actions, enabling fish migration as a component of water supply projects and restoring native habitat in conjunction with efforts to address water quality. Developing multiuse projects increases efficiency and public acceptance. It does require a coordinated effort between multiple stakeholders which is best accomplished through the IRWMP process.

Thus far, the IRWMP process has identified high priority projects, considered them in the context of regional objectives, and assembled them into water management programs that are representative of a synergistic approach. Relationships and connections between stakeholders which were not apparent previously, are enabled through the regional planning process. From a coordination standpoint, the IRWMP process builds relationships and understandings that will be invaluable for working out future issues.

8.1.2 Objectives Requiring Regional Planning

All objectives established for the Pajaro River Watershed will necessitate some degree of regional cooperation and collaboration if they are to be met. Generally, objectives associated with surface water and groundwater will need to be met on a regional basis as jurisdictional boundaries are crossed in the watershed. Table 8-1 summarizes the objectives for which regional cooperation and collaboration are especially critical to achieving the objectives throughout the watershed.

Table 8-1: Objectives Requiring Regional Cooperation and Collaboration

Objective	Need for Regional Solutions
Optimize and sustain use of existing import surface water entitlements from the San Felipe Division.	Requires the cooperation between the three San Felipe Division contractors, SBCWD, SCVWD, and PVWMA.
Optimize the use of groundwater and aquifer storage.	This watershed objective can only be achieved if various agencies implement programs. Regional cooperation is necessary as groundwater basins are connected and influenced by surface water.
Target recycled water use to make up 5% of total water use by 2010 and 10% of total water use by 2020.	This recycled water objective cannot be met by a single agency. Therefore, multiple projects in various jurisdictions will need to be established.
Protect existing appropriated surface water rights.	Surface waters (i.e. Pajaro River) are influenced by surface water drainage from multiple jurisdictions. Therefore, regional coordination and collaboration are necessary to protect surface water rights.
Meet or exceed all applicable groundwater, surface water, wastewater, and recycled water quality regulatory standards.	Water quality in relation to groundwater and surface water are influenced by activities of multiple jurisdictions. Therefore, regional coordination and collaboration are necessary.
Protect or improve the quality of water supply sources	Groundwater basins within the watershed are directly connected and can be influenced by surface water drainage from other jurisdictions. In addition, surface waters (i.e. Pajaro River) are influenced by surface water drainage from multiple jurisdictions. Therefore, regional coordination and collaboration are necessary.
Aid in meeting Total Maximum Daily Loads established for the Pajaro River Watershed.	Surface waters (i.e. Pajaro River) are influenced by surface water drainage from multiple jurisdictions. Therefore, regional coordination and collaboration are necessary.
Implement flood protection projects throughout the watershed that provide multiple benefits.	Coordination between flood protection projects in multiple jurisdictions is needed to realize the maximum benefits and implement sustainable projects and strategies. Therefore, regional coordination and collaboration are necessary.
Reach consensus on the Pajaro River Flood Protection Project necessary to protect existing infrastructure and land uses from flooding and erosion from the 100-year flood event.	A sustainable 100-year Pajaro River Flood Protection Project requires coordination between flood protection projects in multiple jurisdictions and land use agencies throughout the watershed to protect against watershed conditions changing in a way that increase the flows in the Pajaro River.
Identify opportunities for open spaces, trails, parks along creeks and other recreational projects in the watershed that can be incorporated with water supply, water quality, or flood protection projects, consistent with public use and property rights.	Advocates for environmental, open space and recreational interest must cross jurisdictional lines to work with water supply, water quality, land use and flood protection agencies to meet this objective. Therefore, regional coordination and collaboration are necessary.

Interregional Benefits and Impacts

On a broader scale, a Monterey Bay IRWMP is being considered. The Monterey Bay IRWMP would build upon the Pajaro River Watershed IRWMP, along with three other IRWMP efforts, to develop an interregional IRWMP. The subregional efforts will directly benefit the interregional planning effort by providing guidance to the priorities and issues facing each subregion. Participation in the development of the Monterey Bay IRWMP would include agencies such as PVWMA, MCWRA, MPWMD, and Santa Cruz County. An MOU between the MCWRA, PVWMA, and MPWMD has been developed for the development of the greater Monterey Bay IRWMP.

Interregional benefits and impacts associated with specific projects will be further investigated in the Monterey Bay IRWMP. However, on a cursory level, interregional benefits and impacts are expected in relation to groundwater as the PVWMA basin is influenced by activities in Santa Cruz County and Monterey County. Other potential benefits and impacts may be associated with surface waters, regional desalination, the Monterey Bay National Marine Sanctuary, air quality, traffic, etc.

8.2 IRWMP Implementation Benefits and Impacts

Pajaro River Watershed IRWMP partners and stakeholders recognize the importance of pursuing and integrating multiple water management strategies to achieve the greatest amount of, and most equitable benefit for, the region. The benefits of implementing the IRWMP recommendations will be provided through the four water management programs, each of which has been developed around a core of related objectives. Implementation of the recommended integrated program strategies will lead to numerous benefits including, at a minimum:

- **Reliable and high quality water supply.** Water supply projects, water transfer and banking agreements lead to enhanced water supply reliability and assist with protection of water quality. Reliable and high quality water supply is directly linked to economic and environmental wealth and well-being, which is directly from the Pajaro River Watershed IRWMP Mission statement.
- **Protection of people and economy within a disadvantaged community.** Working in conjunction, the Watsonville Recycled Water Treatment Facility Project and the Coastal Distribution System will assist in protecting the economy of the City of Watsonville, a disadvantaged community. The Lower Pajaro River Reconstruction Project will protect the City and the agricultural community from disastrous flood damage, as was most recently experienced in 1995.
- **Multi-beneficial projects.** Opportunities for multi-beneficial projects, which can achieve a multitude of goals and objectives for several stakeholders rather than a single entity, have increased value for stakeholders and the communities served by projects.
- **Cost effectiveness.** Integrated planning and collaboration can lead to multi-beneficial projects that achieve cost savings through cost sharing opportunities, economies of scale, resource sharing, etc.
- **Sharing experience, resources, and facilities.** Integrated planning and collaboration facilitates sharing of experience, resources and facilities and better equips agencies to overcome future challenges.

The ultimate purpose of plan implementation is to provide watershed benefits that support and achieve the overall IRWMP mission to preserve the economic and environmental wealth and well-being of the Pajaro River watershed. It is envisioned that this mission will be accomplished through watershed stewardship and comprehensive management of water resources in a practical, cost effective and responsible manner. The following sections describe the benefits and impacts associated with implementation of the recommended IRWMP programs.

8.2.1 Conjunctive Water Supply Management Program

The Conjunctive Water Supply Management Program was developed from the original impetus that brought PVWMA, SBCWD and SCVWD together as willing partners. The agencies originally collaborated in an effort to evaluate the potential of intra-regional water transfer and banking in solving the water supply challenges of the region. The Conjunctive Water Supply Management Program focuses on interagency conjunctive use of regional water resources, including local and imported surface water, groundwater and recycled water. It combines projects that develop additional local and imported water supplies that are suitable for transfer with projects that build the infrastructure to facilitate transfer and banking of both local and imported water within the region. All of the primary objectives that the program addresses are related to the water supply goals, as identified in Section 3.

The Conjunctive Water Supply Management Program will provide numerous benefits to the region as a whole, with some impacts to the locally affected communities and adjacent areas. Table 8-2 identifies potential impacts and benefits of implementing this program and the associated projects. Where applicable, impacts of the various projects have been identified in CEQA and NEPA documents. Most of the impacts are related to temporary impacts from construction of facilities.

Table 8-2: Benefits of the Conjunctive Water Supply Management Program

Project	Benefits
Aromas Water District Wellhead Treatment	<ul style="list-style-type: none"> • Meet or exceed all applicable water quality regulatory standards. • Continue to meet local water demand through the local, inland groundwater supply. • Reduces potential demand for CVP water (AWD entitled to supply from PVWMA) • Allows alternative import supplies to be considered for the Pajaro Valley (AWD would not have to rely on the import pipeline supply, allowing recycled or other supplies to be considered).
Chesbro Reservoir Reoperations	<ul style="list-style-type: none"> • Improve local reservoir operation conditions
Church Avenue Diversion	<ul style="list-style-type: none"> • Increase groundwater recharge capacity. • Allow maximum use of water rights available from the Chesbro and Uvas Reservoirs.
CVP Water Transfers within the San Felipe Division	<ul style="list-style-type: none"> • Increase flexibility of water supply delivery for Partner agencies. • Allow maximum utilization of available CVP supply.
Groundwater Study and Biological Assessment of Upper Pajaro River	<ul style="list-style-type: none"> • Greater understanding of the hydrologic and biological environment of the upper Pajaro River watershed. • Results will be utilized to guide environmental management practices in future planning and design of upper Pajaro River watershed projects.
Hernandez Reservoir Reoperations	<ul style="list-style-type: none"> • Increase water available for regional use • Provide better management of high groundwater levels
Import Pipeline Project	<ul style="list-style-type: none"> • To be determined in Phase II, when regional project will be defined but it will increase flexibility of water supply deliveries and banking for Partner agencies.
Main Avenue and Coyote-Madrone Pipeline Repair	<ul style="list-style-type: none"> • Allow delivery of Anderson Reservoir water for groundwater recharge at Main Avenue and Madrone ponds. • Increase the recharge capacity of the ponds.
Mercy Springs Options Agreement	<ul style="list-style-type: none"> • Increase the available imported water supply.
Non-CVP Water Transfers and Banking Agreements	<ul style="list-style-type: none"> • Address supply imbalances between upper and lower watersheds. • Allow for improved flexibility of water management among the Partners and other water agencies.
North San Benito County Regional Recycled Water Project	<ul style="list-style-type: none"> • Provide additional recycled water resource. • Decrease importation of salt through reduced demand of CVP. • Remove salt from the basin.
PVWMA CVP Entitlement	<ul style="list-style-type: none"> • Increase the delivery of imported water to meet demands and increase water management flexibility

Project	Benefits
PVWMA Groundwater Recharge with CVP and Other Imported Supplies	<ul style="list-style-type: none"> • Create a reliable, uninterrupted supply. • Allows for capitalization of wet year surplus to provide for drought year shortage contingencies.
Pacheco Reservoir Reoperations	<ul style="list-style-type: none"> • Increase water available for regional use. • Provide better management of high groundwater levels.
Paicines Reservoir Rehabilitation	<ul style="list-style-type: none"> • Preserve water supply currently being lost to seepage. • Increase operational flexibility of the reservoir.
SCVWD Groundwater Recharge with CVP and Local Sources	<ul style="list-style-type: none"> • Create a reliable, uninterrupted supply. • Allows for capitalization of wet year surplus to provide for drought year shortage contingencies.
San Felipe Division Operations and Maintenance Improvement	<ul style="list-style-type: none"> • Increase the efficiency of the San Felipe Division system.
San Justo Reservoir Rehabilitation	<ul style="list-style-type: none"> • Preserve 3,000 AFY currently being lost to seepage. • Increase operational flexibility of the reservoir.
South County Recycled Water Program	<ul style="list-style-type: none"> • Optimization of existing, local water resources. • Reduce need for imported water and importation of salt into watershed. • Will reduce effluent salt loading to groundwater basin.
Uvas Reservoir Reoperations	<ul style="list-style-type: none"> • Increase water available for regional use.

8.2.2 Water Supply/Salt Management Program

The Water Supply/Salt Management Program encompasses the gamut of diverse salt management issues that impact the availability, and more importantly the usability, of water supply throughout the watershed. The program is composed of projects essential to (1) produce water with acceptable concentrations of TDS, (2) achieve net significant reductions of total salt loads in the groundwater basins, and (3) maximize the sustainable use of groundwater resources to minimize demand on the CVP supplies. Although specific salinity issues may vary, the program recognizes the benefits inherent in making salt management a regional effort and the necessity for coordinating efforts to mitigate the effects of imported salt and to allow for effective brine management solutions to ensure a long term decline in the salt mass in the watershed. The primary objectives of the program are related to both water quality and water supply goals, recognizing the dependence of adequate water supply on acceptable water quality relative to TDS in the watershed.

The general regional impacts of the Water Supply/Salt Management Program includeThe Water Supply/Salt Management Program will provide numerous benefits to the region as a whole, with some impacts to the locally affected communities and adjacent areas. Table 8-3 identifies potential impacts and benefits of implementing this program and the associated projects. Where applicable, impacts of the various projects have been identified in CEQA and NEPA documents. Most of the impacts are related to temporary impacts from construction of facilities.

Table 8-3: Benefits of the Water Supply/Salt Management Program

Project	Benefits
Cienega Valley	<ul style="list-style-type: none"> • Would restore a local supply source, increasing reliability and decreasing dependence on imported water.
Coastal Distribution System	<ul style="list-style-type: none"> • Provide delivery of recycled water and inland groundwater to growers to sustain coastal agricultural water needs. • Prevent seawater intrusion. • Increase sustainable groundwater yield in conjunction with water supply projects.

Project	Benefits
Corralitos Creek Surface Fisheries Enhancement Project	<ul style="list-style-type: none"> Improved fish passage for an endangered species, the South-Central California Coast (S-CCC) Evolutionarily Significant Unit (ESU) steelhead, by upgrading existing fish ladder to current NOAA Fisheries design standards. Improve water supply reliability for the City of Watsonville by bringing the facility into compliance with current environmental standards and preserving the existing supply from this source. Increased project yield reduces demand for alternative water supplies like CVP water, groundwater, or demineralized supplies. Decrease groundwater pumping and contribute to prevention of seawater intrusion.
Groundwater and Surface Water Blending	<ul style="list-style-type: none"> Reduce overall levels of delivered water TDS for blended agricultural supply.
Hollister Groundwater Softening	<ul style="list-style-type: none"> Reduce TDS and hardness and eliminate the need for residential water softeners.
North San Benito County Regional Recycled Water Project	<ul style="list-style-type: none"> Optimization of existing, local water resources. Reduce need for imported water and importation of salt into watershed. Will reduce effluent salt loading to groundwater basin.
SBCWD Groundwater Demineralization	<ul style="list-style-type: none"> Reduce TDS and hardness and eliminate the need for residential water softeners. Allows for permanent removal of salt from the water supply and groundwater basin.
SSCWD Groundwater Demineralization	<ul style="list-style-type: none"> Reduce TDS and hardness and eliminate the need for residential water softeners Allow for permanent removal of salt from the water supply and groundwater basin.
Salinity Education Program	<ul style="list-style-type: none"> Promote salinity awareness and teach salinity reduction techniques and practices to agriculture and M&I users throughout the watershed. Increase efficiency by combining existing programs into a coordinated, comprehensive program.
San Juan Batista Surface Water Treatment	<ul style="list-style-type: none"> Provide required drinking water treatment to allow delivery of CVP supply to meet future demands. Reduce TDS and hardness and eliminate the need for residential water softeners. Allow for permanent removal of salt from the water supply and groundwater basin.
Sunnyslope Recycled Water Project	<ul style="list-style-type: none"> Optimization of existing, local water resources. Reduce need for imported water and importation of salt into watershed. Reduce effluent salt loading to groundwater basin.
Urban Water Conservation Measures	<ul style="list-style-type: none"> Implement proven BMPs and activities that will reduce water demand throughout the watershed. Decrease the volume of dry weather urban runoff and mitigate the effect of pollutants associated with runoff. Aid in prevention of seawater intrusion. Reduce water use and salt loading to groundwater basins.
Water Softener Rebate	<ul style="list-style-type: none"> Decrease salt loading stemming from water softener use. Provide water and energy savings.
Watsonville Recycled Water Treatment Facility	<ul style="list-style-type: none"> Optimization of existing, local water resources. Reduces coastal groundwater pumping. Assist in preventing seawater intrusion. Help preserve agricultural economy which benefits the disadvantaged community of Watsonville. Reduces constituent loading to the Monterey Bay National Marine Sanctuary.

8.2.3 Agricultural Water Quality Program

The Agricultural Water Quality Program is designed to protect and improve water quality for beneficial uses identified by the Central Coast RWQCB Basin Plan primarily through addressing the impacts of agriculture on water quality. The program is focused on attaining water quality standards in both surface water and groundwater through watershed-wide reductions in non-point source pollution related to crop production and farming. Furthermore, this program advocates working with the community and environmental stewards to preserve the environmental wealth and well-being of the Pajaro River watershed by identifying opportunities to restore and enhance natural resources of streams and watersheds. Most of the primary objectives of the program are related to the water quality goal, however

the water supply objective of water conservation is also included because conservation helps to reduce overall runoff and leaching of contaminants to groundwater.

The Agricultural Water Quality Program will provide numerous benefits to local communities including the disadvantaged community of Watsonville and the region as a whole, with some impacts to the locally affected communities and adjacent areas. The program will also enhance habitat as recommended by state species and habitat recovery and conservation planning. Table 8-4 identifies potential impacts and benefits of implementing this program and the associated projects.

Table 8-4: Benefits of the Agricultural Water Quality Program

Project	Benefits
Agricultural Water Conservation Measures	<ul style="list-style-type: none"> • Reduces water demand from agricultural sector. • Reduces agricultural runoff and leaching.
Conditional Agricultural Waiver	<ul style="list-style-type: none"> • Encourages practices that will reduce agricultural runoff and leaching. • Development of Farm Water Quality Plans.
Nitrate Management Program	<ul style="list-style-type: none"> • Improved management and control of agricultural related nitrogen compounds.
Regional Mobile Lab	<ul style="list-style-type: none"> • Provides a convenient resource for education, training and site-specific services to farmers and growers.
San Benito and South Santa Clara Permit Coordination Program	<ul style="list-style-type: none"> • Facilitation of BMP implementation by providing a streamlined permitting process.
Santa Cruz Partners in Restoration Permit Coordination Program	<ul style="list-style-type: none"> • Facilitation of BMP implementation by providing a streamlined permitting process.
Stream and Watershed Protection Program	<ul style="list-style-type: none"> • Protection of streams throughout Santa Clara County through land purchase. • Preservation of riparian habitat. • Reduce future erosion and sedimentation problems. • Long term improvements in water quality .
Tick Creek Riparian Enhancement	<ul style="list-style-type: none"> • Long term bank stabilization. • Reduce future erosion and sedimentation problems. • Replace with native vegetation. • Improve habitat and create a more natural setting and visual impact.
Vegetative Buffer Strips	<ul style="list-style-type: none"> • Long-term bank stabilization. • Reduce future erosion and sedimentation problems.

8.2.4 Pajaro River Flood Protection Program

The Pajaro River Flood Protection Program constitutes a suite of water management strategies integrated through the active collaboration and coordination of Pajaro River watershed stakeholders with an overarching purpose of providing 100-year flood protection while maximizing opportunities for comprehensive management of water resources. Throughout history, the Pajaro River watershed has regularly experienced flooding, and at times, catastrophic flooding, such as that which occurred in the late 1990s, destroying communities and agricultural industry in its path. Such events have necessitated research into various solutions to protect the people and economies of the region, as well as to honor, preserve and protect the natural environment sustained by the Pajaro River. For the past half century, several agencies have been exploring water management strategies to mitigate flooding impacts of the Pajaro River, and have identified projects to aid in this effort. Although some projects were implemented, many such efforts have conducted much refinement and restudy to identify the most feasible solution for this diverse region and this is reflected in the structure of the program. All five objectives related to the flood protection goal are addressed directly or indirectly by the program. An important thrust of the program is to maximize habitat and recreational opportunities in the course of implementing flood protection measures. This is reflected by the targeting of two primary objectives related to the environmental protection and enhancement goal.

The Pajaro River Flood Protection Program will provide numerous benefits to local communities including the disadvantaged community of Watsonville and the region as a whole, with some impacts to the locally affected communities and adjacent areas. It will also help to meet local and state priorities, such as those recommended by the California DWR Floodplain Management Taskforce (see Section 12-Statewide Priorities). Additionally, this program advocates support for funding mechanisms to administer and provide a cost share to the program, will work with the community to develop recreational opportunities along the river, and will aid in flood warning and damage reduction to local communities. Table 8-5 identifies potential impacts and benefits of implementing this program and the associated projects.

Table 8-5: Benefits of the Pajaro River Flood Protection Program

Project	Benefits
Historical Ecological Study of the Upper Pajaro	<ul style="list-style-type: none"> • Provide a scientifically sound basis for future stream restoration and management decision making.
Levee Reconstruction Project	<ul style="list-style-type: none"> • Results in \$27-30 million annualized benefits of avoided flood damage to homes, businesses, government and community facilities based upon USACE Benefit to Cost studies for the Project. • Reduces agricultural crop losses of \$30-50 million in each flood in excess of 30,000 cfs. • Reduces the threat of loss of life during major flood events. • Increases the disadvantaged community of Watsonville's economic development potential for new development (also aids the Town of Pajaro, a disadvantaged town in the region). • Reduces flood damages in areas affected by flood flows along the Pajaro River and the tributaries of Salsipuedes and Corralitos Creeks in the vicinity of City of Watsonville and Town of Pajaro. <ul style="list-style-type: none"> ▪ Provides FEMA certifiable 100-year level of protection if at all possible ▪ Avoids or minimizes the taking of prime agricultural lands along the Pajaro River and tributary streams. ▪ Avoids or minimizes project encroachment on the Main Street Bridge. ▪ Provides a vegetated corridor and low flow system to sustain fish passage. ▪ Insures that the project maintenance necessary to sustain project design capacity is permissible by the resource agencies. • Within the 200-foot riverbank and low flow channel, vegetation will increase bank stability and provide habitat and riparian canopy suitable for steelhead passage. • All areas outside the 200-foot riparian corridor will remain at a lower roughness to maximize areas between levees for flood flow conveyance. • Levee setbacks and floodplain widening is expected to reduce long-term maintenance costs by allowing the river and channel to perform self-regulation (for sediment and vegetation) and is expected to reduce need for USACE to armor streambank with structural repairs such as rip rap.
Pajaro River Watershed Study	<ul style="list-style-type: none"> • Identifies potential opportunities for non-flood related benefits in conjunction with the Pajaro River Flood Control Project. • Enhance public acceptance of the Pajaro River Flood Control Project.
Soap Lake Floodplain Preservation Project	<ul style="list-style-type: none"> • Assures that over 9,000 acres of natural floodplain are retained for groundwater recharge, flood retention, and eco-system restoration. • Maintains effectiveness of USACE Lower Pajaro River Levee Reconstruction Project. • Without the Soap Lake Project, the 100-year flow in the lower Pajaro River watershed will jump from 44,000 to 60,000 cubic feet per second (cfs). • Provides a critical area for re-establishment of natural floodplain functions. • Provides critical sediment basin to reduce fine sediments in the Pajaro River. • Provides for future restoration and improvement of aquatic and terrestrial habitat for listed species.
Lower Llagas Creek Flood Protection Project	<ul style="list-style-type: none"> • Early flood warning system could reduce flood damages and losses. • Home elevation and relocation could reduce future damage/losses in floodplain. • Reduction in cost of flood insurance (for federally insured structures within the floodplain) due to implementation of and active participation in Community Rating System by all communities involved.
Open Space Authority Acquisitions	<ul style="list-style-type: none"> • Preserve visual aesthetics and passive recreation benefits of open space. • Provides space for attenuation in flood prone areas. • Protects the percolation and natural treatment characteristics of the acquired land. • Decreases effects of stormwater runoff pollution.
Pajaro River Parkway Plan	<ul style="list-style-type: none"> • Improves access to recreational opportunities for disadvantaged community of Watsonville.
San Benito River Parkway Plan	<ul style="list-style-type: none"> • Improved access to recreational opportunities.
San Juan Basin Surface Drainage	<ul style="list-style-type: none"> • Mitigate the effects of stormwater runoff through improved detention and natural treatment. • Integrates water quality benefits into a planned Caltrans project.
Restoration of the Upper Pajaro River Floodplain	<ul style="list-style-type: none"> • Restore and preserve wildlife habitat corridor. • Maintain flood attenuation characteristics of the floodplain.
Trails, Parks, and Open Space Grants	<ul style="list-style-type: none"> • Increase public access to open space, natural areas, and rivers and creeks, including disadvantaged communities.

8.3 Disadvantaged Community Benefit

Major needs of the DACs will be met through implementation of the high priority water management programs that have been developed through the IRWMP process. The continuing IRWMP process will continue to take into account and be responsive to the needs of disadvantaged communities.

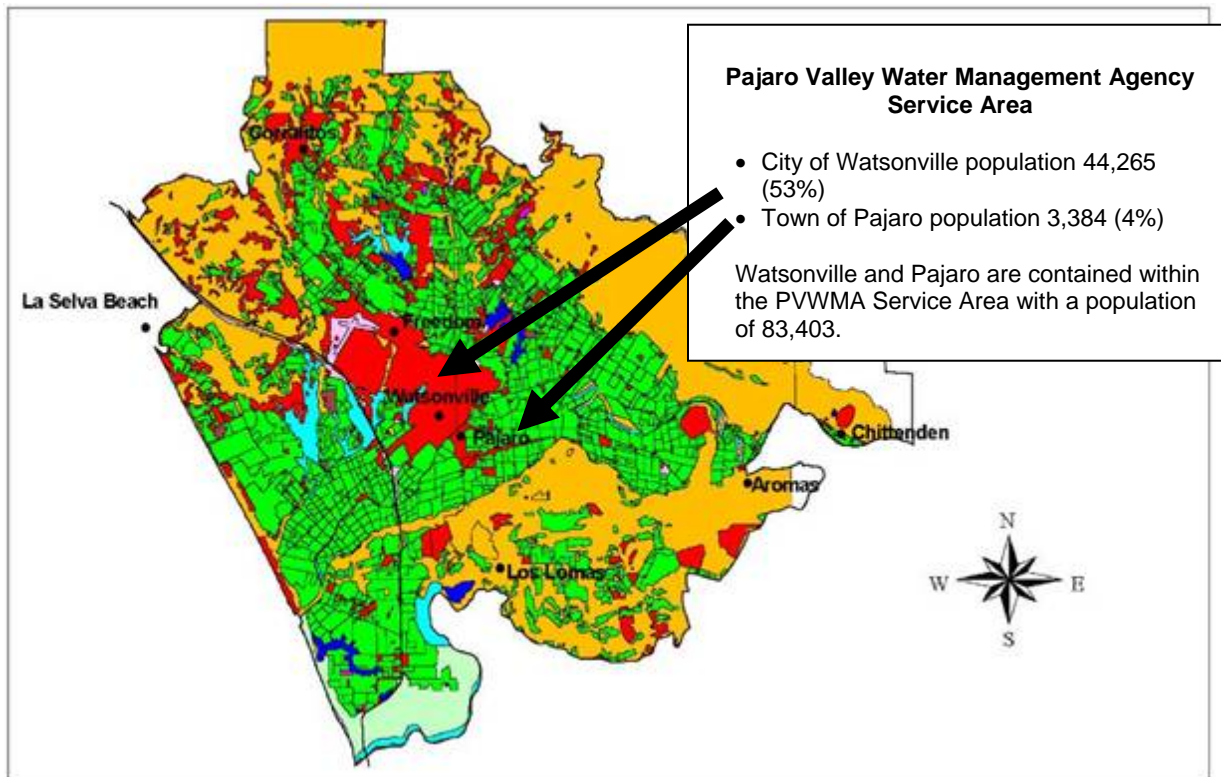
The benefits to disadvantaged community from implementation of IRWMP recommended programs have been determined. The benefits to disadvantage communities will involve three different categories of benefit:

- Conjunctive Water Supply Management and Water Supply/Salt Management Program Projects, Region of Benefit benefits the PVWMA Service Area
- Pajaro River Flood Protection Program Projects, Region of Benefit benefits the Pajaro River Levee System FEMA 100-Year Floodplain
- Agricultural Water Quality Program Projects, Region of Benefit benefits the City of Watsonville

8.3.1 Conjunctive Water Supply Management and Water Supply/Salt Management Program Projects - Disadvantaged Community Benefit

The Conjunctive Water Supply Management and Water Supply/Salt Management Program include projects that benefit the PVWMA service area. The year 2000 population for the PVWMA service area is 83,403. The PVWMA service area completely contains both the City of Watsonville (population 44,265), and the Town of Pajaro (population 3,384). Together, they comprise 57% percent of the 83,403 population of the PVWMA service area. The service area's population is made up of 53% of the disadvantaged community City of Watsonville and 4% of the low income per capita Town of Pajaro. Figure 8-1 shows the disadvantaged communities in the PVWMA service area.

Figure 8-1: PVWMA Disadvantaged Communities



8.3.2 Pajaro River Flood Protection Projects - Disadvantaged Community Benefit

The region of benefit for the Plan’s two flood protection projects is the FEMA 100-year floodplain that surrounds the 17-mile levee system along the main stem of the lower Pajaro River. The floodplain is approximately 2 miles wide and 8 miles long. The right bank of the floodplain contains the disadvantaged community of the City of Watsonville. The left bank of the floodplain contains the low income Town of Pajaro.

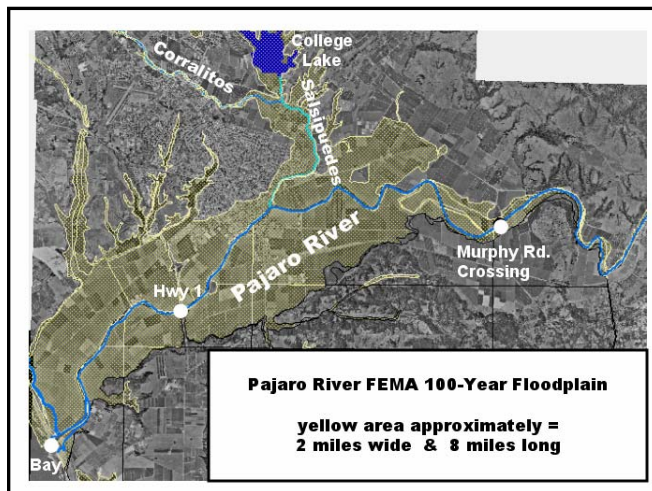


Figure 8-2: Pajaro River FEMA Floodplain

The disadvantaged portion of the floodplain is the City of Watsonville urban residential and commercial areas along the right bank of the main stem and tributary creeks. Population calculations within the floodplain are based on 2000 Census data and GIS to proportion the population estimation by area for each of the census tract block groups that cover the FEMA 100-year floodplain (Figure 8-). The total floodplain contains 10,786 acres and has a population of 12,617. Within the floodplain, urban Watsonville constitutes 743 acres (7% of floodplain acreage), and the urban area of Pajaro constitutes 436 acres (4% of floodplain acreage). The remaining 9,606 acres (89% of the floodplain) are mostly under agricultural land uses (See Table 8-6).

The portion of the floodplain that is within the disadvantaged community of Watsonville sustains 54% of the population (Figure 8-3). Additionally, the portion of the floodplain that is within the low income Town of Pajaro constitutes an additional 27% of the population. Together, these areas comprise 81% of the population in the FEMA 100-Year Floodplain.

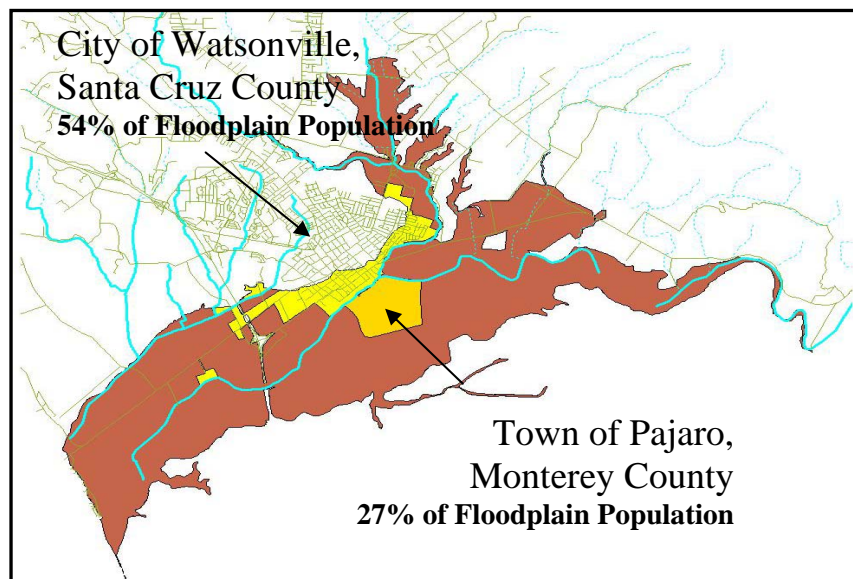


Figure 8-3: Floodplain Disadvantaged Communities

Table 8-6: Benefit Percentages for Disadvantaged and Low Income Communities

	Acres	Percent of Floodplain Acres	Population	Percent of Floodplain Population
Watsonville	743	7%	6,781	54%
Pajaro	436	4%	3,384	27%
Non-urban area of the FEMA Floodplain	9,606	89%	2,452	19%
Total FEMA 100-Year Floodplain	10,786	100%	12,617	100%

8.3.3 Agricultural Water Quality Program Projects - Disadvantaged Community Benefit

The Regional Mobile Lab, which is the cornerstone of the Agriculture Water Quality Program, will benefit the City of Watsonville by improving water quality in the agricultural areas that surround the City. The Agricultural Water Quality Program also contains long-term implementation projects that include as their region of benefit the City of Watsonville. For instance, it is the intent of the Santa Cruz County Resource Conservation District that at least 50% of the sub-projects to be implemented through the Erosion Control, Vegetative Treatment, and Riparian Restoration Project will occur in the Lower Pajaro Watershed, directly adjacent to the City of Watsonville. The map below in Figure 8-4 depicts three areas that will benefit the City of Watsonville. The City of Watsonville will benefit from these sub-projects in the following ways.

- **Improvement of Water Supply:** Corralitos Creek is currently included in the Regional Water Quality Control Board 303d list of impaired water bodies for pathogens. About 20% of Watsonville's water supply is collected from Corralitos and Browns Creeks, and proposed sub-projects in this area have the potential to improve water quality.
- **Improvement of Beneficial Uses:** The main goal of the long-term Erosion Control, Vegetative Treatment, and Riparian Restoration Project is to reduce sediment, pathogen, nutrient, and pesticide loading to surface waters of the State, thereby improving the potential for beneficial uses including drinking water, REC-1, and REC-2.
- **Reduction in flooding potential:** The Pajaro River, which runs directly adjacent to the City of Watsonville, is 303(d)-listed for pathogens, nutrients, and sediment. In 1998, the City of Watsonville and the neighboring Town of Pajaro were severely flooded as a result of sediment loading from agricultural lands. By reducing sediment loading directly and indirectly to the Pajaro River, this project will help manage future flood potential.
- **Health and safety:** Long-term projects for addressing TMDLs can reduce the amount of pesticides applied, thereby directly improving the health of Watsonville City residents adjacent to agricultural land as well as employees working on these farms that are generally City of Watsonville residents.
- **Benefits to the local economy:** If the Lower Pajaro River Watershed, including the Pajaro Valley, were a county, it would rank 5th in agricultural production in

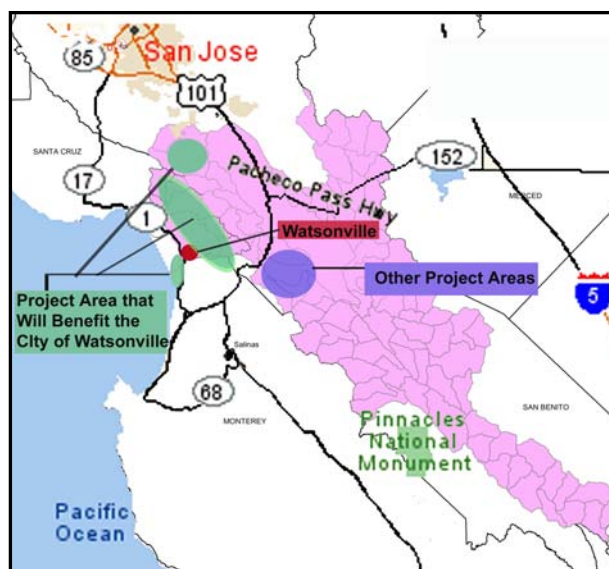


Figure 8-4: Water Quality Project Disadvantaged Communities

California. The area generates \$177 million annually, which is 90 percent of Santa Cruz County's total gross agricultural income. Furthermore, agriculture is the number one source of employment for the City of Watsonville, and Watsonville food processors freeze and distribute more fruits and vegetables than any other area in the United States. By implementing conservation practices, growers reduce the amount of top soil lost and decrease their application of pesticides, nutrients, and irrigation water, thus reducing their overall operating costs and costs to the consumer, which allows growers to compete more effectively in the marketplace.